



Exploring the Link Between Pupil Participation and Pupil Attainment at School Level

Draft Report

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Executive summary

This short report outlines the outcomes of an exploratory analysis into the link between pupil participation in and beyond school, and pupil attainment. A 'school-level' analysis was carried out linking data from three different sources:

- the Citizenship Education Longitudinal Study (CELS) which provided information of levels of pupil participation within schools
- the National Pupil Database (NPD) which provided information on pupil attainment and background demographic data
- the census which provided information on the communities where pupils live.

The analysis investigated whether there were any links between pupil attainment and schools where there were high levels of participation. It found that there are some links between pupil participation and pupil attainment. In particular, the analysis reveals a link between pupil attainment and:

- **participation in the school community** through, for example, school councils, mock elections and the school newspaper
- **participation in extra-curricular activities** such as sports teams, computer clubs and arts, drama and dance groups
- **participation in the local community** through activities such as helping out in the local community
- **political participation** through taking part in activities such as signing a petition, attending a public demonstration or rally or campaigning with other young people.

The analysis also found some links between pupils' attitudes toward participation and attainment. In particular, the analysis reveals a link between pupil attainment and:

- **attitudes to volunteering** through, for example, a belief that volunteering has personal benefits and is enjoyable
- **support for participation in community and political life** through, for example, a belief that adults should participate in local and community issues and write to MPs.

The findings are timely and potentially groundbreaking. They support those working to promote young people's participation in society who have drawn

attention to the benefits of such participation for pupils, schools and the wider community.

However, it should be noted that these findings are exploratory. They are subject to a number of caveats resulting from the way in which data was collected and the analysis was carried out and, as such, should be treated with caution. Above all, they emphasise the need for further analysis in this area, both quantitative and qualitative, to investigate the nature and extent of the links between participation and attainment at a pupil level and to explore in more depth the complexity of young people's participative experiences and their impact on progress in school.

1. Introduction

This report outlines the outcomes of an analysis which explores the nature and extent of the association between pupil participation in and beyond school, and pupil attainment. In particular, it sets out the findings from a 'school-level' analysis which was carried out by NFER researchers and statisticians linking data from three different sources:

- the Citizenship Education Longitudinal Study (CELS) which provided information of levels of pupil participation within schools
- the National Pupil Database (NPD) which provided information on pupil attainment and background demographic data
- the census which provided information on the communities where pupils live.

Though the analysis reported here is exploratory, nonetheless, the outcomes are **timely** and **potentially groundbreaking**. They are timely because of the policy imperative which has seen increasing support for the promotion of participation, particularly of children and young people, across society and in education over the past two decades. This rapid promotion has been backed by growing claims about the benefits and impact of such participation for children and young people, schools and the wider community (DfES, 2001; HM Government, 2004; 2005). Some of these claims have taken the link between pupil participation and increased pupil attainment, and, thus raised school standards, as a given (DfES, 2004). Though there has been considerable anecdotal and perceptual evidence to support such a link there has been, to date, a lack of reliable research and evaluation evidence which confirms or denies such an association (Davies *et al.*, 2006a and b). This report is therefore timely in beginning an exploration of the nature and extent of any such relationship.

The outcomes of the analysis are potentially groundbreaking in confirming some links between pupil participation and pupil attainment, as well as between pupil attitudes to participation and pupil attainment. Such findings support those working to promote young people's participation in schools and across society and reinforce their claims about the benefits and impact of such participation in and beyond schools. They also lead to calls for follow up, in-depth quantitative analysis of such an association, particularly at 'pupil level' as opposed to 'school level', set alongside more qualitative studies. Further quantitative and qualitative work is required in order to better understand why there is a link between pupil participation and pupil attainment and the nature and extent of such an association.

1.1 Policy background

The last two decades have witnessed a strong and consistent policy imperative to support and encourage increased participation by all people and, in particular children and young people, across society. The drivers for such an imperative are multiple and complex but include five key forces:

- the consumer movement, with engagement of consumers in choice and quality
- New Labour's 'active citizenship' ideology
- adoption and ratification of UN Convention on the Rights of the Child
- recognition of young people as social actors with competencies
- research and policy documents showing important political, legal, social and moral reasons for promoting the greater integration of children and young people in their local and wider communities.

This policy imperative has seen the embedding of participation and participation rights within government policy at international, European and national level.

At national level participation has become a central plank of government policy, underpinned by significant policy legislation and supporting frameworks. These include in wider government policy:

- **Together We Can** (HM Government, 2005) which sets out the Government's commitment to empower citizens to work with public bodies to set and achieve common goals.
- **Learning to Listen** (DfES, 2001) which lays out the Government's commitment to ensure that children and young people have a real say about policies and services that are relevant to them.

And in education:

- **Education Act 2002** (GB Parliament. HOC, 2002) which encourages the involvement of children and young people in decision-making through school governing bodies and LEAs (Local Education Authorities).
- **Statutory Citizenship Curriculum 2002** (QCA, 1999) which has a strand entitled '*developing skills of participation and responsible action*'
- **Children Act 2004** (GB Parliament. HOC 2004) which establishes a Children's Commissioner in England with the remit to '*pay particular attention to the gathering and representing the views of the most vulnerable children and young people in society*'.
- **Every Child Matters: Change for Children** (HM Government, 2004) programme which seeks to achieve five outcomes in ensuring that all children and young people *be healthy, stay safe, enjoy and achieve, make*

a positive contribution and *achieve economic well-being* through more integrated children's services and support for change, particularly at a local level.

- **Working Together** (DfES, 2004) which provides guidelines for schools on the ways in which children and young people can be involved in and consulted on many school issues.
- **Youth Matters Green Paper** (GB, Parliament. HOC, 2005) which aims to encourage more young people to volunteer and become engaged with their communities, improve their life chances and reduce anti-social behaviour.
- **New Framework for the Inspection of Children's Services** (OFSTED, 2005a) and revised **OFSTED Framework for the Inspection of Schools** (OFSTED, 2005b) which seek to review the quality of provision of services for children and young people at a local level, including in local schools. Both frameworks closely follow the principles of the *Every Child Matters: Children for Change* programme and look to actively involve children and young people in the review and inspection process, as well as encourage local services and schools to regularly consult with pupils as part of a self-evaluation and target setting process.

The policy legislation and supporting frameworks take as a given the benefits and impacts of increased participation for children and young people, schools and the wider community. One of the many benefits and outcomes identified is the association between participation and raised school standards, through the impact of pupil participation on pupil motivation, self-esteem and attainment. As Professor Lynn Davies and colleagues note in a recent review '*pupil participation is becoming established as an important tool in school improvement*' (Davies *et al.*, 2006a p.7). The DfES guidance *Working Together: giving children and young people a say* (DfES, 2004) is a case in point. In response to the question *What are the benefits?* of pupil participation in decision-making through democratic processes and structures, such as school councils, the guidance outlines the following benefits for schools:

- improved academic achievement through participative processes
- improved behaviour and attendance as alienation and disaffection diminish
- the creation of listening and democratic schools.

1.2 Evidence base

Despite the growing policy emphasis on participation across society and in education there remain questions about the nature and reliability of the evidence base that supports claims about pupil participation. There are particular issues concerning the nature of the evidence base that supports

claims about an association between pupil participation and school improvement, through raised pupil attainment.

Professor Lynn Davies and her colleagues have recently completed a comprehensive evaluation of the evidence base that supports pupil participation, as part of a major review sponsored by the Esmee Fairbairn Foundation and Carnegie Young People Initiative (Davies *et al.*, 2006a and b). Their conclusions about the evidence base and what it says in relation to the association between pupil participation and pupil attainment make for interesting reading. They conclude that:

- on balance the evidence suggests that '*participation in real decision-making in school and outside has benefits for the individual, for academic achievement, for school culture and for the community*' (Davies *et al.*, 2006a p.44)
- it is difficult to make direct connections and correlations in this area, but the cumulative 'evidence' seems to be positive.
- establishing pathways between participation and attainment is complex and challenging
- the evidence concerning links between participation and attainment is patchy, contradictory, tentative and unproven. For example, while Hannam's study of 12 participative schools found higher than expected levels of attainment at GCSE (Hannam, 2001 and 2002) the National Healthy Schools Standard reported no strong evidence of links between pupil participation and increased school attainment scores (Madge *et al.*, 2003)
- there is some evidence of potential associations at European and international level (Torney-Purta *et al.*, 2001; Kerr *et al.*, 2002)
- qualitative evidence from schools and teachers (Trafford, 2003; Hudson, 2005) suggests such connections but the evidence is often anecdotal and based on self-perceptions
- there is a lack of quantitative analyses that can be put alongside the qualitative evidence and investigate such links more directly and in-depth.

Davies and her colleagues end by calling for future research and evaluation on the benefits and impact that investigates:

- how direct causation and agency can be identified
- how better linkages between participatory activities and formal teaching and learning can be encouraged and investigated.

1.3 Aims and objectives

This research report looks to build on the increased interest in pupil participation and in school improvement and begin to fill some of the gaps in research and evaluation evidence which confirms or denies an association between the two. It does so particularly in relation to the quantitative analyses of such an association at school level. The report is based on analyses that sought to:

- explore the nature and extent of the association between pupil participation and pupil attainment/school improvement at school level
- categorise schools in terms of participative approaches and ascertain the extent of pupil participation in school
- measure the association between pupil participation and pupil attainment at school level and highlight emerging patterns.

1.4 Report structure

Following this brief introduction Chapter 2 outlines the methodology of how the analysis was carried out, including details of the data that was used and how participation was defined and measured. Chapter 3 sets out the main findings from the analysis in relation to links between pupil attainment and *participation in school, participation out of school* and *attitudes to participation*. Finally, Chapter 4 details a number of caveats concerning the collection and analysis of the data which must be taken into account when considering the findings. It ends with a summary of the outcomes of the analysis in terms of conclusions and opportunities for follow up. A number of supporting appendices provide technical details of the statistical techniques employed in the analysis.

2. Methodology

2.1 What data was used in the analysis?

The analysis drew on data collected in three rounds of surveys carried out as part of the Citizenship Education Longitudinal Study. These surveys were:

- a survey of Year 7 pupils (age 11 to 12 years old) in 2003
- a survey of Year 8 and 10 pupils (age 12 to 13 and 14 to 15 years old) in 2002
- a follow-up survey of the Year 7 pupils (first surveyed in 2003), in 2005 when they were in Year 9 (age 13 to 14 years old).

Data from these surveys provided measures of levels of pupil participation in and out of school, for each school as a whole. In addition, to data from the Citizenship Education Longitudinal Study, the analysis used data from the National Pupil Database including data on Key Stages 2, 3 and 4 attainment, and background variables such as gender and ethnicity. Census data was also used to provide information on pupils' neighbourhoods, such as levels of deprivation and overcrowding (see Appendix B for a full list of variables included in the models).

2.2 How was participation measured?

The following variables derived from data collected as part of the Citizenship Education Longitudinal Study were used to provide a measure of participation for each school in the year that the survey was carried out:

- ***Levels of participation in the school community***
This variable reveals the percentage of pupils involved in activities in the school community such as school councils, working on the school newspaper, mediation and peer mentoring.
- ***Levels of participation in extra-curricular clubs in school***
This variable describes the percentage of pupils who have been involved in extra-curricular clubs such as sports clubs, computer clubs, arts, drama, dance or music clubs.
- ***Levels of participation in citizenship related clubs in school***
This variable denotes the percentage of pupils in a school who have participated in environmental, debating or human rights clubs in school.

- ***Positive classroom climate***
This variable reveals how participative pupils believe their lessons are and looks at the extent to which pupils feel they are able to raise and discuss their opinions in class.
- ***Active participation in class***
This variable summarises the extent to which pupils reported doing active tasks in class, such as working in groups, exploring discussing and debating activities and participating in role-play and drama.
- ***Participative ethos***
This variable gives an indication of how participative pupils think their school is. It includes items on pupil voice in the school as a whole and in class.
- ***Levels of participation in the local community***
This variable shows the percentage of pupils who reported taking part in community-based activities.
- ***Support for communal activities***
This variable shows the proportion of pupils who had supported groups and organisations through, for example, taking part in sponsored events, or being involved in a committee.
- ***Political participation***
This variable looks at whether pupils have taken part in a range of political activities such as attending demonstrations, signing petitions and campaigning with other young people.
- ***Pupils' attitudes towards volunteering***
This variable summarises pupils' attitudes towards volunteering, including whether they feel there are any benefits to volunteering and their friends' views of volunteers.
- ***Pupils' attitudes towards social and political participation***
This variable looks at pupils' views of what a good adult citizen should do in terms of getting involved in community life and being politically active.
- ***Attitudes towards participation in the local community***
This variable describes the proportion of pupils who felt that adult citizens should take an interest in local and community issues.

See Appendix A for a full description of the measures of participation.

2.3 How was attainment measured?

For Key Stage 3, academic performance was measured by the average QCA points score of each pupil across English, Maths and Science. The QCA points score is defined such that every additional level achieved in each subject is worth six points. Since pupils are generally expected to make one levels progress every two years every point is equivalent to roughly four months of progress. For Key Stage 4, performance was measured by the total number of

QCA points pupils achieved in their best eight subjects. This “capped” points score is the same measure that is used to generate the DfES’s value added performance tables. Appendix D provides further details of how GCSE and GNVQ grades are converted into point scores.

2.4 How was the analysis carried out?

In order to carry out the analysis, an average score for each school was created from the measures of participation described above. These were linked to information on examination results at Key Stages 2, 3 and 4 and other background information on pupils and schools from the National Pupil Database and data from the census on pupils’ local neighbourhoods. In every case, survey results from the academic year in which the survey was carried out were linked to the examination results from the summer of the same year. This meant that in the Year, 7, 8 and 10 analyses the pupils who filled in questionnaires were different to those who sat examinations. Only in the Year 9 analysis did data on levels of participation for the schools, come from the same pupils who provided attainment data at Key Stage 3.

Multi-level modelling techniques were used to examine the factors associated with pupils’ progression within schools as a whole. This statistical technique enables variables at school-level, area-level and pupil-level to be controlled for statistically. Consequently, the findings take into account these influential factors. The analysis allows a comparison of schools with high levels of participation and schools with lower levels of participation but which are similar in terms of pupils’ prior attainment and other background variables. Separate multilevel models were constructed to assess the association of each measure of participation had with attainment.

Table 1 below shows the way in which data from the Citizenship Education Longitudinal Study was matched to attainment data and highlights some issues with each of the datasets.

Table 1: How data from the Citizenship Education Longitudinal Study and attainment data from the National Pupil Database were linked

Citizenship Education Longitudinal Study data set	Progression data linked to	Number of schools with linked data	Range in pupil numbers returning questionnaires per school	Issues
Survey of Year 7 pupils, 2003	Year 9 Key Stage 3, 2003	111	35-340 (average 166)	Year 7 pupils have only been at the school for one term at the time of survey and as such may not know the school as well as older pupils
Survey of Year 8 pupils, 2004	Year 9 Key Stage 3, 2004	97	17-32 (average 25)	Relatively small number of pupils per school
Survey of Year 10 pupils, 2004	Year 11, Key Stage 4, 2004	92	7-31 (average 23)	Relatively small number of pupils per school
Survey of Year 9 pupils, 2005	Year 9 Key Stage 3, 2005	85	50-326 (average 161)	Large sample of pupils from each school. Pupils in Year 9 should have good knowledge of school. Pupils doing exams are the same as those completing the questionnaires.

The next chapter examines the findings from the data analysis in relation to pupils' *participation in school, participation out of school and attitudes toward participation.*

3. Findings

The analysis explored what factors were associated with pupil attainment at Key Stages 3 and 4. The findings reveal that measures of participation, as well as other factors, do appear to be linked to pupil progression (see Appendices A and C for more information about the analysis). However, these findings are exploratory and should be treated with caution. A discussion of the caveats concerning the analyses and data sets can be found in chapter 4.

In each of the sections that follow the relationships between pupil participation and pupil attainment are illustrated through the estimated number of months progress or GCSE points difference between schools with the lowest 20 per cent score and the highest 20 per cent score for each measure of participation (see Appendix D for an explanation of how points scored by students for qualifications were calculated). It is important to note that due to the relatively simple way in which participation has been measured within schools these measurements are likely to be subject to some inaccuracy and so the strength of association between participation and attainment is likely to be underestimated.

3.1 Participation in school

The results of the multi-level analysis showed that in schools where there is a high level of pupil participation within classrooms and the school community and where there is a participatory ethos, pupils tended to make **more progress** than similar pupils in other schools where there was not such a culture of participation. More specifically, young people were more likely to make **more progress** in the following circumstances:

- In schools where there was a high level of **participation in the school community**, such as involvement in school councils, mock elections and the school newspaper.

For schools where Year 8 pupils reported high levels of participation, pupils at Key Stage 3 tended to make **over one month** more progress compared to pupils in schools with the lowest levels of participation. At Key Stage 4, the difference between schools with the lowest and highest levels of participation recorded amongst Year 10 pupils equated to an additional 5.1 points in their best eight subjects at Key Stage 4 (the equivalent of nearly **one grade in one subject** at GCSE). No significant relationship was found between Key Stage 3 results and levels of participation recorded in Year 9.

- In schools where pupils took part in **extra-curricular activities in school** such as sports teams, computer clubs and arts, drama, dance groups.

Young people tended to make **more progress** at Key Stage 3 in schools where there was a lot of participation in extra-curricular activities amongst Year 8 or 9 pupils¹, compared to other schools where there were these kinds of activities were less popular. Comparison between the schools with the lowest and highest levels of take up of extra-curricular activities reveals that where there is the most participation, pupils tended to make **over one month**s additional progress. No significant relationship was found between Key Stage 4 results and levels of participation recorded in Year 10.

- In schools where pupils reported that there was generally a **positive classroom climate**, for example where pupils indicated that in class they feel free to raise issues and express their opinions, and make up their own minds and disagree.

In schools where pupils reported that there was a positive classroom climate, there was **often higher attainment** amongst pupils, compared to other schools. At Key Stage 4 in schools with the most positive classroom climate amongst Year 10 pupils, pupils tended to gain eight additional GCSE points in their best eight subjects at Key Stage 4 (equivalent to **over one GCSE grade** in one subject). No significant relationship was found between Key Stage 3 results and a reported positive classroom climate in Years 8 or 9.

- In schools where there is a **participative ethos**, for example through pupils feeling that they have a say in how the school is run and have an input into school rules and lessons.

Pupils generally made **more progress** between Key Stages 2 and 3, in schools where there was a participative school ethos reported by Year 8 pupils, than in schools where pupils reported that there were fewer opportunities to take part. Pupils at schools where the ethos was particularly participatory were likely to make **one-and-a-half months** more progress than similar pupils at other schools where the participatory ethos was well below average levels. No significant relationship was found between academic results and a reported participatory ethos in Years 9 or 10.

¹ Please note that these links were only significant, for the Year 9 analysis at the level of 10 per cent.

3.2 Participation out of school

In addition, there also appear to be some links between progression at Key Stages 3 and 4 and levels of pupil participation beyond the school gates. In schools where pupils are politically active and take part in activities within the local community, there appear to be **higher rates of progression** compared to schools where there are lower levels of civic involvement. Pupils appeared to make more progress in schools where:

- There were high levels of **participation in the local community**, through for example activities such as helping out in the local community.

At Key Stage 3 in schools where there were high rates of participation recorded by Year 9 pupils, pupils tended to make **nearly one month** additional progress compared to pupils in schools where community involvement was less prevalent². In addition, at Key Stage 4 pupils in schools with high participation generally attained 5.4 more points (equivalent of **nearly one grade** in one GCSE subject). No significant relationship was found between Key Stage 3 results and levels of participation recorded in Year 8.

- A high percentage of pupils reported that they had **helped or supported a communal activity**, through for example taking part in a sponsored activity or helping to organise or run an event.

In schools where there was greater involvement in these kinds of activities amongst Year 10 pupils, young people tended to achieve 6.9 more points in their best eight subjects at Key Stage 4 (equal to **over one grade** in one subject), than similar pupils in schools where there was less involvement in communal activities. No significant relationships were found between Key Stage 3 results and levels of this measure recorded in Years 8 and 9.

- There were higher levels of pupils reporting that they had **voiced their opinions through political participation**, by taking part in activities such as signing a petition, attending a public demonstration or rally or campaigning with other young people.

Pupils in schools where there were high reported levels of political activity amongst Year 9 pupils made **more progress** compared to similar pupils in other schools with lower reported levels³. At Key Stage 3 pupils in schools with greater levels of political involvement tended to make **over one month** more progress, than pupils in other schools. In addition, at Key Stage 4 pupils

² Please note that these links were only significant at the level of 10 per cent.

³ Please note that these links were only significant at the level of 10 per cent.

in schools with high reported levels of political activity amongst Year 10 pupils generally gained an additional 9.1 points in their best eight subjects (equal to **one and a half grades** in one subject at GCSE) compared to schools with lower reported levels.

3.3 Attitudes towards participation

There were also apparent links revealed by the analysis between pupils' attitudes towards participation and attainment. In schools where there was enthusiasm for volunteering and young people felt that adult citizens should take part in their communities and be politically active, pupils generally made **more progress** compared to similar pupils in other schools. Pupils apparently made more progress in following situations.

- In schools where pupils had a **positive attitude towards volunteering**, for example through indicating that they believed that volunteering has personal benefits, is enjoyable and not viewed negatively by peers.

Pupils in schools where there was enthusiasm for volunteering amongst Year 8 pupils tended to make **nearly two months** more progress at Key Stage 3 than similar pupils in schools where there were low levels of enthusiasm. No significant relationship was found between academic results and a reported enthusiasm for volunteering in Years 9 or 10.

- In schools where there was **support for participation in community and political life**, through pupils feeling that adult citizens should do things such as participate in the community, take a role in local issues and write to MPs about issues they feel strongly about.

At Key Stage 3 pupils in schools where there were positive attitudes towards participation in community and political life amongst Year 8 pupils, generally made **one month** additional progress compared to pupils in schools where there was less support for this kind of participation. No significant relationship was found between academic results and support for participation in community and political life in Years 9 or 10.

The next and final chapter sets out a number of caveats that have to be taken into account when considering the findings. It ends with a brief overview of the main conclusions from the analyses and suggestions for follow-up research and evaluation activities.

4. Conclusions

4.1 Caveats concerning the analyses

Due to the nature of the analysis there are a number of caveats that must be taken into account when considering the findings. Many of these caveats are the result of the analysis being undertaken at a school rather than pupil level: the analysis involved linking data on levels of participation for whole schools, to rates of progression for whole schools and does not look at links between individual pupils' participation within and beyond school and their progression.

The modelling analysis undertaken to investigate the link between measures of participation reported by Year 7 pupils in 2003, and Key Stage 3 progression for schools in 2003, did not reveal any significant associations. This may be because of weaknesses in the design of the analysis, or it may be because there are no such links. The Year 7 pupils, at the time that the Citizenship Education Longitudinal Study survey was carried out would have only been in their secondary schools for one term. As such, these pupils would not have known their school as well as older pupils who had been there longer, so they may not be able to give reliable overviews of how participative lessons and their school communities were. In addition, when the Year 7 pupils described what activities they were taking part in, they may have reported participation which took place when they were in primary schools rather than solely in the secondary schools from where the attainment data was gathered. As such, the measures of participation used in this analysis may not be an accurate measure of participation within the schools involved. For these reasons, the Year 7 analysis was not very robust and as such the lack of significant associations between participation and progression may be due to the design, rather than because no such association exists.

Although there were significant associations found in the analysis of the Year 8 and Year 10 pupils in 2004, there are a number of issues which should be raised in relation to these findings. The cross-sectional survey of the Citizenship Education Longitudinal Study through which the Year 8 and Year 10 data was collected, involves sending questionnaires to one tutor group in each school. As such, the measures of participation used in this analysis are based on data from only a small number of pupils per school (average 25 pupils for Year 8 and 23 for Year 10) so may only give a partial overview of the participative nature of the school as a whole. In addition, within the schools involved in the analysis, the pupils supplying information on participation are not the same as those that are supplying data on attainment. The measures of participation used in the analysis are based on data from the

Year 8 and Year 10 pupils in 2004, whilst the measures of attainment are based on data from the Year 9 and Year 11 pupils in 2004. This means that significant findings from this analysis can only give an indication that there may be links between rates of participation and rates of progression within a whole school. As such, this conclusion is in need of further, more detailed analysis in order to establish any firm evidence of an association.

The analysis which used the data from the Year 9 pupils is, for two reasons, the most robust of the analyses that were undertaken. Firstly, the data comes from whole year groups of pupils within schools, (average 161 pupils per school) who would be able to provide a better overview of the participatory nature of the school, compared to the relatively small number involved in the Year 8 and Year 10 analyses. The second reason is that the pupils who provided data on the measures of participation are the same pupils that provided data on attainment: the survey was carried out in spring 2005 and the Key Stage 3 examinations from which the progression measures were created, took place in the summer term of 2005. As such, the findings from this analysis are the most reliable. In this analysis, significant links were found between attainment at Key Stage 3 and:

- **participation in school** through activities such as school council, mock elections, sports clubs and arts groups
- **participation in community and political life** through activities such as helping in the local community, signing a petition and attending a public demonstration.

However, these links only became apparent when the level of significance was placed at 10 per cent, which means although associations were found we can not have as much confidence in them as if they had been found at a significance level of five per cent or less.

Further analysis is necessary in order to firm up some of these initial, tentative findings. Analysis that links the levels of and attitudes towards participation for each pupil to their attainment will overcome many of shortcomings of this set of analyses. A 'pupil-level' analysis would eliminate the problems arising from only having a small number of pupils per school in the Year 8 and Year 10 analysis, because each pupil would only be providing data on their own levels of participation, not giving an overview participation levels in the school as a whole. In addition, in a longitudinal pupil-level analysis, measures of participation for each pupil could be linked to their attainment when they complete Key Stages 3 and 4, as such overcoming the difficulty of linking data on participation to attainment data from different groups of pupils, as has been done in these analyses.

4.2 Conclusions and follow up

Despite the caveats outlined above, these exploratory analyses show that there are some links between participation and attainment and that these links merit further investigation. Although many of the associations that were found to be significant were not apparent in all year groups of young people investigated, there were several findings that were apparent in at least two of the analyses undertaken, and, as such can be seen as the most robust findings from this investigation. These findings were:

- a relationship between **participation in the school community** through for example school councils, mock elections and the school newspaper and attainment at Key Stages 3 and 4
- a link between **participation in extra-curricular activities** such as sports teams, computer clubs and arts, drama, dance groups and attainment at Key Stage 3
- an association between **participation in the local community** through activities such as helping out in the local community and attainment at Key Stages 3 and 4
- a link between **political participation** such as taking part in activities such as signing a petition, attending a public demonstration or rally or campaigning with other young people and attainment at Key Stages 3 and 4
- a relationship between **positive pupil attitudes towards volunteering and support for participation and political life** and attainment at Key Stage 3.

It is not possible to infer a causal relationship in these conclusions: we cannot tell whether participation (and/or positive attitudes to participation) causes attainment or whether higher attainment results in participation. However, nonetheless the discovery of a relationship between these two factors offers further support for those working to promote and encourage young people's participation within and beyond schools. It reinforces their assertions about the benefits and impact of such participation for pupils, schools and the wider community.

In particular, the findings offer support to those who encourage the practice and promote the benefits of:

- increased involvement of pupils in decision-making in the school as a community through democratic processes and structures such as school councils
- increased links for children and young people with the wider community beyond school and the encouragement of positive attitudes toward involvement with the wider community

- increased knowledge and understanding for pupils of the political processes underpinning democracy in order that they can take up opportunities to participate now and in the future
- increasing the capacity of children and young people to make their voice heard in the many communities, including school and local community, to which they belong
- greater synergy in the *Every Child Matters: Change for Children programme* of action in terms of how the *make a positive contribution* element is more 'joined up' between opportunities and experiences of participation for pupils in their schools and colleges and those provided by local authorities.

These findings, as well as making evident the need for more in-depth 'pupil-level' quantitative analysis into the link between participation and attainment that has already been discussed; also highlight the need for further qualitative research into this area. The way in which participation was measured in this analysis was fairly simplistic because of the limitations of collecting data on a complex issue through questionnaires. This may result in the strength of association between participation and attainment being underestimated. Questionnaires can only get data from a snap-shot in time and do not allow exploration of the intricacies and extent of young people's participation and how this may be related to their attainment. In order to understand more about the nature of and the reasons why there appears to be a link between participation, further qualitative and quantitative analysis is required.

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Appendix A Measures of participation

The following variables were used as measures of participation:

- ***Levels of participation in the school community*** – a score was created for each school based on pupils’ participation in the following activities within the **school** community:
 - school/pupil council
 - youth clubs, scouts or guides
 - electing school/class council members
 - working in on a school newspaper
 - mock elections
 - mediation and peer mentoring.
- ***Levels of participation in extra-curricular clubs in school 1***– a score for each school was created using data on pupils participation in the following extra-curricular activities:
 - sports clubs and teams
 - computer clubs or groups
 - arts, drama, dance or music clubs or groups
 - religious groups
 - homework or after school clubs
 - games or hobbies clubs
 - other clubs.
- ***Levels of participation in citizenship related clubs in school*** – a score for each school was formed based upon the percentage of pupils who indicated that they had taken part in any of the following extra-curricular activities in school:
 - environmental clubs or groups
 - debating clubs or groups
 - human rights groups or organisations.
- ***Positive classroom climate*** – a factor analysis summarised pupils’ views of how participative their lessons were. High scores reveal that :
 - pupils bring up issues for discussion, are encouraged to make up their own minds and feel free to express their opinion and disagree
 - teachers respect pupils’ opinions and present several sides of an issue

Pupils believe in lessons:

- pupils bring up issues for discussion, are encouraged to make up their own minds and feel free to express their opinion and disagree
- teachers respect pupils’ opinions and present several sides of an issue

- **Active participation in class** – a factor analysis was carried out to summarise what pupils reported they did in lessons. A high score on this factor shows that:

Pupils reported in class that they often:

- work in groups
- explore, discuss and debate issues with other pupils
- give presentations
- use computers and the internet
- record their own achievement and create portfolios
- research and analysis information from different sources
- participate in role-play and drama.

- **Participative ethos** – a factor analysis⁴ was carried out in order to summarise pupils' views of their school. High scores of the factor *school ethos* indicates that:

Pupils' believe they:

- have a say in how their school is run, have a say through school councils and are consulted about the development of school policy
 - are involved in class in planning the teaching and how to work in lessons.
- **Levels of participation in the local community** – a score was created for each school based on pupils' participation in the following activities within the **local** community:
 - youth clubs, scouts or guides
 - taking part in elections for pupil councils
 - helping in the local community
 - mock elections
 - mediation and peer mentoring.
 - **Support for communal activities** – a score was created for each school based on whether or not pupils had done any of the following activities within the last 12 months:
 - taken part in a sponsored activity for a group or club
 - been part of a committee for a group or club
 - helped to organised or run an event
 - given any other help to a group or club.

Comment [I1]: Tom, was this the case- that scores were given for 'often'?

⁴ **Factor analysis** is a technique which is widely used in dealing with large numbers of measurements made on difference individuals or objects, when many of the measurements may be strongly correlated with each other. In factor analysis researchers attempt to define a smaller set of underlying factors which are related to the variables measured, and which explain or represent most of the correlation structure of the data.

- **Political participation** – a score was created for each school based on whether or not pupils had ever done any of the following activities:
 - attended a public meeting or rally
 - taken part in a public demonstration or protest
 - signed a petition or email/online petition
 - contacted a local councillor or MP
 - contacted a local council about something affecting their neighbourhood
 - got together with other young people to campaign about an issue
 - stopped buying a product because of an email chain letter.
- **Pupils' attitudes towards volunteering** – a factor analysis was carried out in order to sum up pupils' attitudes towards volunteering. High scores⁵ reflect that:

Comment [I2]: Tom- was this a factor analysis of a score- if it was a score can you tell me what items went in?

Pupils' believe:

- there are personal benefits of taking parts in voluntary work, such as contributing to getting a job or university place in the future, and being able to meet interesting people
 - they are **not** too busy or take part in voluntary work and their friends would **not** laugh at volunteers or think it is a waste of time
 - they enjoy taking part in voluntary activities in school and feel pupils should take part in voluntary activities in school.
- **Pupils' attitudes towards social and political participation** – a factor analysis was carried to distil a range of data on pupils' attitudes towards taking part in society and in politics. High scores on this factor show that:

Pupils believe that a good adult citizen:

- joins a political party
 - follows political issues in the media
 - writes to an MP if they feel strongly about something
 - participates in activities to benefit the community
 - hands in a £10 note they have found
 - picks up litter in a public place.
- **Attitudes towards participation in the local community** – a score was created for each school based on the proportion of pupils who felt that adult citizens should take an interest in local and community issues.

⁵ Average scores from zero to 100 points were created for each school involved in the analysis for each of the variables created through factor analysis.

Appendix B List of variables used in the multi-level modelling

Variable	Source
Key Stage 2/3 English	National Pupil Database (NPD)
Key Stage 2/3 Maths	NPD
Key Stage 2/3 Science	NPD
Total points for best 8 GCSE scores	NPD
Total age in months of pupils (at time of exam)	NPD
Sex	NPD
Special Educational Needs status	NPD
Free School Meal eligibility	NPD
Indicator of English as an additional language	NPD
Ethnicity	NPD
Pupil mobility	NPD
Selective school	NPD
Faith school	NPD
Percentage entitled to Free School Meals within school	NPD
Pupil: teacher ratio within school	NPD
Active specialist school during year before exams	NPD
Deprivation index of area pupil lives in	Census
Overcrowding index of area pupil lives in	Census
Migration index of area pupil lives in	Census
Indicator of no matching census information	---
Percentage of pupils with 200 or more books in the home	Citizenship Education Longitudinal Study (CELS)
School ethos	(CELS)
Pupils' attitudes towards volunteering	(CELS)
Pupils' attitudes towards social and political participation	(CELS)
Levels of participation in the school community	(CELS)
Levels of participation in extra-curricular jobs	(CELS)
Levels of participation in citizenship-related clubs in school	(CELS)
Positive classroom climate	(CELS)
Active participation in class	(CELS)
Participative ethos	(CELS)
Levels of participation in the local community	(CELS)
Support for communal activities	(CELS)
Political participation	(CELS)
Pupils' attitudes towards volunteering	(CELS)
Pupils' attitudes towards social and political participation	(CELS)
Attitudes towards participation in the local	(CELS)

Appendix C Tables of coefficients

Please note: no significant associations were found for the relationship between Year 7 pupils, 2003 reported levels of participation, and Year 9 Key Stage 3 results in 2003, and as such a table of coefficients is not reported.

Table: C1 Significant participation outcomes of modelling analysis of the relationship between Year 8 pupils 2004, and Year 9 Key Stage 3 results in 2004 (aggregated to school level)

Variable	Coefficient (separate models)	S.E.	Significance	Months progress associated with being in highest 20% for measure rather than lowest 20%	
Participatory ethos	0.037	0.012	0.003	***	1.5
Pupils' attitude towards volunteering	0.070	0.021	0.001	****	1.8
Pupils' attitudes towards social and political participation	0.041	0.019	0.025	**	1.1
Positive classroom climate	0.017	0.012	0.163		
Active participation in class	0.012	0.013	0.351		
% of pupils who think a good citizen takes an interest in local/community issues	0.011	0.006	0.089	*	1.0
% pupils participating in citizenship related clubs in school	0.006	0.007	0.407		
% pupils participating in extra- curricular clubs at school	0.012	0.005	0.021	**	1.2
% pupils participating in school community	0.008	0.004	0.043	**	1.4
% pupils participating in local community	0.008	0.006	0.211		
% pupils support for communal activities	0.007	0.005	0.183		
% pupils participating politically	0.003	0.005	0.536		

* - Significant at 10% level

** - Significant at 5% level

*** - Significant at 1% level

**** - Significant at 0.1% level

Table: C2 Significant participation outcomes of modelling analysis of the relationship between Year 10 pupils 2004, and Year 11 Key Stage 4 results in 2004 (aggregated to school level)

Label	Coefficient (separate models)	S.E.	Significance	Number of points improvement associated with being in highest 20% for measure rather than lowest 20%	
Participatory ethos	0.238	0.207	0.250		
Pupils' attitude towards volunteering	0.535	0.366	0.144		
Pupils' attitudes towards social and political participation	0.158	0.267	0.553		
Positive classroom climate	0.771	0.198	0.000	****	8.1
Active participation in class	0.353	0.224	0.114		
% of pupils who think a good citizen takes an interest in local/community issues	0.125	0.089	0.160		
% pupils participating in citizenship related clubs in school	0.153	0.173	0.376		
% pupils participating in extra- curricular clubs at school	0.144	0.094	0.128		
% pupils participating in school community	0.115	0.067	0.087	*	5.1
% pupils participating in local community	0.274	0.121	0.024	**	5.4
% pupils support for communal activities	0.216	0.081	0.008	***	6.9
% pupils participating politically	0.290	0.085	0.001	****	9.1

* - Significant at 10% level

** - Significant at 5% level

*** - Significant at 1% level

**** - Significant at 0.1%
level

Table: C3 Significant participation outcomes of modelling analysis of the relationship between Year 9 pupils 2005, and Year 9 Key Stage 3 results in 2005 (aggregated to school level)

Label	Coefficient (separate models)	S.E.	Significance	Months progress associated with being in highest 20% for measure rather than lowest 20%	
Participatory ethos	-0.001	0.018	0.955		
Pupils' attitude towards volunteering	0.029	0.038	0.440		
Pupils' attitudes towards social and political participation	0.011	0.036	0.754		
Positive classroom climate	0.006	0.021	0.796		
Active participation in class	-0.005	0.017	0.787		
% of pupils who think a good citizen takes an interest in local/community issues	0.013	0.010	0.189		
% pupils participating in citizenship related clubs in school	0.012	0.019	0.538		
% pupils participating in extra- curricular clubs at school	0.015	0.008	0.078	*	1.2
% pupils participating in school community	0.011	0.006	0.081	*	1.2
% pupils participating in local community	0.011	0.006	0.081	*	0.8
% pupils support for communal activities	0.008	0.010	0.439		
% pupils participating politically	0.018	0.011	0.088	*	1.3

* - Significant at 10% level
** - Significant at 5% level
*** - Significant at 1% level
**** - Significant at 0.1% level

Appendix D Points scores for qualifications

To calculate the points scored by pupils, QCA scores were used. In this system, a GCSE at each of the following grades is worth the following points:

	GCSE	VGCSE
A*	58	116
A	52	104
B	46	92
C	40	80
D	34	68
E	28	56
F	22	44
G	16	32
U	0	0

GNVQs are worth the following points:

	GNVQ full intermediate	GNVQ Part 1 Int.	GNVQ Full Foundation	GNVQ part 1 Foundation
Distinction	220	110	136	68
Merit	196	98	112	56
Pass	160	80	76	38

The points assigned to NVQs and other vocational qualifications vary according to the individual qualification. Details of the points for each type of qualifications were drawn from the QCA website (www.openquals.org.uk)

Some examples of the points assigned to NVQs and other vocational qualifications are provided below.

Qualification Title	Level	Points
NVQ Performing Engineering Operations	1	168
NVQ Hairdressing	1	140
NVQ Preparing and Serving Food	1	140
CACHE Award in Caring for Children	1	140 (merit)
CITB/C&G Building Craft Occupations	1	75

