

An action research investigation into peer and
self-assessment strategies and their
effectiveness in enhancing student learning in
GCSE Geography

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Abstract

The aim of the research is to examine the use of peer and self-assessment strategies (PASA) within the Geography classroom. It adopts a broad definition of PASA which considers any student-led reflections about work quality to be examples of PASA.

PASA strategies are frequently heralded in the literature as having the potential to have significant long term impacts on student learning and student agency. Despite this, there is very little use of such strategies within the school in this study and very little understanding of teacher and student perspectives of such an approach to formative assessment.

This study begins with a literature review to critically evaluate the evidence for the effects of PASA on student learning. It examines the conditions under which such practices can enhance student learning and explores some of the subject-specific issues concerning the use of PASA in Geography

The study took the form of two action cycles; working collaboratively with two other Geography teachers over a term to introduce Year 9 students to PASA activities. The student and teacher responses to these action cycles were interpreted, allowing short term implications for the action research to be acted upon as well as identifying longer term implications for my understanding of the issue and subsequent practice.

The study's findings indicate that the improvement purpose of the feedback provided in PASA was not valued by the students in the study. However, it appeared that PASA did enhance students understanding of the anatomy of quality in Geography with the result that they had a clearer picture of progression. It seemed that this anatomy of quality was found to be more effective when it was subject-specific rather than specific to the actual phenomena being taught. The research also reflected the dynamic interconnection between the personal and school-related level and policy-level factors. In this study students' personal experiences of

assessment had not taught them that their own views or opinions on their work are valid. Whilst incorporation of PASA at a classroom level is possible, the findings indicate that unless this is supported by wider school and policy level factors, it is unlikely that students would be receptive to their use.

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Introduction

Since the review of assessment by Black and Wiliam (1998) there has been a focus across many educational jurisdictions worldwide on the teacher use of assessment for learning to improve student achievement. It is now widely recognised that assessment for learning, otherwise known as formative assessment, can play a significant role in improving learning and achievement. Indeed, it has been heralded as a means of raising test scores by methods that teachers find professionally rewarding and can be feasibly integrated into their existing practice. Despite this claim, there remains a scarcity of use within many secondary classrooms (Andrade and Valtcheva, 2009) and limited research about how these strategies are actually enacted in the day to day practices of teachers. There seems to be a disconnect between what teachers are being told is effective for learning and what teaching methods they are using. This suggests that we still do not fully understand the factors which influence the formative strategies a teacher employs. It appears to be far more complex than simply finding out what works and then asking teachers to use these strategies.

This study will address one formative assessment strategy, that of peer and self-assessment (PASA). It adopts the broad definition of PASA used by Brown and Harris (2013) in their investigation into teachers and students' understanding of PASA, which considers any student-led reflections about work quality to be examples of PASA. Whilst peer and self-assessment strategies differ in whose work they are assessing, both are designed to enable students to understand and apply quality criteria to their work. Students are therefore both the providers and recipients of feedback and in both, take on the teacher's role as assessor and provider of feedback.

The aim of this research is to see how PASA can be effectively implemented in the Geography classroom. Its primary focus will be on seeking to explore how teachers and students understand and experience PASA. The reasons for this focus upon perspectives are twofold.

Firstly, the use of PASA within my school is extremely low. Although the school has recently prioritised assessment as an area for whole school improvement, alongside a teaching and learning priority to develop student independence in learning, this has not been met with a commitment to experiment with more student-led formative assessment strategies. As Director of Teaching and Learning I am keen to understand how teacher perspectives influence choice of formative assessment strategies in the classroom. Without this understanding there seems little point in developing professional development programmes aiming to develop our formative assessment practice if I do not fully understand the opinions, beliefs and understandings held by the teachers who would be involved in such programmes. The intention is that this understanding will enable me to implement initiatives which support the school in meeting its priority to develop greater student responsibility in learning.

The second rationale behind the focus on student perspectives came from my growing awareness of the connection between the opinions students hold of different teaching strategies and the outcome of such strategies. Research has strongly indicated that a student's conceptions of feedback strategies play a non-chance role in relation to their academic performance (Brown and Hirschfield, 2008 and Entwistle, 1991). It is crucial that we investigate students' perception of PASA strategies for if their perception is that it interferes with their learning and is invalid, it will fail to achieve the positive effects which are intended.

[Setting the research in context](#)

The school within which I am currently employed is a non-denominational Independent Secondary School in an outer London borough. Predominately a boys' school, students are aged 11-18 with girls recently able to attend in the Sixth Form. In the past three years there has been a change in Headteacher, after the previous incumbent retired after over ten years in post and a new Deputy Head (Academic) appointed within the last eighteen months. Both new leaders have challenged the school to improve its academic results.

The School's most recent Independent School's Inspectorate (ISI) report (2011:4) highlighted two key areas for improvement:

1. Ensure consistency in the quality of teaching through monitoring and the sharing of good practice across the curriculum.
2. Improve the quality, frequency and consistency of the tracking and feedback of pupils' progress, within and across departments, to equal current best practice in the school.

The school has subsequently developed and begun the refining of a significantly wider and comprehensive tracking system, collecting data from teachers on regular occasions throughout the year as well as incorporating summative external exam results and baseline testing. The ISI report refers to feedback within and across departments but does not incorporate feedback to a student in the context of assessment for learning. Subsequently, within the school, the interpretation has been on the exchange of information between the school and parents, and between teachers on student progress. The quality of teaching to feed information to students to use in their learning has not been met with the same priority or gusto. Despite this, in exploratory interviews the Academic Deputy articulated the important role of formative assessment in improving teaching and learning and has recently revised the Whole-School Assessment Policy as a means to achieve this. This policy (see appendix A) explicitly includes PASA as a formative assessment strategy which has the potential to improve learning and student-agency.

Alongside this whole school content, the Geography Department has recently been tasked by the School with improving GCSE exam results. A means for achieving this has been ear-marked by the Head of Department as improving formative assessment practices. Alongside this, there is a motive to improve student-agency both as a way of developing subject mastery but also as an important goal in and of itself. The Department has made significant progress in the past two years in promoting independent learning through the development of student lead research

projects. However, it continues to rely on an assessment process which lacks any real congruence with this view of student agency. Instead, formative assessment practices frequently create the impression that there is a single 'best' way of doing something and that teachers hold tacit knowledge as to what this 'best' way is and how it is to be achieved. Whilst the Head of Department has expressed an interest in PASA to address this, there is concern as to whether Geography as a subject lends itself to PASA. Given Geography's breadth of subject matter and wide range of skills, teachers are unsure whether students can develop the deeper understand of quality criteria required by PASA.

At a more personal level, in the last two years I have felt a growing disconnect between the kinds of learning I aim to promote and the means of formative assessment which I use. The type of teacher-led feedback provision I rely upon lacks any real congruence with my views of learner-centred teaching, which are heavily influenced by a social-constructivist perspective of learning. I have become increasingly concerned that the way I provide feedback disempowers students and creates the impression that as a teacher, I know best. Drummond's (2008) examination of the relationship between assessment and values highlights the crucial challenges integral in the practice of assessment. Our beliefs about young people and about learning should ideally be ploughed back into our provision of feedback. However, whilst I aspire to an approach that promotes the principle of co-agency, inclusion and trust, I employ a method of formative assessment that regards my students as passive. In turn the feedback which I provide is frequently based upon their capacity to acquire and reproduce the knowledge which I have taught them. If assessment is deciding what to give value to, it is important that the methods of formative assessment which I use give credence to the elements of value I hold.

Research questions and project structure

The research questions intended to be explored within this investigation are:

1. What evidence is there of the effects of PASA on student learning?

2. What are the conditions under which PASA practices can enhance student learning?
3. What specific issues concern the use of PASA in Geography?
4. What are teachers' perspectives of, and purposes for, PASA?
5. What are student perspectives of, and purposes for, PASA?

The first three questions are answered through an in-depth review of existing literature. The study's design and methods of analysis are then explained, followed by a description of the design of the intervention strategies and collaboration methods. The limitations of the methodology are also discussed alongside an acknowledgement of their impact on the research findings. This is then followed by a critical analysis of the research findings in order to answer the final two research questions. In this section the presentation and analysis of findings are presented concurrently in order to discuss the research findings' relationship to existing research.

The research concludes by synthesising data across the research questions to answer the main question 'how can PASA be practised effectively within the Geography classroom?'. The implications of the findings are discussed on three levels: my own practice, the Geography Department and the organisation of professional development at a whole school level.

Literature review

What evidence is there for the effects of PASA on student learning?

In 1996 the Assessment Reform Group was funded by the Nuffield Foundation to undertake a literature review on the use of assessment for learning. Since the publication of their findings in *Inside the Black Box* (Black and Wiliam, 1998), there has been increasing attention turned to the role of formative assessment in education. Their work urged policy makers that assessment for learning can have a significant impact on learning. Similarly, Hattie and Timperley's (2007) later meta-analysis found formative assessment to be one of the most powerful influences on both learning and achievement, claiming that it is *the "most effective tool that a teacher can use to empower students and their learning"* (Hattie and Timperley, 2007:83).

Within these endorsements of formative assessment there has been a call for PASA to form a central component of these strategies. Whilst the effect on learning can be short-term, such as improving a particular assignment or project, it has also been cited as having a significant longer term impact on both learning and student self-regulation. Despite this endorsement there is a relative scarcity of studies of PASA in British Secondary Schools. Indeed, whilst a substantial section of the literature suggests it can have positive effects, Topping's (1998) literature review concluded that these results remain inconclusive. In a similar vein, Kollar and Fischer (2010), in a special issue of *Learning and Instruction* on PASA, suggest that research on PASA is at a stage of adolescence hence it is not possible to draw substantiated conclusions about its actual effects on learning. Given this state of the literature, this review draws upon research in Higher Education on PASA as well as that at secondary school level. Whilst these studies provide useful comparisons, their findings and conclusions are not necessarily transferable to a secondary school context due to the different emotional and cognitive capabilities of the students. Therefore, the literature review makes it clear when such studies are being reviewed.

Black, Harrison, Lee, Marshall and Wiliam's (2003) two-year study into the implementation of formative assessment by 36 teachers in schools in Medway and Oxfordshire is one of the few extensive studies which explores the use of PASA within the British compulsory school system. They found that with training students were able to engage in formative assessment; they were able to provide feedback to their peers which was both focused and relevant and therefore helped their peers learn. This finding corroborated Black and Wiliam's (1990) earlier claim in their review of formative assessment research, that students are more likely to be able to provide feedback to their peers in a language which their peers understand and may potentially accept some criticism from their peers which they would not from a teacher.

In addition to this provision of helpful, specific feedback, Black *et al's* (2003) work in schools, found that through PASA students were able to develop an understanding of why a piece of work was considered to be of high quality. Prior to the PASA activities students had been able to identify which pieces of work were 'good' but through PASA they were able to articulate *why* this work was 'good'. Black and Wiliam's (1998) argue that this understanding of the anatomy of quality, which students can develop through PASA, is crucial if they are to acquire the evaluative expertise required by PASA. Indeed, proponents of PASA such as Black *et al* (2003) and Hattie and Timperley (2007) claim that this understanding of the anatomy of quality enables PASA to secure aims that cannot be achieved in other ways. For example, Hattie and Timperley's (2007) meta-analysis on the power of feedback on learning found that when students adopt self-assessment and evaluation strategies they become more effective learners as they create internal feedback and have a range of self-regulation strategies. In contrast, less effective learners rely more on external factors, such as their teachers for feedback and are unable to evaluate the quality of their own work. A classroom climate that encourages effective PASA strategies encourages this self-regulation, therefore creating more effective learners. Work by Sadler (1989) on the theory of formative assessment takes this issue a little further arguing that

if education fails to promote the acquisition of evaluative expertise within students then it has not done its job. He contends that to be successful learners, students must develop the capacity to monitor the quality of their own work and appreciate the criteria which make up good quality work. If students rely upon evaluative judgements made by their teachers and are not provided with experiences enabling them to build their evaluative expertise, then their rate of learning is stifled.

Studies in Higher Education also articulate learning benefits of PASA and identify benefits gleaned by the student in both their role of assessor and assessee which are not possible in more traditional, teacher-led models of formative assessment. For instance, a study of peer assessment in Higher Education by Hanrahan and Issacs (2001) found that when third year students assessed each other's work, they were introduced to other examples which assisted them in their own reflective practice. When judging others' work, students recognised strengths and weaknesses in comparison to their own which they then used to enhance their own performance. Another similar sized study by Osmond, Merry and Reiling (2002) of first year Biology Undergraduates found that students self-reported the development of more critical thinking skills through PASA, whilst a study by Bloxham and West (2010) of peer assessment among first year Sociology students found that this method of formative assessment helped students to acquire a more accurate notion of the quality of work expected.

Despite the differences in context, an area where research in both Higher Education and Secondary Schools is in agreement is in the need to carefully plan and structure PASA activities if they are to positively impact on student learning. Black *et al's* (2003) work with Secondary School teachers quickly established that PASA cannot be a quick, add on activity. The notion of PASA as simply involving an instruction to swap books and get a different colour pen to 'mark' work could not be more wrong. Appropriately designed tasks are necessary in order to provide opportunities for students to reveal their own understanding of the anatomy of quality (also

known as criteria for success) to their peers or self. These opportunities require careful planning and structuring to ensure tasks are rich enough to yield the evidence of learning required. Here a teacher's pedagogical content knowledge is crucial. This knowledge is defined by Shulman (1986) as that which tells a teacher the aspects of a subject which tends to cause students particular difficulties and which metaphors, contexts and analogies students can find helpful when overcoming these difficulties. Such knowledge is necessary to design appropriate tasks for PASA. Thus, it is not that PASA renders teachers unnecessary in the provision of feedback, but instead emphasises their role in the design of the activity.

In addition to the careful design of the activities to be assessed, studies showed that there are considerable challenges communicating an anatomy of quality to students which can limit the effects of PASA. If students are to be able to increase their evaluative expertise they need to understand conceptions of quality in the same way as their teachers. The tricky aspect of achieving this and making what is normally implicit, explicit, is that teachers' conceptions of quality are typically held, largely in unarticulated form, inside their heads as tacit knowledge (Black *et al*, 2003). Sadler (1989) described how that it is difficult for teachers to describe exactly what they are looking for, although they may have little difficulty in recognising a fine performance when it occurs. It is of little surprise therefore that communicating an anatomy of quality to students in a way which they can understand is a significant obstacle to the effective use of PASA.

Within Higher Education this challenge is still found, despite the higher cognitive ability of students. Indeed, Osmond *et al* (2002) study found that even when there were both written and verbal briefings about specific quality criteria students still differed in their understanding of some criteria in comparison with both their peers and their tutors. These misunderstandings particularly applied to criteria that involved higher order thinking skills such as evaluating

whether a piece of work has a clear and justified conclusion. They experimented with using exemplars to improve understanding but to no avail.

Studies within secondary schools have found similar challenges when attempting to increase students' evaluative capabilities of more complex criteria. A case-study by Harris and Brown (2013) into teachers' implementation of PASA within three New Zealand classrooms suggested that teachers should use PASA with relatively visible, objective tasks as a useful step in developing students' ability to be accurate assessors. They suggest objective tasks such as spelling, page layout, handwriting or mathematics as more suitable. However, this places a real limit on the effects of PASA. Improvements may be made to fairly superficial aspects of learning, but in terms of its effects on academic performance, its impact is low. This cautious approach to PASA is argued as unnecessary by Black *et al* (2003). They suggest that if the appropriate level of scaffolding and support is provided then students can peer and self-assess in any subject. They use the example of PASA in Art to illustrate how a subject which may at first glance appear impossibly 'floaty', benefit immensely from PASA. As Black *et al* (2003) argue part of the nature of teaching a subject should be to teach students to assess quality and learn how to apply those judgements. Even within subjects with open-ended tasks with no objective or straight forward criteria, students are able to develop their understanding of the anatomy of quality and provide specific, helpful feedback to their peers.

Whilst the studies cited so far endorse PASA as having a positive effect on learning, studies that have focused more on how students understand PASA are less convinced of its effects. A few in-depth studies into PASA at Secondary School level have found that students themselves can be much more conservative in their support of it as a means of improving learning. Van Gennip, Segers and Tillema's (2010) study of PASA in the Netherlands for instance, found that students had low levels of trust in themselves and their peer as accurate assessors. In the same way, Broadfoot's (2007) publication on assessment emphasises that students can be one of the most

conservative forces in the education process and frequently reject PASA as a legitimate method of improving learning. Similarly, Brown *et al* (2008) found that whilst students conceived more student oriented assessment practices as creating a positive social environment but believed it was irrelevant to learning. These studies highlighted a belief held by students that the more assessment is associated with teacher controlled processes, the more it helps them to learn. Whilst the more removed it was from the teacher, the lower the impact on their learning. Crucially this perception plays a major role in the outcome of such strategies. Brown and Hirschfeld (2008) and Entwistle (1991) found that a student's conceptions of feedback strategies play a non-chance role in relation to their academic performance. Their work on secondary students' conceptions of assessment and the links to academic outcomes found that the impact of educational practices are more influenced by a student's perception of them rather than the actual educational practice itself. No matter how strong the evidence for the positive effect of PASA on learning, if students do not see them as valid then they will fail to achieve the effects promised.

What are the conditions under which PASA practices can enhance student learning?

Research on PASA within British secondary schools has concentrated on investigating the effects of PASA for learning, rather than understanding the conditions which enhance learning. Therefore, the literature search was widened to include empirical and meta-analyses studies from other European countries and New Zealand; an education jurisdiction that interestingly places assessment for learning prominently within the National Curriculum and its Graduating Teachers Standards (Ministry of Education, 2010 in Harris and Brown 2013:104). Although these national settings differ in some ways from that of my own, it is assumed that lessons can still be drawn.

Three issues were identified. Firstly, the influence of students' achievement motivation on how they respond to PASA. Secondly, perceptions of learning, agency and assessment and the validity of PASA, and finally, the influence of interpersonal variables.

The influences of students' achievement motivation

Within the classroom it is hoped that students are interested in the feedback provided to them and are motivated to use it to perform at a high level. For PASA to successfully impact on learning students need to perceive the feedback they receive as relevant and helpful. However, this reaction and approach to feedback is not guaranteed in any type of formative assessment, let alone PASA.

Contemporary achievement goal conceptualisation can provide a useful framework for understanding how a student may perceive the feedback provided to them in PASA. This conceptualises achievement motivation as consisting of either a performance goal or a mastery goal. These opposing goals have also been referred to as performance goals versus learning goals (Elliot and Dweck, 1988) or intrinsic and extrinsic goals (Pintrich and Garcia, 1991). Each goal reflects the purpose of an individual's achievement pursuits and creates its own framework for processing and acting upon feedback.

The mastery goal perspective implies that students are best off focusing on their grasp of a subject or skill in their achievement pursuits. Students seek to improve competence and focus on increasing their ability over time by acquiring new knowledge and skills (Elliot and Dweck, 1988). This goal promotes challenge seeking behaviour as the student actively seeks information, or in this case feedback, on how they can best achieve a skill or master a task. Feedback is therefore perceived as relevant and leads them to alter the strategy which they have employed or escalate efforts. Whether this feedback is provided through teacher-led or student-led practices is less relevant than the quality of the feedback provided. This approach

to achievement lends itself to being adaptive in the pursuit of mastery rather than pursuing normative comparison (Elliot and Dweck, 1988). It may follow that errors that are made public through peer feedback practices are responded to in a mastery-orientated manner rather than avoided or ignored. Similarly, the lack of public feedback, which is a fundamental aspect of self-assessment practices, is not a barrier to a students' engagement with such feedback because the student is not seeking to demonstrate their competence relative to their peers. Rather they are looking to gather quality information to promote their learning.

Whilst mastery goals provide ideal conditions for PASA, performance goals not only limit a students' engagement with teacher-led feedback but may make them particularly averse to PASA. When approaching an activity with a performance goal, individuals are concerned with how their ability compares to others (Elliot and Dweck, 1988). Whilst, positive feedback from their peers may seek to motivate individuals who are motivated by proving their ability in a normative-based framework, it is likely that they will reject and even shy away from any feedback provided in such a public setting which they perceive to be of a negative judgement. In these instances, peer assessment may have a detrimental impact on student learning. Furthermore, if the goal of learning is to seek favourable judgements of competence which are external to oneself, self-assessment practices entail little value and are practically worthless in a students' pursuit to be seen to do better than others.

Barron and Harackiewicz's (2001) work on achievement motivation suggests an additional factor which may influence how students react to PASA. In papers by these psychologists, they suggest that only performance goals grounded in the avoidance of failure can undermine learning outcomes and subsequently promote maladaptive strategies which disengage with student-led feedback. The desire for success, be it mastery or performance, can orient individuals towards competence. Furthermore, they argue that students may adopt a multiple goal perspective, for instance seeking to demonstrate their competence against their peers in

summative assessments but acting upon feedback in formative assessments to develop their competence over time. The key here for PASA is that individuals are directed towards the desire for success in contrast to the desire to avoid failure or a desire to prove their competence against their peers. These latter two orientations promote aversive to perceived negative feedback or judgements from peers and significantly undermine any positive impact on learning which PASA can have.

These findings identify how attempts to implement PASA successfully within the classroom will be mediated by the wider culture of the school. If the culture of the school and accordingly that of the classroom, encourages students to pursue learning goals which seek to increase their competence over time rather than prove their competence than PASA may have a positive influence on learning. However, if the culture is one of competition and comparison between peers, avoiding public mistakes and rejecting negative judgement, no matter how effective the PASA strategy employed, their effectiveness will be undermined.

Perceptions of learning, agency and assessment and the validity of PASA

Many of the studies of student perceptions of PASA in secondary schools indicate a potential disjunction between practices which teachers are being told are good for learning and the conceptions students have of those same practices. Factors appear to be at work which influence student perceptions of their own agency and learning in such a way that they are not inclined to view PASA in the same positive way as the education literature. These perceptions are crucial given findings that a student's conceptions of feedback strategies play a non-chance role in relation to their academic performance (Brown and Hirschfield, 2008). If students conceive of PASA as promoting learning, they will treat them seriously and pay attention to the feedback provided. On the other hand, if their perception of PASA is that it interferes with their learning and is invalid, it will fail to impact on learning outcomes.

Work on student perceptions of PASA and formative assessment more broadly, has found that formative assessment strategies operate in conjunction with the belief systems, agenda and values inherent in school and classroom systems, which are in turn influenced by macro- or policy level factors (Cooper and Cowie, 2010). These systems interconnect to send powerful messages regarding whose feedback is valued and whose should be disregarded. Whilst a teacher may implement highly effective PASA strategies within their classroom, these are embedded in these wider cultural systems which influence a student's own perceptions of their learning and agency. Thus, for students who have been socialised into a model which does not support greater student involvement in feedback, it is unlikely that they will view any attempts by their teacher to implement such approaches positively.

The dominance of high stakes testing within British Secondary Schools provides a more contextual explanation for why students may accept or reject their more active role in PASA. Assessment for summative purposes has proliferated in the past two decades. Given 11+ assessments, SATs, entrance exams for some schools, in addition to GCSE and A-Levels in an environment heavily influenced by league tables; it is not surprising that the business of most secondary school teaching focuses on summative testing for school accountability purposes. In their study on the link between motivation and testing, Harlen and Crick (2003) drew upon a survey by the Qualifications and Curriculum Authority conducted in 2000, which found that the introduction of national tests within the UK, brought with it an increase, rather than a decrease, of other testing methods within classrooms (Harlen and Crick, 2003). Indeed, Harlen and Crick (2003) categorise England, alongside the USA, as the world's 'most tested nation'. Black's (1993) investigation of secondary science education went a little further to explain this relationship and found that teachers were producing classroom activities that emulated external tests due to the assumption that this represented good practice as well as focusing class time on preparation for external testing. These summative assessments provide a judgement on

students' work, emphasising the *proving* of performance rather than *improving* of performance. The frequent experience of students has become one where grades are assigned and judgements made, leaving little room for feedback which aims to improve learning. Evidence gathered by a number of researchers including Harlen and Crick (2003) and Black (1993) suggests that the emphasis on quantifying and measuring performance by assigning a grade or mark to students' work is effectively squeezing out more formative practices in general, and more student led approaches in particular. Students are increasingly socialised into viewing formative feedback as valueless unless accompanied by a summative judgement of their performance which is made externally by a source of 'authority'.

Whilst the emphasis of evaluative judgements may inhibit formative assessment more broadly, the absence of the role of the student in these practices implicitly tells the students that there is no place for them in the provision of feedback either to their peers or themselves. Indeed, if the norm is for teachers to make judgements on the quality of work against exam board criteria and position these external organisations as the locus of control and agency of learning, it may even suggest that there is limited room for the teacher's own judgement of quality, let alone the student. In Harris and Brown's (2013) investigation on the obstacles faced by effective PASA within New Zealand secondary schools, they found that the teachers they interviewed acknowledged that current school accountability measures limited the role of student-led strategies and influenced students to view feedback provided in this manner as invalid. They go so far as to conclude that it is probable that students in high-stake jurisdictions may resist student-led feedback practices because their experiences have not taught or allowed them to value their own opinions of their work.

At the same time as this high stake testing culture de-values the role of the student in the provision of feedback, their experiences of teaching and their agency in this, will also influence the validity which students assign to student-led practices. Research by Brown and Hirschfield

(2008) found that teachers' understandings of assessment are precursors for the conceptions found among their students. PASA strategies employ processes more aligned to ideas inspired by social constructivism. They place the student at the very centre of the formative assessment process. The idea of learning as being taught and assessed by a more knowledgeable individual, in this instance the teacher, is therefore fundamentally altered. Such an approach may be challenging for teachers who have been trained in a more classical model of transmission of knowledge. One line of research into assessment for learning has explored how teachers' personal knowledge and beliefs has a critical influence on how, or even if, they incorporate formative assessment strategies into their classroom practice. Black *et al's* (2003) two-year study into changes in classroom practice found that different teachers adopt and adapt different practices which are in line with their own understandings of effective teaching. A teacher's beliefs about their own learning, shaped through their own educational experiences (Broadfoot 2007), along with their beliefs about student learning and agency underpin the type of feedback strategies they employ. Additionally, teachers' experience of assessment is within a culture heavily influenced by a pressure to raise test scores. As a result, despite the apparent influence of formative assessment, the language surrounding assessment tends to more judgemental than formative. A change at an individual, or indeed at a school level will be constrained by an environment that prioritises measuring achievement rather than promoting it and judgement rather than dialogue.

Through their experiences of teaching, for students who have been socialised into a model that perceives themselves as outer-directed and learning as being taught, then PASA strategies may be at odds with these beliefs. For instance, research by Tsivitanidou, Zacharia and Hovardas (2001) in a Cypriot secondary school found that if students are directly involved in their learning and provided with a sense of ownership and personal responsibility then they are more likely to engage with PASA strategies positively. On the other hand, if their experiences of learning

locate control and responsibility for their learning elsewhere they are less likely to view attempts to give them more responsibility for feedback favourably.

The implications of this for the effective use of PASA are twofold. Firstly, they stress how a teacher cannot operate in a cultural vacuum; if the wider school and educational culture operates against the values and ideas proposed by a more active involvement of the student in the provision of feedback, it is unlikely that any attempts will have a substantial impact on educational outcomes. PASA strategies must be one of a number of complementary strategies to promote self-directed and independent learning and not tackled in isolation from other strategic school aspects. Given the broader context of high-stakes testing whether this is achievable is questionable. Secondly, PASA is more than an activity to be incorporated into lessons. Instead it entails a conceptual shift for all stakeholders involved. If you only work within a single classroom, student experiences in other subjects or over time may work counter to any efforts by a single teacher. Also if you are working with teachers who hold views which oppose the very principles upon which PASA is based it is highly unlikely that they will operate it effectively, if at all.

The influence on interpersonal variables

Peer feedback, in contrast to more self-reflective approaches, is fundamentally a social process that occurs between at least two peers. Its core activity involves students working together to improve each other's learning through assessing each other's work and receiving feedback from each other. Its potential to impact on learning is therefore mediated by interpersonal and interactional processes. These processes can affect the accuracy of the feedback provided and the validity which students assign to PASA as an effective learning strategy. Despite this inherent social nature, there are limited empirical studies on peer feedback from a social perspective. Whilst many identify the importance of good classroom relations they stop short of actually describing what constitutes these 'good relations'. The literature review therefore

relies rather heavily on work on peer assessment by Van Gennip, Segers and Timmema (2008, 2010) in the Netherlands and work by Barron (2009) on collaborative learning and productive interactional practices.

One social condition where the literature is in general agreement concerns the need for a social environment that enables students to take interpersonal risks. This is frequently referred to as a group or individual's sense of psychological safety. In peer assessment students require a sense of confidence that their peers will not embarrass, reject or punish them in some way during the activity. Both Van Gennip, Segers and Timmema (2010) and the Assessment Reform Group (2002) contend that psychological safety is a prime condition for peer assessment to support learning. This important factor is closely connected with the culture of the classroom and the school which encompass such practices. Similar to how a school culture can influence a student's achievement motivation, it can also influence students' sense of psychological safety. If the cultural environment sees mistakes as an opportunity for learning and encourages honest reflection then PASA is more likely to have favourable academic outcomes: if collaboration over competition is valued, then it is probable that peers will engage in supportive exchanges that elaborate and extend each other's thinking. Interestingly, at a classroom level, Barron's (2009) study indicated that friendship groupings contain a heightened sense of psychological safety. Within these students tend to respond to each other in more productive ways than groups who are unknown to each other and may have a tendency to relate in competitive interactions. However, the issue of trust in social relations is complex. If students have low levels of trust in the stability of their relationship with their peers they are likely to create inaccurate feedback in an effort to save face and avoid displeasing others (Harris and Brown, 2013). These complex issues concerning social relations mean that students often do not feel comfortable enough to respond honestly in the ways which PASA required.

Alongside an environment conducive to interpersonal risks, peer assessment requires all those involved to feel that they are benefiting from the activity. This is a feature referred to as task interdependence by Van Gennip, *et al* (2008). They found that for PASA to operate effectively students needed to believe in the importance of each other's role so that they all participated responsibly. If, for example, the worth they assign to their own role as an assessee is low then they are unlikely to engage in communication, or information sharing which is necessary to promote learning. Harris and Brown's (2013) study on student perspectives of PASA identified a similar aspect. They identified that in peer assessment, student's perception of the academic ability of those whom they are paired with will influence the value they assign to the feedback they gave and received. Students assigned greater value to feedback received from a peer whom they perceived of being of a higher ability than themselves. Similarly, if they believed themselves to be of a lower ability than their peer they were unlikely to give the honest, specific feedback required if PASA is to be effective. Perceptions of ability therefore fundamentally altered the feeling that all those involved benefitted.

These interpersonal and interactional processes have significant implications if PASA is to enhance learning. However, the literature pays little attention to the specificities which a teacher can attend to if they are to use PASA effectively. Establishing a social environment which encourages and celebrates risk taking in learning is a task that a teacher can attend to although it will be clearly influenced by the wider culture of the school as well as the complex dynamics between peers.

What specific issues concern the use of PASA in Geography?

Whilst the majority of the literature review has considered PASA at a general and often a systems level, the research itself takes place within the day-to-day operations of the Geography classroom. There is therefore a need to translate the general conditions discussed into the more

distinct conditions of Geography teaching to identify some of the subject-specific issues that PASA may face.

Within the literature, the bulk of work on PASA is discussed generically rather than in a subject specific way. Whilst geographers such as Lambert (2000) and Hopkin, Telfer and Butt (2000) and Weeden and Lambert (2006) have written about formative assessment in Geography, scant attention is paid to the particularities of PASA. Although they herald self-assessment as a means to attain educational outcomes, the conditions under which this can be realized and the specific geographical opportunities and obstacles encountered have not received in-depth attention. What is in agreement, however, is the need to develop an understanding of the anatomy of quality that describes attainment and articulates progression through a distinct, geographical form of knowing the world. However, there are distinct challenges for Geography as a subject to achieve this.

Geography as a subject investigates a diverse range of phenomenon. A Year 9 programme of work may cover the globalisation of the English football industry, glacial landscapes, population change in China and flood management in Bangladesh. Given the diverse range of places and of phenomenon what should the focus of PASA be? Whilst there is a clear need for teachers to have a clear sense of progress within each phenomenon the scope for students to play a significant role in using a description of progress based on these criteria appears limited. To become capable evaluators, students need repeated opportunities to develop their grasp of quality criteria in order to identify their next steps in learning. Descriptions of quality need to be familiar if to they are to be used by students to progress their learning. If these descriptions change each half term with each change in the phenomenon studied, then it is unlikely that students will be able to make valid assessments of quality.

Peter Davis, at the Institute for Education Policy Research, Staffordshire University, worked with Geography teachers in three secondary schools to tackle this specific issue. His research aimed to develop students' conceptions of quality in Geography. To do this, Davis, Durbin, Clarke and Dale, (2004) argued that quality criteria must be developed which is subject specific, rather than phenomenon specific. Geography may be distinct in the type of phenomenon it studies and clearly students are required to progress in their understanding of these phenomenon, but Geography is more than a jumble of discreet topics and issues. Davis *et al* (2004) argue that Geography has a distinct construction of knowledge held by a community of scholars and a distinct geographical lens through which these phenomena are studied. This is a notion stressed by Rawding (2013) in his discussion of innovation in the secondary Geography curriculum. Both Davis *et al* (2004) and Rawding (2013) argue that subject quality criteria need to be created and justified on the basis that learning Geography in schools is an induction into the thinking of this 'community of scholars' and the structure of knowledge shared by this community.

Identifying and communicating these subject-specific quality criteria is a real challenge for Geography teachers. How to conceptualise progress in Geography has been tackled by successive National Curriculums, with varying degrees of success. The vague descriptions of quality used by Exam Boards has also done little to clarify the situation: with AQA GCSE, for instance, using descriptors of quality that refer to 'basic', 'clear' and 'detailed' explanations or descriptions, offering limited guidance to teachers on quality. Work by Weeden (2010) and Davis (2002) have attempted to address this lack of a shared understanding of progress by developing descriptions of progress which are agreed by the Geography community. In both studies progression was articulated in terms of complexity. For instance, explanations varied according to whether they were simple or more complex, with low quality explanations making a simple association between cause and effect and the highest level combining more than one

thread of causation in explaining an effect. Such criteria worked across different topics as they formed part of the fabric of Geography.

This development of subject-specific quality criteria then becomes a crucial aspect of formative assessment in Geography. It enables students to have repeated opportunities to develop their grasp of these quality criteria as they work on successive topics, rendering PASA more practicable. However, an obstacle arises when there are conflicting perceptions of quality. Different teachers within a department may hold contrasting perceptions of quality, as may teachers in different schools. Additionally, Mitchell and Lambert (2015) outline how GCSE summative assessment is often interpreted differently by teachers and exam boards, with conflicting opinions held as to which work is of a higher quality than another. If Geographers cannot agree on an anatomy of progress and what 'excellent Geography' looks like how can Geography teachers possibly communicate this clearly to students? Mitchell and Lambert (2015) embrace the challenge outlining that such debates are a source of fruitful discussion for conceptualising quality and progress. Indeed, they argue that in forcing teachers to consider the nature of quality and progress they will improve the feedback they provide to students. Whether this then makes PASA a valid learning strategy, however, is unclear.

Design of the study

An action research methodology

A range of definitions of action research exist. Punch (2013) defines it simply as action and research brought together so that inquiry leads directly to the solutions. On the other hand, Cohen, Manion and Morrison (2011:345) incorporate a number of additional dimensions defining it as a 'small-scale intervention in the functioning of the real world and a close examination of that intervention'. Given that the scale of this research was limited in scope to three Geography teachers (one of whom was myself) and their Year 9 Geography classes this reference to small scale is appropriate. Furthermore, the research involved two action cycles designed to improve PASA practice. This improvement aimed to address the specific problem of the lack of understanding of PASA both within my own teaching and across the department and school as a whole. An action research methodology therefore aimed to improve my professional understanding and subsequent use of PASA so that the problem was resolved through action.

In addition to this professional dimension, the research aims to act as a form of self-development so that I can better understand my own teaching. This personal dimension of action research is described by Bradbury (2015) as an area receiving increased attention since the early 1990s. She highlights one of the purposes of action research as working with teachers to 'explore closer connections between their personal beliefs about teaching and learning and their practice' in order to impact upon their personal growth (Bradbury, 2015:9). Similarly, McNiff (2002) places self-reflection at the heart of action research. These connections and the role of self-reflection inherently lie at the heart of research on assessment for learning. Given assessment for learning's strong links with teacher beliefs about their own learning and student learning and agency (Black, Harrison, Lee, Marhsall and Wiliam, 2003 and Cooper and Cowie, 2009) research on classroom practice of assessment for learning requires a close examination of the personal dimension of teaching. By exploring my own beliefs about learning and aligning

these with the types of assessment I employ, this research places my own self-development at its core.

The other key aspect of action research is its cyclical nature. It involves a number of cycles of planning, acting, observation and reflection, therefore enabling the PASA intervention to be refined through a cyclical process. Two action cycles were designed with the intention of informing the design of the second cycle based on analysis and evaluation of the first. It is to this cyclical design that we now turn, outlining the advantages of this approach and describing how it was utilised in this particular research project.

Designing the action research cycle

A potential weakness of research into my own classroom practice is whether my insider researcher status would result in a lack of criticality. This was an issue identified by Thompson (2007) in his two-year research project on developing classroom talk through practitioner research. He found that analysis of the findings by the teachers resulted in a tendency to rationalise a subjective viewpoint or misunderstand the totality of their own role in the project. However, in his conclusion Thompson suggested that if he had used an action research methodology this may have ensured a more systematic collection and reflection of research evidence. He argued that action research's strict adherence to an upward spiral of planning, action, observation and reflection or what is referred to as 'a cycle of action research' can help the teacher researcher become aware of their own perceptual basis. Similarly, Edwards and Talbot (1997) advocate for monitoring to be done alongside the action as shown in their model of an action research cycle in figure 1. They suggest that a research journal and observation can structure this crucial monitoring and self-reflection and help the researcher to recognise any

bias inherent in their perspective. This can also help to acknowledge the role and impact a teacher can have on the research.

The design of this project followed this structure of planning, acting, observing and reflecting. The investigation began with a general idea about feedback and the role of students in this process. This was refined and modified through a primary exploratory stage and the subsequent literature review which enabled a general plan of action to be devised. This plan is outlined in table 1. Although this plan is presented as a linear process it was conceived and implemented as a spiral of planning, action and fact-finding about the outcomes of the action. Within each action cycle smaller cycles of planning, acting, observing and reflecting were utilised as recommended by Kemmis and McTaggart, (1992). The process can therefore be thought of as an upward spiral of these cycles.

The figure originally presented here cannot be made freely available via ORA because of copyright. The figure was sourced at Edward, S. and Talbot, R. (1997) *The Hard Pressed Researcher: A research handbook for the caring professions*. England: Addison Wesley Longman.

(Edwards and Talbot, 1997,p.63)

Table 1: the action research plan

Action research stage	Aim	Data collection method	Participants
Exploratory (3 weeks)	Information finding on the use of PASA in the Geography Department and the school.	Individual interviews with teachers – interview guide approach Group interviews with students – interview guide approach Research journal	Head of Geography Four Geography teachers Academic Deputy Head Four group interviews. Each comprised three students.
Pilot	Refine student and teacher interviews so fit for purpose	Individual interview with teacher. Group interview with students	One Geography teacher One group interview with three students.
First action cycle (4 weeks)	Ongoing fact-finding to monitor the effects of the intervention.	Participant observation: recordings of weekly research meetings. Research journal	Myself Two Geography teachers
Reflection and evaluation (2 weeks)	Describe and evaluate the effect of the action. Feed forward into second action cycle	Individual interviews with teachers – interview guide approach Research journal	Myself Two Geography teachers
Second action cycle (3 weeks)	Ongoing fact-finding to monitor the effects of the intervention.	Participant observation: recordings of weekly research meetings Research journal	Myself Two Geography teachers
Reflection and analysis (2 weeks)	Evaluate the success of the intervention in solving the identified problem.	Individual interviews with teachers – interview guide approach Group interviews with students – interview guide approach Research journal	Two Geography teachers Four group interviews. Each interview comprised three students.

The action stages vary in length: the first stage comprising four weeks, the second slightly shorter in length, lasting only three weeks. This was affected in part by factors outside of the control of the research: an unforeseen residential History trip and a period of revision and internal exams. The lengthier duration of the first action cycle allowed PASA to be introduced slowly to the students and for them to be trained in its use through models and examples.

Within each action cycle both peer and self-assessment practices were used. However, each action cycle took a different approach to PASA, providing a different level of scaffolding and description of progress. The nature of these and the rationale behind them are described at a later point in the section entitled 'intervention design'.

Action research or development of resources?

During the exploratory phase of the research it became apparent that there was a possible tension between the process of research and development of the curriculum and associated resources. I was acutely aware of the need of my Geography department to develop new GCSE schemes of work and resources given upcoming changes to the curriculum. The potential for this need to circumvent the original intention to develop a more thorough understanding of PASA grounded in research methodology concerned me. This concern was influenced by my reading of Thompson's (2007) practitioner research where he found that less effective practice-based research within schools can concentrate on the development of resources rather than rigorous data collection. In this sense my own workload and that of the department could become an impediment to high quality research. Therefore, in order to ensure that personal and professional understanding was grounded systematically in research methodology I adhered to the stricter conception of the action research model. Whilst the emphasis was not on the development of curriculum material, the project, however, could be described as a Research and Development project, with an emphasis on *development* of professional knowledge about teaching, learning and assessment that consequently influenced the development of certain PASA strategies and associated resources

Defining the research parameters

The research primarily involves action on the part of myself as a researcher. This distinguishing feature classifies the research as action research as it concerns change, development and intervention. Its parameters of study are myself as researcher and a small group of collaborators: two Geography teachers. The motivation behind such a small scale study is an attempt to portray the reality of their lived experiences, thoughts and feelings about PASA. Whilst the research is clearly one of action research it has some overlaps with a case-study approach. Indeed, Lewin himself made the link between the use of case-studies in action research in schools given the centrality of context (Adelman, 1993).

Case-studies are defined by Cohen *et al* (2011:289) as a 'unique example of real people in real situations' and that one of their particular strengths is 'that they observe effects in real context, recognizing that context is a powerful determinant of both causes and effects, and that in-depth understanding is required to do justice to the case'. Such an approach seems particularly adapt given this study's grounding in the realities of classroom practice and the focus on individuals' perspectives. The initial exploratory data collection suggested that the use of PASA in the school as a whole seemed to be influenced by the culture and 'our unspoken way of doing things' which was perceived as unique to the school. It also appeared to be closely connected with a teacher's professional and personal beliefs and understandings of learning and knowledge. The importance of context in school life and indeed at a personal level therefore required a methodology that recognised the many variables that operate in a unique instance.

Additionally, the literature review had highlighted that there was still much to know about the understanding and attitudes that underpin successful and unsuccessful PASA practices in different contexts. A number of studies had attempted to address this gap by employing a case-study approach to offer the researcher insights into a real situation. For instance, Harris and Brown's (2012) case-studies into implementation of PASA investigated three New Zealand classrooms, whereas Cooper and Cowie's (2008) research into the practice and impacts of

assessment for learning focused on just three teachers to look at their personal and professional knowledge and beliefs. Consequently, this research linked its methodologies with these studies in order to generate confidence in both its approach and its findings.

Potential limitations

Whilst a strength of the case study approach is that the case only represents itself there are limitations in its generalizability. The three teachers and the students interviewed are not a sample selected according to a particular sampling technique and therefore are not representative of the generality of teachers and schools. Instead, they seek to test the theories surrounding PASA in an empirical case. In his defence of casestudies, Yin (2009:15) makes the point that case studies help to contribute to the 'expansion and generalization of theory' which can help researchers to understand similar cases. Therefore, this research makes no claims to be open to cross-checking or generalizable but instead seeks to contribute to the growing amount of data on PASA in different educational settings.

In addition to its limited generalizability, case studies have also been criticised due to their potential to be heavily influenced by researcher bias, particularly, as is the case with this project, when the researcher is integrally involved in the case. For instance, Yin (2009:72) suggests that case studies are prone to be 'an embodiment or fulfilment of the researcher's initial prejudices or suspicions, with selective data being gathered or data used selectively'. Two processes were used to limit the potential for this to occur. Firstly, I kept a research journal. This was recommended by Yin (2009) as a means of providing a 'chain of evidence' so that each cycle of the study is recorded, from its inception all the way through to its conclusions. This sought to address bias through encouraging ongoing and consistent researcher reflection of evidence which Yin suggests can enhance the reliability and validity of the case study approach.

Data collection methods

Individual interviews -teachers

Individual interviews were conducted with teachers. These adopted Patton's (1980 in Cohen et al, 2011: 413) 'interview guide approach' type. I created an outline of topics and issues to be explored shown in Appendix B. The sequence and wording of the actual questions was determined in the course of the interview. This enabled me to keep the interview purposefully focused around the research questions, to time (particularly important given constraints on teachers' time) and avoided the interview becoming a 'causal affair' an issue which Cohen *et al* (2011) warns against in his discussion on unstructured interviewing. This more unstructured interview approach encouraged teachers to talk freely and honestly about their experiences which, given that the aim of the research was to understand and interpret teachers' unique, personalised experiences and views of PASA, was judged as fit for purpose. The outline also allowed any gaps in data to be closed whilst flexibly using the structure to create a sequence which encouraged the respondents to provide rich, fine grain descriptions.

The interviews varied in length from 9 – 15 minutes and were organised at a time and a place to avoid interruptions and minimize distractions. This was a particular problem when conducting interviews during school time given the open door policy in our school towards both colleagues and students. Therefore, I constantly liaised with the teachers, organising and reorganising to find an appropriate time.

The exploratory stage involved interviews with all members of the Geography Department and the Academic Deputy Head, to provide information at both the departmental and school-level. At the end of the exploratory stage, two Geography teachers, one of whom was the Head of Geography, expressed interest in being involved in the research. Due to time constraints they wished to restrict their involvement to trailing strategies rather than data collection and analysis.

With the consent of the respondent each interview was digitally recorded and transcribed immediately after the interview. I also made notes in my research journal in order to capture any non-verbal communication as well as recording my immediate thoughts on both the interview as a process of research and the issues which arose in relation to the research questions.

Potential limitations

As an insider researcher, I was interviewing teachers whom I had close professional relationships with. There was a concern that teachers would say things in an attempt to please me or to say what they think might be appropriate for my research. This conformational bias may influence findings so that there is a discrepancy between what teachers were saying about their PASA and what they were really thinking or doing within their classrooms. Whilst I used my research journal to make notes after the interviews, particularly when I was concerned that such bias had arisen, given my insider status this was difficult limitation to avoid.

Whilst exploratory interviews involved all teachers in the department, two teachers then volunteered to collaborate in the two action cycles. These teachers' perspectives of, and purposes for, PASA may be different given their inclination to experiment and innovate with such an approach.

Group interviews - students

A decision was made to focus the intervention on Year 9. This was for two reasons. Firstly, on a practical level both collaborating teachers taught Year 9 Geography classes, as did I. Secondly, on a professional level, the Head of Geography was keen to work with this year as we were introducing them to the new GCSE specification. The department needed to become familiar with the quality criteria associated with this specification and with how the exam board conceptualised progression. PASA was seen as a potentially powerful vehicle for communicating these concepts of quality criteria and progress to students.

Similar to the interviews with the teachers, an outline of topics and issues was specified in advance and an 'interview guide approach' used (see Appendix C). However, in this instance group interviews comprising three students per group were conducted. Each group of students were from the same Geography class and selected by their teacher according to school banding which ranks students according to academic performance. Accordingly, each group consisted of a high, middle and low achiever in the context of the school.

Potential limitations

The decision to use the group interview format was based upon Cohen *et al's* (2011) recommendation that the format is particularly well suited when interviewing children as they are less intimidating than individual interviews. I was concerned that the power and status dynamic involved in the student-teacher relationship would generate responses that students perceived I wanted to hear. Thus, group interviews were selected due to their potential to put the student at ease, make the interview non-threatening and to allow time to think, all factors highlighted by Cohen *et al* (2011) as strengths of group interviewing with children. Students were encouraged to discuss issues between themselves in the hope of generating a wider range of responses. Although, Cohen *et al* (2011) warn that group interviews can produce 'group think' and discourage dissenting voices, it was common within these interviews for students to disagree with one another and offer alternative perspectives. A factor which was not surprising given the confidence of many students at the school and their inclination to ensure their personal opinions and beliefs are clearly heard. Practically, this approach also enabled me to interview a greater number of students across the three classes than I would have been able to if I had used individual interviews.

Research Journal

The research journal is described by Altrichter, Posch and Somekh (1993) as one of the most important research methods in action research. Similarly, Kemmis and McTaggart (1992) call it a key feature of action research. Given these recommendations I kept a personal journal

throughout to record my progress and reflections about two parallel sets of learning – one about the issues I was researching and the other about the process of research and my role as researcher. This enabled an almost continuous stream of mini-action cycles and kept data collection in close contact with reflection and analysis.

Each entry was accompanied by the date of event and date of record and contextual information, such as time and location. It also included my feelings and reactions and was therefore both descriptive and interpretative. This was considered as rich, thick data for as Altrichter, Posch and Somekh (1993:20) claims ‘everything that you put in your journal is data. All information helps you to develop a more profound understanding of your practice situation and can help you to reconstruct it later’.

Participant observation

During each action cycle weekly meetings were held with the two collaborating teachers. With the consent of these teachers these were digitally recorded. PASA strategies and resources were sourced by myself and the regular meetings sought to support teachers in their use of them.

Each meeting involved reflection of the strategies and resources used and planning of subsequent PASA activities. Recordings enabled information to be obtained on the use and purpose of PASA within its real-life context and capture teacher perspectives as they evolved throughout the action cycle. They also provided talking points for the individual interviews as they gave context to the outline of topics and issues discussed.

Data analysis

I transcribed all interviews and meeting recordings to ease the process of analysis of the large volume of ‘talking’ data. Analysis involved reading the transcripts and research journal several times in order to identify themes and patterns. The aim was to ensure multiple perspectives were considered, an aspect assigned particular importance given the centrality of individual’s perceptions in the research. Textual coding was used to provide a descriptive quality to the

emerging themes and to attempt to create categories which reflected the original content. To achieve this during analysis I looked for emergent trends rather than advanced predictions, coding data qualitatively according to the themes which surfaced.

This coding process enabled me to deal with the particularly large volume of data which had been collected from the range of qualitative methods used. A process of 'culling' was an inevitable part of this for as Cohen *et al* (2011) described it was impossible to write everything. This approach entailed a degree of interpretation and selection on my behalf as I read, listened and made judgements about the themes, constructs and explanations which arose from my data. Frequency counts of coded categories was used to aid this process of culling.

In an attempt to minimise researcher bias I maintained the research journal throughout the analysis process, writing down my thoughts, emotions and perspectives on both the process of coding and the emerging themes. I then used this to provide a context for the emergence of meanings and themes and also to ensure that rival interpretations had been considered.

Ethical considerations

Much of the work undertaken by this study was part of my normal, professional teaching practice. However, as with all research, especially that involving young people, a number of steps were taken to ensure ethical concerns were addressed.

I complied with the guidelines set out by the British Educational Research Association (BERA, 2011) and the Central University Research Ethics Committee (CUREC). The universities Modus-Operandi identified the research as low risk and so parental consent was not deemed necessary for any part of the research undertaken.

I had an ethical obligation to keep the gate keepers of the research informed for they had a responsibility to the young people and the teachers involved. A letter was sent to the Headteacher (Appendix D) seeking his permission to conduct the research, which he subsequently gave. Monthly meetings were also held with the Academic Deputy. The main aim

of these was to disseminate findings as they emerged, however they provided a platform to raise any ethical concerns which arose.

Informed consent, defined by Cohen *et al* (2011) as the right to refuse, was sought from all participants. Teachers were provided with a written brief of the research (see Appendix E) and a Geography department meeting was held to outline the aims of the research and the design of the intervention. This gave an opportunity for teachers to seek further clarification in a supportive, collegial environment. Although the project gained the written consent of teachers (see Appendix F) it was emphasised that informed consent was envisaged as an ongoing process. Should individuals wish to withdraw at any point they had the right to do so and it was made clear that any data collected which involved them would be destroyed.

Informed consent from participating students was a more complex issue due to the power differentials involved. Similar to the teachers, students were provided with the written brief of the research and I gave a short briefing to each of the three classes about the research aims, methods and dissemination. As the PASA intervention formed part of the day-to-day teaching of Geography for these classes their participation in the activities was not optional. However, written consent was sought from the students selected for the group interviews (Appendix F). Despite the written, static nature of this consent students were informed of their choice to withdraw from the study at any time, including after data collection had taken place. As Cohen *et al* (2011) describes the asymmetrical power relationships involved in obtaining this consent are difficult to eliminate and indeed Cohen suggests that it may be unethical to attempt to do so. I maintained an awareness of how this may influence students' decisions, taking care at the beginning of each interview to re-articulate factors concerning their informed consent.

Audio recordings and interview transcripts were held in password protected files which only I had access to. These files will be destroyed once the research has been successfully submitted.

To protect both the school and individual participants' names were omitted from the study and instead pseudo names employed to ensure anonymity and confidentiality.

Intervention design

The intervention took place during the Summer term. All strategies were part of the teaching and learning of the topic ‘Dynamic Development’ and focused upon the development of Uganda. Table 2 provides an overview of the PASA strategies involved in each action cycle and identifies the geographical learning planned for each strategy.

Descriptions of progressions were considered too complex for this first cycle given the inexperience of students of PASA. Therefore, the first cycle aimed to introduce them to PASA using quality criteria checklists which focused on more objective criteria: knowing the climate and location of Uganda and being able to write detailed description of both. The second cycle used detailed descriptions of progress to enhance students understanding of progression in Geography.

Table 2: Design of PASA strategies and intended geographical learning

Action cycle and dates	Geography topic and intended learning	PASA strategies	Specific learning intended for PASA
Action cycle 1 Apr – May	Dynamic development: situating Uganda Intended learning: 1. Know the climate of Uganda 2. 2. Know the location of Uganda.	Provide students with an introduction and rationale behind the use (see Appendix G for slides used to illustrate potential impact of PASA) <u>Quality criteria checklist (see Appendix H)</u> <i>Peer.</i> Students give feedback on more than one piece of work using checklist. This enables students to see at least one piece of quality work and to receive at least one piece of specific feedback. It also allows them to reject feedback. <i>Self</i> Checklist against criteria. Enabling students to see what they have and have not included.	To produce more detailed descriptions of climate and location.
Action Cycle 2 May – Jun	Dynamic development: Is Uganda likely to stay poor?	<u>Quality criteria rubric (see Appendix I)</u> <i>Peer</i> <i>Use of rubric (see appendix x for an example used) to identify stage of</i>	To produce better explanations of the factors which influence development.

	<p>Intended learning:</p> <ol style="list-style-type: none"> 1. Understand how TNC investment influences development. 2. Understand how Aid can influence development. 	<p><i>progress at each of the 5 criteria and suggest next steps.</i></p> <p><i>Self</i></p> <p><i>Use of rubric to identify stage of progress at each of the 5 criteria and suggest next steps</i></p>	
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Findings and implications.

I conducted two action cycles over two terms of the academic year, interpreting student and teacher perspectives on these PASA during the reflection and evaluation stage which followed each action cycle. The findings and implications for each research question are discussed in turn, in the order of each action cycle, looking at the exploratory stage first. The implications consisted of short-term issues to be considered in the design of the subsequent action cycle and longer term issues to consider when designing future PASA strategies for use in the Geography Department.

Exploratory

What are teachers' perspectives of, and purposes for, PASA?

Across the Department teachers rarely used PASA. The dominant method of feedback provision was of teacher written feedback. Where PASA was used this was an exception rather than a feature of classroom practice. Despite this scarcity in practice teachers saw both opportunities and obstacles relating to how PASA can be implemented within the classroom.

All teachers interviewed provided rich descriptions of their beliefs about learning and explicitly linked these to the type of assessment they used. Whilst some held beliefs and understanding of learning that supported greater use of PASA, in others their beliefs opposed it. For instance, for teacher A, the responsibility for formative assessment lay solely with the teacher and he did not perceive there to be a place for students in formative assessment beyond that of receiving feedback He described how:

They [the students] need be told how to do it. They need me to feedback. I don't think they want to mark one another's work. They wouldn't want to judge whether it's any good. That's my job. I've never been a big fan of peer and self-assessment. I don't think there's any reason why a teacher can't provide the direction. That's our job, not the students [teacher A]

These findings reflected those of the literature review that teachers' personal beliefs have a critical influence on the formative assessment strategies they incorporate into their teaching (Cooper and Cowie, 2010 and Black *et al*, 2003). For instance, for teacher A, his belief about

learning did not align with the promotion of greater student autonomy in learning, a fundamental aspect of PASA. He held a view of learning as being taught and assessed by a more knowledgeable individual did not encourage him to incorporate PASA into his classroom practice. As Black *et al* (2003) found PASA entails a much broader shift in teachers' understanding of learning and agency than simply the use of an activity. For the teachers interviewed, when their understanding opposed the principle of co-agency they described how they were unlikely to experiment with PASA.

Teachers own educational experiences were frequently cited as being influential in shaping their views of learning and their subsequent use of formative assessment. For instance, teachers B and C discussed how when they were secondary students, written work had been collected in and marked by a teacher and PASA had not been used. Thus, they explained, they were unlikely to use PASA themselves. This finding was in line with Broadfoot's (2003) that beliefs about learning and student agency are heavily influenced by a teacher's own educational experiences. If a teacher was taught by an approach which afforded them little, if any, agency in their learning, they are unlikely to afford such agency to their students. However, whilst Broadfoot suggests that such understandings are fixed, teachers B and C also described how their views of learning and student autonomy were changing. For instance, teacher B outlined:

I've been trying to promote student independence more. I've been realising through the discussions we've had and what I've started to see with my students, that it can quite powerful in promoting achievement. Now, I'm trying to think about how I can promote independence in how I provide feedback. I'm open to thinking about that a lot more now. [teacher B]

Whilst their own educational experiences were clearly important, both teacher B and C expressed a desire to experiment with PASA. Within the Department there had been a steady incorporation of activities into schemes of work which gave students greater responsibility and autonomy. Both teacher B and C articulated a desire to take this further and experiment with formative assessment strategies that aligned more closely with this principle of co-agency.

A further contextual explanation of why the use of PASA was limited within the Department was provided by teachers, citing limited formal and informal structures to experiment and innovate. Three teachers in particular emphasised the scarcity of opportunities to collaborate as a significant obstacle as Teacher D explained:

There is no time made available for sharing good practice. To have a forum within the school where we could actually talk about things that work would be amazing. Because I'm very willing to try new things and try peer and self-assessment but I think I'm stuck in my ways. I need help from the school to change these ways. [teacher D]

For teacher B the opportunity to collaborate was particularly important. He stressed that he needed to learn from other teachers if he was to experiment in his use of formative assessment strategies.

You could give me an hour in a dark room on my own and I probably couldn't think of a way [to use PASA]. I'm not naturally inclined to ... but that's the biggest barrier. Ideas. I need to work with other people to get their ideas. [teacher B]

These findings echo those of collaborative work in schools between academics and teachers to develop formative assessment. Black *et al* (2003) for example used a range of formalised structures such as inset days, seminars and workshops to develop teachers' formative assessment practice. However, the exploratory interviews highlighted a significant lack in such supportive structures. Therefore, whilst teachers expressed a willingness to innovate with PASA this was constrained by a lack of structures to foster and sustain such innovation.

In addition to these contextual factors, classroom relations were also identified as a barrier to the implementation of PASA. The social nature or dynamics of a particular class was seen as crucial if PASA were to be successful. For instance, for one teacher the dynamics between the students in one of her classes was a significant obstacle. She spoke in-depth about the interpersonal relations in her class describing:

Too many class issues in that room. ... I've got kids who specifically come and ask if they could not sit with someone. I've got four big characters who I have to sit in certain places. It [PASA] wouldn't work if they looked at the work of those they're sitting next to. [teacher C]

This teacher had thought strategically about when and how to incorporate PASA but believed that classroom dynamics did not make it viable. The importance of social relations was an element identified in the literature as crucial for PASA. The classroom culture needed to be one which saw mistakes as opportunities for learning and which valued improvement over competition (Van Gennip, Segers and Timmema, 2010 and the Assessment Reform Group,2006). However, in exploratory interviews teachers described classes where competitiveness and one-up-manship existed. Such a classroom culture was not conducive for effective PASA and raised a more fundamental question about the culture of learning within the school. Had a dominance of high-stakes testing and quantifying performance effectively squeezed out room for more formative practices? Had students become so used to being ranked according to academic performance that they wanted to hide their misunderstandings?

An additional complexity identified concerned the nature of Geography as a subject. Some teachers outlined how accuracy in PASA was undermined by Geography's broad subject matter and wide skills base which led to changing quality criteria. Teachers described how the nature of an activity or a topic can change from week to week meaning that quality criteria were not generalizable across activities. They held a conception of Geography quality criteria as phenomenon specific; therefore, when assessing say, the understanding of economic development, the criteria would be significantly different from when assessing understanding of river processes. As a result, teachers articulated a view that students could not become trained and familiar with Geography quality criteria which limited the accuracy of PASA. Geography was perceived as a subject that was somewhat unique and did not lend itself to PASA. This view was summarized by teacher C:

Maybe its 'cause of the nature of Geography. We look at so many different topics. I just don't know how we can teach the students to assess when what we are assessing changes so often. [teacher C]

The conceptualisation of Geography was phenomenon specific rather than subject specific. Such a way of thinking was not unique to my school but instead, as described by Davis *et al*

(2004), was a characteristic often shared by Geography departments. A challenge lay in identifying an autonomy of quality which unified the diverse topics taught and emphasised a way of thinking geographically.

What are students' perspectives of, and purposes for, PASA?

Unsurprisingly just as teachers had rarely used PASA, students had rarely experienced it. Two students described using it in History and English although they outlined that this was the exception rather than the norm. The views which students held of PASA were therefore not necessarily based on first hand experiences but instead mediated by various factors in their experiences of education and assessment.

Students had a perception that all assessment, whether formative or summative, made them accountable for their learning. Whilst discussion and debate were articulated as formative classroom practices, written work, in contrast, provided evidence of how much they knew and had understood. Subsequently, a view was routinely expressed that the allocation of a mark or grade was a necessary and even unquestionable, aspect of feedback.

I always like to get a mark. It's a bit pointless if I don't. I need to know where I'm at. How I'm doing. That's why teachers collect work in isn't it? So they know where I'm at too? [Year 9 student]

As this quote highlights, feedback that contained suggestions for improvement and did not include a measurement of their performance was not valued by those interviewed. Indeed, the improvement purpose of formative assessment was rarely articulated. It followed that students agreed that teachers were the preferred source of feedback. All students described that they did not consider feedback from their peers or themselves in self-assessment, to be 'real' feedback. Teachers were viewed as external sources of 'authority' with prime responsibility for assessment and feedback provision. As one student outlined:

When a student tells me something, it's like they're in the same boat as you so unless they're doing really well, in retrospect, they know the same amount as you do. We've learnt the same amount. We're in the same lesson, so neither of us knows any better than the other. I need to just go to the teacher. They're the expert. [Year 9 student]

Such views were quite real obstacles to the effective use of PASA. Indeed, Cooper and Cowie (2010) had found that such views made it highly unlikely that students would view PASA positively. The research was set in a context shaped by factors at both a whole school level and the wider educational system. These systems had frequently sent messages to students that their opinion and views of work were not valued. PASA flipped this perception and experience of feedback and put the onus on students, however, it ran counter to the 9 years of education which had influenced student understanding. Given its short-term nature and its focus at a classroom, rather than a whole school level, it is unlikely that PASA would gain much traction with students.

Interestingly, students did describe providing informal, formative feedback on one another's written work when completing homework outside of lessons. Students discussed talking to certain friends whom they perceived to be of suitable ability to provide helpful feedback. As one student outlined:

If one [student] is excelling and one is struggling, it's then when I find it can be useful. ... it can be useful to ask your friend for information on your work if they are better than you at that subject. It's because he does have the knowledge. So I ask David during break time or registration and he'll help me make it [the written work] better. [Year 9 student]

This was formative feedback and not of a summative nature. It operated outside of the concept of assessment which students attributed to written work within the classroom. This informal environment appeared to be much more conducive to PASA. Students were actively seeking their peer's feedback and working collaboratively to improve their academic performance. They appeared motivated to collaborate so that when a teacher then collected the work their competence was proven. Whether this collaboration, however increased their understanding or simply improved the grade they attained, was unclear.

The final theme which arose in exploratory student interviews related to social relations and accuracy. The over-riding theme was that students believed that they would carefully manage the feedback they provided based on social relations rather than quality of work. This finding

reflected that of the literature where at both secondary school level and within Higher Education interpersonal factors have a significant influence on the accuracy and validity of feedback provided in PASA (Andrade, H. and Valtcheva, A, 2009 and Brown, G.T.L. and Hirschfeld, G.H.F, 2008). For instance, one student was hesitant to avoid appearing arrogant among his peers:

I feel quite arrogant saying, "try doing this next time" or "try doing that" because its saying "we've learnt the same amount. We're in the same lesson, but I know better". I find it quite arrogant saying "oh you should do that better". Whenever I end up doing it, I always get a bad feeling going. They're probably thinking I'm being really cocky. [Year 9 student]

Similarly, another student was happy to admit that he would create inaccurate feedback to please others and to save face in friendship groups. Such social relations seemed to be a significant obstacle to the provision of fair, accurate and honest feedback. Students needed to feel confident that their peers would not embarrass, reject or punish them in some way during a PASA activity and many expressed doubts as to whether they could do this.

Maybe it's because we're 14-years old. We just aren't good at it. Maybe it works better when we're older. [Year 9 student]

Whilst this was not a view uniformly held by interviewees, what was clear that students needed to feel comfortable sharing work with each other and crucially being able to discuss areas requiring improvement. These good working relations between peers were paramount as had been emphasised in the literature review. However, the exploratory findings indicated in some classrooms and between some peers, PASA strategies may not be viable.

Implications

The exploratory stage had a few immediate implications for the first action cycle. Firstly, only those teachers who held views of learning and student agency which were conducive to PASA were asked to collaborate in the research. It was not the aim of the research to engage teachers in the self-regulation and psychological theories underpinning PASA, particularly when they have not expressed an interest in doing so. Moreover, only classes where it was felt that the student-student relationships were conducive to collaborative work were selected.

Secondary, findings had stressed that collaboration was crucial in supporting teachers in exploring new practices. Weekly meetings were therefore planned. These would look at how and when to use PASA and enable myself and the two teachers to support each other with these unfamiliar practices. These were to be held after school. I would source and provide activities and strategies to trial. These meetings would include discussions of what 'good' Geography entails in order to develop subject-specific criteria which students could use across phenomenon.

A decision was taken to investigate student perspectives at the end of both action research cycles, rather than involve them in the reflection and evaluation at the end of the first cycle. This was because PASA was so unfamiliar to students. The research was very much an introduction rather than a refinement of existing practice and I wanted to explore student perspectives after they had used PASA a number of times rather than after a single period of use. Therefore, myself and the collaborating teachers agreed to make notes of our classroom observations but to leave an in-depth investigation of student perceptions until they had been exposed to it a number of times.

In the first action cycle, emphasis would be on developing students' confidence in themselves as assessors through the use of more superficial quality criteria such as page layout, use of paragraphs and the inclusion of appropriate headings. This would then progress in the second action cycle to the use of more detailed descriptors of progress using criteria requiring more mental engagement.

In terms of longer term implications, it was clear that work was required on developing a shared understanding of quality and progress in Geography at a subject rather than a phenomenon specific level. Next academic year, discussions at department meetings would be important for conceptualising what we understand to be 'good' Geography. At a whole school level, it was clear that structures needed to be developed which supported teachers in their professional

experimentation and innovation. As Director of Teaching and Learning, this fell under my remit and was an area I was keen to address.

First action cycle

The first action cycle took 4 weeks. During this time quality criteria checklists were used in peer and self-assessment.

What are teachers' perspectives of, and purposes for, PASA?

Two main issues with these strategies were articulated by teachers.

Firstly, teachers were concerned that students saw PASA as a teacher workload reduction strategy rather than a means of enhancing their learning. Teacher B explained:

They probably think it's a cop out by me. That I'm getting them to assess it rather than me assessing it myself. [teacher B]

Both collaborating teachers were worried that students were sceptical about PASA methods and were merely going along with them due to the positive relationships they had with these classes. Their observations indicated that PASA was so unfamiliar that students saw little purpose in it: they maintained the belief that teacher feedback had improvement purposes but did not hold a similar view to feedback provided by their peers or through self-assessment.

The second issue was based on observations that students had a poor understanding of quality criteria. This understanding was limiting the efficacy of the feedback being provided. Within lessons they had observed that students were able to identify good quality work but struggled to articulate *why* it was good. This was also an observation I recorded in my research journal. Describing attainment and progression in order to provide useful feedback either to their peers or themselves in self-assessment, was proving to be a real challenge. Whilst the first cycle had been designed to introduce students slowly to the concept of PASA and increase their ability to provide specific, useful feedback, it became apparent that clearer criteria and scaffolding was required to help students assess. As Teacher C explained:

Next time I do it I need a framework, so that the weaker students have got some framework that they are going to comment on the work. This time, they just wrote about how crap a piece of work was but they didn't really know how to feedback. He might know a piece of work isn't as good as it could be but he doesn't know why and he doesn't know how he going to communicate that to the person next to him. [teacher C]

This scaffolding and structure was seen as important if the likelihood of lower achieving students providing accurate feedback were to be increased. Certainly students required improved competence and expertise in the domain of formative assessment if the strategy was to be valid.

Implications

In the short term the immediate implications for the design of the second action cycle were two fold. Firstly, it was clear that teachers needed to collect in work which had been peer and self-assessed, and provide their own feedback on the work and on student feedback. This would stress to students that teachers saw PASA as a learning and improvement strategy rather than one of workload reduction. It would also enable teachers to monitor students understanding of quality criteria as well as the quality of the work. Teachers also agreed to explicitly discuss with students the potential impact of PASA on their learning using some of the evidence collected in the literature review in this study.

Although the quality criteria checklist had aimed to be accessible to students due to its simplicity it appeared that the scaffolding it provided was insufficient. Thus, a much more detailed quality criteria rubric would be used in action cycle 2. This would articulate progression between criteria in detail. Exemplars and clearly defined concepts of what 'good' work entails would be used to provide direction and support to students.

In the longer term, only one implication was noted from this cycle. It was suggested that a rationale behind a choice of learning strategies should be provided to students, particularly where innovative and unfamiliar practices were concerned.

Second action cycle

The second action cycle lasted three weeks and focused on the use of a detailed quality criteria rubric.

What are teachers' perspectives of, and purposes for, PASA?

During reflection and evaluation of this cycle three main issues were identified by teachers. Firstly, teachers felt that current school accountability measures limited PASA's role. This was a theme which emerged after the interventions as the purposes of PASA were contextualised by the broader context of the school. Teacher B explained:

We as a Department and we as a School are expected to assess more formally, well summatively assess and collect data. So I need to place greater emphasis and importance on assessing summatively because I know there are the hoops we have to jump through to create tracking data on everything. It's very hard to have to rank a student according to tracking points 1 to 5 and then tell the student that they need to avoid ranking and think about their work formatively and that their opinion on the work matters. It doesn't seem to fit. [teacher B]

The school had spent considerable time and effort designing a tracking and monitoring system. Students were tracked at five different points throughout the year according to academic performance and study habits. This data was used in reporting to parents as well as for increasing monitoring of student performance at a whole school level. Whilst both teachers felt that students' work could be both used for PASA and then performance quantified and recorded for accountability purposes, these dual purposes were perceived as being at odds and therefore limited efficacy of achieving them. This finding reflected that of a number of empirical studies into PASA which had found that school accountability measures limit the role of student-led strategies (for instance Harris and Brown, 2013). If assessment's primary purpose is monitoring and quantifying, then there is limited room for it also to promote improvement and student responsibility for learning. As long as school and wider education policies put emphasis on accountability then it seemed that formative practices such as PASA, held little traction.

This second cycle also further emphasised the role of professional collaboration as an important factor in supporting experimentation and innovation. During the interventions, both teachers attended the weekly reflection and planning meetings. I noted in my research journal that PASA

had become a regular topic of conversation in the Geography Office. PASA strategies would be informally discussed and refined as teachers collaboratively built on their experiences to create valid, worthwhile PASA activities. For teacher B, embarking on the use of unfamiliar formative assessment practice had been a daunting task. He had expressed concerns in the exploratory stage about being out of his comfort zone. However, after the second cycle he observed that:

It's much less intimidating than I thought it was going to be. When you said we we're going to do it with all our Year 9 I was worried it would make a massive difference to the way I teach ... but it wasn't any different really to anything else we do or where we've been trying to move towards. Chatting about it first has been important. I need to work with you guys otherwise I will stick with what I usually do. [teacher B]

The regular meetings had created a spiral of discussion which had motivated teachers other than myself to explore and sustain changes in their formative assessment practice. More informal discussions had been borne out of the more formal, weekly meetings, indicating the importance of these formal structures, at least in the initial stages of classroom innovation.

In the second cycle, teachers checked student PASA feedback to monitor its accuracy. This had highlighted inconsistencies in students understanding of quality criteria. In particular students were unclear on what constituted a cause and effect link word and a place-specific example. This confusion had been seen as an important source of learning for both the teachers and the students, which they were then able to clarify. For instance, teacher C described a lesson where students were self-assessing their work using a rubric. She described how,

Paul asked me what was meant by place-specific information. I looked at his answer with him and pointed out a paragraph where he had no place specific information and one paragraph where he had. He'd got confused. I'll admit I was a little surprised because we'd talked about this quite a bit before [teacher C]

Teachers articulated how when they themselves feedback to students they often wrote 'increase use of place specific examples' but had not been aware that there was a lack of understanding among students as to what this involved. PASA had provided them with information to better direct instruction. [teachers C]

What are students' perspectives of, and purposes for, PASA?

After both cycles all students continued to express an opinion that teachers were the preferred source of feedback. Whilst in exploratory interviews this was explained by a perception of the teacher as 'expert' with sole responsibility to feedback, at the end of the second cycle this was commonly referred to as gaining a teacher's recognition:

When a teacher marks it and I get a grade, I get recognition. If I've spent all of this time doing it and then I'm the only one to look at it and comment on it ...what's the point? [Year 9 student]

My own point of view I that you should work because you like it and not just to get a teacher to like it and give you recognition ...but it's difficult to say ...people do put a lot of work into things. It's nice to get recognition ... any child would want that; nobody is that sort of pure in that stuff [Year 9 student]

Despite this student's explicit reference to his own intrinsic motivation it was apparent that he still wanted a teacher to acknowledge the effort which he had put in. Written work continued to be primarily perceived as an opportunity to prove competence and also demonstrated the time and effort which students had put in to it which most students interviewed then wanted to be recognised.

Students also continued to emphasise their preference for a summative judgement. Both cycles had involved feedback which was purely formatively, however, students clearly missed being provided with a regular quantified measurement of their performance. One student made a connection between his desire for a performance measure and the school's accountability system:

I just got a 4 in my last report [for Geography]. That was good I was happy with that, but I didn't expect it because as we have been doing all this self-assessment stuff you haven't given me a grade and I like to know a specific grade, so I know where I am. My own opinion or someone else's opinion on what I need to improve is just opinion, whereas an actual grade shows me where I'm at ... then the 4 wouldn't be a surprise. [Year 9 student]

The lack of a summative judgement in PASA had caused him concerns as he felt unclear on his academic process. Indeed, he was one of the ten students who had created their own summative marking system using the PASA rubrics, quantifying the formative feedback, using their own personally devised systems to measure their achievement when no such system was

provided by their teacher. Since Butler's (1988) important study into the relationship between summative and formative feedback and student motivation, education literature and empirical studies have stressed the need to avoid communicating a summative judgement when the purpose of work is one of learning and improvement. However, students clearly highly valued a measurement of their performance, a preference which may have been formed and then reinforced by the school grading and reporting measures.

Interestingly, this desire for summative feedback was presented by students as an opportunity for PASA. The purpose of PASA was seen as identifying areas for improvement but a measurement of their performance was necessary to motivate them to act on this feedback.

If we did all of this [PASA rubric] then I recognise where I had gone wrong. So before I didn't put in a conclusion at all, I just completely missed that out. Now I understand that next time I need to put that in. Then, when you mark it, I'd get a better mark 'cause I had remembered to put a conclusion. [Year 9 student]

This student perceived PASA as an opportunity to obtain detailed feedback, which he then used to enhance his performance and prove his ability. In a sense, the desire for summative feedback then becomes important in encouraging students to use PASA feedback formatively. This finding agreed with Barron and Harakiewicz's (2001) work on achievement motivation. Students appeared to be adopting a multiple goal perspective. When work was collected by the teacher they wanted to demonstrate their competence, but they were acting upon feedback in PASA to develop this competence.

It was clear that social relations continued to influence the accuracy of the feedback provided and subsequently students' perceptions of the validity of PASA. After both action cycles students spoke at length about which of their peers they could trust to not judge or reject them after looking at their written work. Friendship groups were frequently articulated as more suitable than groups where students were unknown to each other for without trust students did not feel confident enough to engage with PASA in a way which increased its likelihood of accuracy. This suggested that whilst teachers may arrange seating plans which steer clear of

friendship groups due to concerns about distraction, this may not actually be an effective practice. Indeed, the view expressed by students reflected the conclusions of Barron's (2009) study into collaborative work which found that friendships groups had a heightened sense of psychological safety, enabling students to work together in more productive ways.

Whilst social relations were clearly crucial, the level of scaffolding provided was also perceived as playing an important role in generating fair feedback. Examination of the feedback provided by students in the first cycle suggested that the checklists were useful in scaffolding the activity as students had provided feedback that was fair and accurate. However, students articulated that they preferred the even tighter structure and level of detail provided by the rubrics. Indeed, it appeared that the more structure provided, the more confidence students felt in their own and their peers' abilities as evaluative assessors.

You could be biased [in PASA] but with this [rubric] its quite hard to do that 'cause you made us highlight where we had done each bit. You all had to comment on each one [quality criteria]. So in this situation people would be honest. [Year 9 student]

The students reference to highlighting describes the actual activity: each quality criteria was assigned a colour and that colour was used that to highlight evidence of that specific criteria in their essay. Making judgements visible in this way was seen to reduce subjectivity and clarify clearly what was expected:

Year 9 student - People have different views of what you might need in an essay ... it's all down to interpretation

Interviewer – what impact does the rubric have on that and having to highlight the criteria?

Year 9 student– I love it. It says exactly what you need to do. So when we talk about each other's work or we're looking at each other's we can look at that. It's not enclosed, like it's not telling you exactly what's right, there's some freedom, but the bits we need to improve on are agreed. It's either there or not there.

For this student, the rubric articulated the anatomy of quality so that it becomes clear what 'good' Geography entailed. The rubric was seen to have clear improvement purposes. One student described this explicitly:

I was never really sure how to make my essays better, what I needed to improve. Sometimes a teacher marks your work and it's a bit vague. It doesn't go into detail. Now I know I didn't really

use link words. I just kind of said my point but didn't use link words to link it back to the question and develop further. So now I understand what to do. [Year 9 student]

Whereas the quality of the feedback received in PASA was not articulated as having a strong improvement purpose, it was the development of understanding of criteria that students outlined as being beneficial. The action cycles had exposed students to an anatomy of quality which made explicit what was involved in quality Geography work. An understanding of quality had been clearly articulated to students. This was emphasised in interviews where students explained that they wanted the rubrics to be used repetitively and consistently to develop their understanding of this anatomy of quality. They also made recommendations as to how they could be used, suggesting that rather than always using them to assess a whole essay, a student could focus on a single paragraph or identify a paragraph requiring improvement. Whilst there was variation therefore in the actual PASA activity, the quality criteria in the rubric was to stay unchanged, enabling both competence and confidence to develop with use. Thus, the concept of quality Geography was subject specific rather than phenomenon specific.

Implications

As this was the final action cycle in the research the implications concerned longer term issues to be considered. Significantly this cycle had found that careful attention needed to be paid to student understanding of Geography quality criteria. Even in more teacher led feedback, the meaning of the feedback intended by the teacher was not always interpreted correctly by the student. Thus, exemplars and detailed descriptors of quality and progress needed to be provided to create a shared understanding of what quality entails. The findings also suggested that teachers should carefully consider how they organise collaborative work such as PASA. Perhaps friendship groups should be used productively rather than avoided? As long as these are accompanied by adequate scaffolding and feedback monitored, then these could potentially provide the levels of trust required by PASA.

Conclusions

This action research sought to investigate how PASA can be practised effectively within the Geography classroom within the specific context of the school. Bearing in mind the limitations of the study, particularly concerning its limited generalizability to other schools, four tentative conclusions have been drawn.

The literature is in broad agreement that PASA can have a significant impact on student learning and self-regulation (Black and Wiliam, 1998, and Hattie and Timperley, 2007). Whilst this study did not aim to measure the impact of PASA on learning it was clear that students were unlikely to agree that it significantly enhanced their learning. Nevertheless, it was possible to conclude that PASA enabled students to understand *why* a particular piece of Geography work can be considered to be of high quality. Through the PASA activities students' understanding of an anatomy of quality developed and became more congruent with their teachers' understanding of this anatomy of quality. Although the improvement purpose of the feedback provided in PASA was not valued by students and in most cases nor by their teachers, it can be tentatively concluded that the enhanced understanding of the anatomy of quality had enabled PASA to secure aims that cannot be achieved in other ways. A finding which agreed with claims made by the proponents of PASA such as Hattie and Timperley (2007).

Although limited in volume, literature exploring students' views of PASA had found that students can be one of the most conservative forces in the education process and frequently reject PASA as a legitimate method of improving learning (Broadfoot, 2007 and Van Gennip, Segers and Tillema, 2010). My findings were similar in this regard. Students preferred more traditional teacher-controlled assessment practices and were yet to be persuaded of the benefits of PASA. This highlighted the interconnection between school-level and policy level factors and classroom practice. In a country categorized by Harlen and Crick (2003) as the world's 'most tested nation' (alongside the USA) students experience of assessment was

frequently summative and for accountability and monitoring purposes. Change at a classroom level, unless supported by wider school and policy level factors, was therefore fundamentally stifled, thus potentially rendering PASA invalid.

The third conclusion concerned the importance of school support structures to sustain classroom innovation with PASA. Cooper and Cowie's (2010) study on collaborative work within schools mirrored the findings of my own research and highlighted the importance of school structures in fostering the development of classroom practice. The regular weekly meetings were clearly important in sustaining teachers' active involvement in the research project. Indeed, this more formalized structure encouraged a spiral of discussion and classroom experimentation which motivated the teachers to explore their practice and sustain their interest in PASA. However, where there was an incongruence between teachers' beliefs and understanding of learning and assessment and the principles of PASA, it was clear that no amount of formalized school structures could promote the incorporation of PASA into their classroom practice.

The final conclusion stressed that PASA may not be viable in all classrooms. The importance of good interpersonal relations between students was stressed by both the literature (Harris and Brown, 2013 and Van Gennip, Segers and Timmemma, 2008, 2010) and by my own findings. In peer assessment students will manage the feedback provided in order to manage their personal relationships. This can reduce the accuracy of the feedback provided and make PASA invalid. Whether the year group selected for this research are at a stage of development which is not mature enough for PASA to operate effectively was not explicitly clear; nor did the literature clarify this.

Implications

The conclusions of the research project have implications on three levels. Firstly, they suggest changes I can make to my own teaching practice. They also provide recommendations for the

Geography Department and contain a number of lessons for the organization of professional development on a whole school level, a factor that falls within my remit as Director of Teaching and Learning.

The implication for my own classroom practice concerned the level of scaffolding required for PASA to operate effectively. During the research I came to realize that my approach to PASA beforehand was a little *laissez-faire* and did not incorporate the level of scaffolding, direction and teacher involvement my students required. The findings highlighted that it was important that I provided support and guidance so that students could develop their capabilities and confidence in themselves as assessors. As part of this I will ensure I collect work which has been peer or self-assessed in order to evaluate student understanding of quality criteria.

Given the complex connection between social relations and accuracy the research has forced me to question whether peer assessment is a valid activity with a year 9 class. I have reflected over whether self-assessment may be more worthwhile for it appears that the obstacles to effective peer assessment with some groups at this age is significant enough to persuade me against its use. A more decisive implication has been the need to listen to student perspectives for if they believe that social relationships are not conducive to the use of PASA then it will fail to achieve the desired effects on learning.

The implications for the Geography Department have already been discussed in a departmental meeting, where I and the two collaborating teachers presented the quality criteria rubric. This generated discussion, previously not had, concerning the nature of high quality Geography. Whilst not everyone agreed on the anatomy of quality and progress articulated in the rubric, the discussion was a first step towards conceptualizing what we mean as a Department by quality Geography. The rubric was revised based on these discussions and the department is trailing the use of it with Year 9 classes this academic year.

On a whole school level, a fundamental finding of the research concerned the need for structured support to be provided to teachers to foster experimentation and innovation in teaching practice. I have subsequently created a formative assessment learning group within the school. This is a voluntary group who meet fortnightly. The aim of the group is to share ideas about what works and to support teachers in sustaining classroom experimentation so that in the long term student learning is improved through formative assessment.

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Appendix A: Whole School Assessment Policy

- All departments must have an assessment policy specific to their department, setting out their methods for assessing students' work, providing details of common assessments and tests, and setting out mark schemes for teachers where necessary
- In every year group assessment criteria for a given subject should be applied uniformly across teaching sets
- Marking criteria and/or feedback should take into account effort as well as attainment
- All assessment should, as a principal feature, include formative feedback; this should take precedence over the award of a grade or numerical mark
- Typically, but not exclusively, the work of students on courses leading to a public examination should be marked according to exam board criteria
- Assessment criteria should be shared with students at all levels, so that marking is transparent and easily understood
- It is not the case that every piece of work should be marked. However, marking should be regular, comprehensive, logical and consistent with departmental policy and practice
- Where appropriate and possible, teachers could and should make constructive use of pupil self-assessment and, if appropriate, peer assessment
- Where teachers use electronic or oral feedback and evaluation, this must be recorded clearly in a potentially visible format
- Pupils' work should be neatly and clearly presented
- Every teacher should keep a clear and coherent record of their pupils' marks and grades
- HoDs will undertake to carry out regular work audits to ensure that teachers adhere to departmental and school policies; in addition a work audit is carried out as part of every teacher's Teaching Performance Review

Appendix B – Teacher interview guide approach

Before intervention

- Responsibility for provision of feedback – teacher v student v self
- Reasons for feedback provision - explore accountability
- Current use of PASA in teaching - explore formative assessment more broadly
- Trust / confidence in students to provide honest, accurate feedback
- Validity / accuracy of PASA
- Value in spending lesson time PASA – potential impacts
- Organising PASA – pairing and ability levels
- Preference peer or self-assessment

After intervention (explore changes in perspective)

- Responsibility for provision of feedback - teacher v student v self
- Reasons for feedback provision - explore accountability
- PASA strategies trailed – benefits and costs, perception of impacts
- Trust / confidence in students to provide honest, accurate feedback
- Validity / accuracy of PASA
- Value in spending lesson time PASA – potential impacts
- Organising PASA – pairing and ability levels
- Preference peer or self-assessment

Appendix C - Student focus groups interview guide approach

Before intervention

- Responsibility for provision of feedback
- Experience of using PASA
- Trust / confidence in self and peers to provide honest, accurate feedback
- Friendship groups v non-friendship groups – influence on provision of honest, accurate feedback
- Understanding of what makes a good quality piece of work
- Value in spending lesson time PASA – potential impacts
- Preference peer or self-assessment

After intervention

- Responsibility for provision of feedback
- ~~Experience of using PASA~~
- Trust / confidence in self and peers to provide honest, accurate feedback
- Friendship groups v non-friendship groups – influence on provision of honest, accurate feedback
- Understanding of what makes a good quality piece of work
- Value in spending lesson time PASA – perspectives on impacts
- Preference peer or self-assessment

Appendix D – letter to Head Master

03/12/2014

Date...

Dear xxxxx

I am writing to enquire about conducting research in school this academic year. As you know, I am studying for the MSc in Learning and Teaching at Oxford University, supervised by Dr Roger Firth. My final research project is entitled 'How can peer and self-assessment strategies operate effectively in the Geography classroom' The research will take place with Year 9 students, where perceptions of peer and self-assessment will be discussed and a number of strategies trailed in a Year 9 scheme of work. I am aiming to develop an approach to peer and self-assessment within Geography that we can integrate into the new KS4 schemes of work which will be required for the new exam specifications.

By participating in the research, the school would be contributing to a project that will deepen the department's understanding of peer and self-assessment to support Geographical learning. The hope is that this may contribute to the department's strategies to improve attainment at Geography GCSE. I hope to conduct this research between January 2016 and April 2016. I will interview and questionnaire a range of students and staff, as well as conduct observation of classroom practice and scrutinise students' work.

Oxford University has strict ethical procedures on conducting ethical research with teachers and young people, consistent with current British Educational Research Association guidelines. As practitioner research however, the University recognises that schools have the highest ethical standards in any event. Therefore, only your consent is necessary, and not that of parents. Students and teachers will be informed about the research, can refuse to participate and/or can opt out of the research activities at any time.

All participants, including students, teachers and the school, would be made anonymous in all research reports. The data collected would be kept strictly confidential, available only to my supervisor and me and not used other than as specified without further consent. All data will be destroyed at the end of the research period, and kept in locked conditions until then.

If you feel you need more information about what is involved, please contact me.

I look forward to hearing from you.

Yours sincerely,

Appendix E - Participant information sheet

As you know, I am studying for the MSc in Learning and Teaching at Oxford University, supervised by Dr Roger Firth. My final research project is entitled 'How can peer and self-assessment strategies operate effectively in the Geography classroom?' The research will take place with Year 9 students, where perceptions of peer and self-assessment will be discussed and a number of strategies trialed in a Year 9 Geography scheme of work. I am aiming to develop an approach to peer and self-assessment within Geography that we can integrate into the new KS4 schemes of work which will be required for the new exam specifications.

By participating in the research, the school would be contributing to a project that will deepen the department's understanding of peer and self-assessment to support Geographical learning. The hope is that this may contribute to the department's strategies to improve attainment at Geography GCSE. I hope to conduct this research between January 2016 and April 2016. I am aiming to interview and questionnaire a range of students and staff, as well as conduct observation of classroom practice and scrutinise examples of students' work.

Interviews will be transcribed and stored digitally, managed by the researcher for the duration of the project. Only the researcher will have access to the interviews and personal information. If you agree to participate in this project, the research will be written up as a thesis. All participant data will be anonymised, remain confidential and stored on a password protected computer. All data will be destroyed at the end of the project.

Appendix F - written consent form

Participant consent form

How can peer and self-assessment strategies operate effectively in the Geography classroom?

Researcher contact details

xxxxxxx

xxxxxxx

[email supplied](#)

Declaration:

I, the undersigned, confirm that

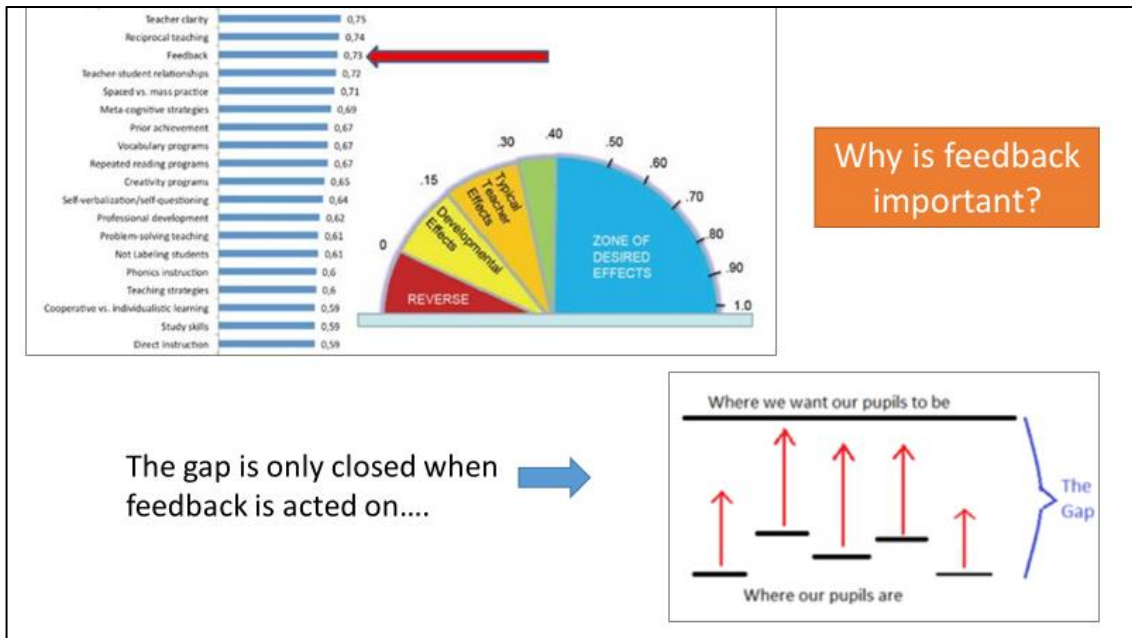
- I have read and understood the Participant Information Sheet.
- I have had the opportunity to ask any questions about the study and have received satisfactory answers or the additional information I requested.
- I understand that I may withdraw from the study at any time, and will not be asked for reasons of withdrawal.
- I understand that this study has been reviewed and approved by the University of Oxford’s Central University Research Ethics Committee.

Signed (Researcher)

Print Name

Date

Appendix G – Slides used to provide students with a rationale for the use of PASA



Begin to understand not only which work is 'good' but more importantly what makes it 'good'

Form a better understanding of 'excellence' in geography

Become more independent – rely less on teachers (they won't always be there!)

Get to see other examples of work

What impacts can peer and self-assessment have?

Increase evaluative capabilities – seriously good for learning

Opportunity to question the feedback

Maybe accept some criticism from a friend that you wouldn't from a teacher

Get feedback in a language you can understand

Appendix H – Quality Criteria Checklist

Creating Better descriptions

Description	What I need to do	Done (tick if you can find this in the work)
Place names	I have used accurate place names to identify locations	
Extremes	I have used extremes like cold/wet, landlocked/ coastal, hot/cold to describe features and places	
Different types	I have recognised that there are different types of places and different variations over the year using words like cool and warm, hot.	
Comparisons	I have used numbers to compare features (e.g. twice as much rainfall, half the temperature, half the population)	
Ratios and patterns	I have grouped descriptions to give a sense of place and used terms that combine ideas like humidity, seasons, lines of latitude and longitude.	

Appendix I – Quality Criteria Rubric

Geography homework

Aim: To understand the benefits and problems of trade and Trans National Company (TNC) investment for development

Task: Write an answer to the question:

'TNC investment in LEDCs furthers economic development'. How far do you agree with this statement?

Quality: Use the quality rubric below to ensure your answer is of the appropriate standard.

	Highly competent	Competent	Approaching competent	Not yet
Ideas and content	The answer clearly states an opinion and gives 3 detailed reasons in support of it. The opposing view is addressed.	An opinion. One reason may be unclear or lack detail. Opposing views are mentioned.	An opinion is given. The reasons given tend to be weak or inaccurate. May get off topic.	The opinion and support for it is buried, confused or unclear.
Structure	The answer has a clear beginning, developed middle and a clear conclusion which answers the main question. Paragraphs are clear and have topic and closing sentences and main ideas.	The answer has a beginning, middle and end in an order that makes sense. Paragraphs are used. Some have topic and closing sentences.	The paper has an attempt at a beginning and/or end. Some ideas may seem out of order. Some problems with paragraphs.	There is no real beginning or ending. The ideas seem loosely strung together. No paragraph formatting.
Geographical terminology	Technical terms such as trade deficit and secondary goods are used confidently and frequently.	There is an attempt to use technical terms such as trade deficit and secondary goods.	Technical terms are used incorrectly.	No attempt made to use technical terms.
Linking ideas	Geographical processes are explained in detail using link words.	Geographical processes are explained using link words but may lack detail of be unclear.	Geographical processes are explained poorly or weakly. Little use of link words.	There is no real explanation of geographical processes. No real use of link words.
Using place-specific examples	Each points is exemplified using accurate place specific information.	Some points are exemplified using place specific; this may be vague in places.	Exemplification is used vaguely and infrequently. May not support the point which it is intended to.	Exemplification is not used.