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A Case Study in School Improvement

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ABSTRACT In October 2010 Perry Beeches school, an 11-16 Local Authority controlled community comprehensive in Birmingham, was widely featured in the national media as the 'most improved school in the UK' – Ever. Some of the ways in which this was achieved are explored. Whether the changes undergone by this school reflect a pattern that has become more deeply rooted in the English education system is investigated. The research is based on data sets relating to Perry Beeches school obtained by means of the Freedom of Information Act and also on 2010 national school improvement data and the subject-by-subject results of improved schools released by the Department for Education. The 2010 examination results are analysed in detail and patterns are revealed that appear to be linked to league table driven factors. The grade distribution in GCSE maths is given special consideration, together with the role and quality of pre-16 vocational courses. The consequences of the special status of the C grade at GCSE are discussed. The recruitment of the 2010 ex-Perry Beeches pupils onto AS/A level courses was obtained and is considered in terms of enabling progression to higher education. The Perry Beeches curriculum and examination results are placed into the national context by cross referencing the DfE's 'most improved' schools data with school performance in the English Baccalaureate, leading to the conclusion that the most improved schools in league table terms appear to be providing the most limited curriculum judged from a number of educational viewpoints including that of facilitating progression to top universities.

In October 2010 Perry Beeches School, an 11-16 local authority controlled community comprehensive in Birmingham, was widely featured in the national media as the 'most improved school in the UK – ever'. This followed a huge increase of 53 percentage points (up from 21% to 74%) in the proportion of pupils gaining five good GCSE grades including English and maths over the period 2007-10. This research is an exploration of some of the ways in which this improvement was achieved and whether the changes undergone by this school reflect a pattern that has become more deeply rooted in the English education system. It is based on three data sets relating to Perry Beeches School

obtained by means of the Freedom of Information Act and also on 2010 national school improvement data and subject-by-subject results of improved schools released by the Department for Education (DfE). The Perry Beeches information comprises:

1. The detailed subject-by-subject GCSE and vocational equivalent results for 2010 provided by the Birmingham Local Authority. These show the numbers of pupils entered for each subject and the numbers achieving each grade. This provides a description of the Key Stage 4 (KS4) curriculum and the resulting pattern of attainment.
2. The 2010/11 literature provided by the school to enable parents and pupils to make their choices of option exam courses and curriculum pathways. This applied to the choices made by the pupils who entered Year 10 in September 2010.
3. The progression of the 2010 leavers (having the 'most improved ever' exam results) to AS/A level courses in other 11-18 schools and post-16 colleges. This required freedom of information (FOI) requests to the schools and colleges identified by Perry Beeches as post-16 destinations for its leavers in order to reveal the AS courses taken by its 2010 leavers and the numbers of its ex-students enrolled on each course.

Some of these data are summarised in Annexes 1-3 and 6. The accuracy of the data relies on the completeness and quality of the information provided under FOI. A copy of the draft article including all the data was sent to Perry Beeches School with a request to check, comment and/or correct.

The 2010 GCSE and Equivalent Results

Eighteen different vocational courses were taken, all of which achieved a pass rate of 100%. Most of these count for two or four GCSE C grade equivalents and produced a total of 968.5 GCSE grade C or equivalent passes with zero fails (Annex 3). The 21 GCSE courses taken produced a total of 774 passes at grade C or better (Annex 1).

Every pupil (100%) in Year 11 achieved five or more A*-C grades including vocational equivalents but not necessarily including English and maths. When vocational equivalents are excluded this dropped to just more than half the pupils (56%) including English and maths. The vocational options therefore ensured that all pupils achieved at least three C grade GCSE equivalents to set alongside English and maths so that other GCSE subject passes are less necessary for league table purposes. This means that while C grades in English and maths are absolutely vital for the league table success of this school, C grades in the other GCSE subjects are not. This appears to be reflected in the different grade distributions in English and maths compared to the other GCSE subjects.

Consider the maths grades. These convert into percentages of the entry as follows: A* 1.9%, A 12.6%, B 9.4%, C 50.9%, D 3.8%, E 6.9%, F 11.9%, G 2.5%. Unlike the other GCSE subjects which appear to be intended for more able pupils, all pupils are entered for English and maths. The Key Stage 4 Course Information booklet states: 'Remember at Perry Beeches School students do not choose courses in which they are likely to get a grade lower than "C"'. From an all-ability entry, an approximately normal distribution (bell curve) pattern would be expected in the grade distribution. This is not the case, as is shown in Annex 2, which compares the Perry Beeches distribution with the national distribution, which is much more like the expected bell curve. The Perry Beeches pattern is nothing like a normal distribution, with a very high proportion of pupils gaining a C and the number of D grades being very small. The next commonest grade down from C is F. Almost 14 times as many pupils obtained a C grade than obtained D. But only about half as many pupils gained E than gained F. By comparing the Perry Beeches distribution with the national distribution it suggests that the extra C grades have been gained at the expense of B and D grades and an excess of F grades. The English results also show a sharp peak at the C grade level but an otherwise more normal grade distribution.

The school's 2010 KS4 subject choice literature indicates that GCSE option courses are intended only for pupils expected to achieve a C grade or better. It is therefore to be expected that these results would also peak at C, but surprisingly, the peaks are much less sharp than in maths and English and there are higher proportions of D grades. The proportions of grades at less than C are also surprisingly greater in these subjects, for which lower ability pupils are discouraged from entry by the school, than in the all-ability subjects of maths and English. It is therefore the pattern in English and maths that requires an explanation.

The Key Role of League Tables

The essential requirement for league table success in a school with a substantial proportion of 100% pass rate vocational equivalents in the curriculum is GCSE maths and English, with maths usually the harder nut to crack. But Perry Beeches has clearly cracked it. So what's the problem if Perry Beeches gets a disproportionately high number of C grades by boosting the performance of less able pupils? Both the Conservative-led Government and the Labour Opposition are both emphasising the importance of pupils gaining at least a C grade in these subjects, and are treating such attainment as the minimum acceptable level of literacy and numeracy, with the underlying assumption that a D grade is very much a fail in this respect. As GCSE maths involves much wider study than mere numeracy, it is clearly possible for perfectly numerate candidates to fail to obtain a C as a result of poor attainment in, say, algebra, trigonometry, graphs or probability. The C grade in maths is meant to imply an overall level of broad understanding of the subject, not just the ability to add,

subtract, multiply and divide. This emphasis on the special place of the C grade, now endemic in English education, is shown to have little educational validity by the continuous nature of the national distribution of the maths grades (see Annex 2). In terms of knowledge and understanding of maths, the difference in required proficiency between a C and a D is not necessarily significantly greater or more important than between B and C or D and E. However, the C grade has been chosen by successive governments to be the arbitrary driver of school league tables and is the basis of the judgements of school quality and school improvement made by the Government and the Office for Standards in Education (Ofsted).

Without a simple performance indicator it is not possible to have a league table. Michael Gove, the Education Secretary, has recognised this as a problem and has stated that the performance indicator for driving league tables should be much broader. He favours the newly introduced English Baccalaureate (EBacc). Note that this still assumes a special status for the C grade against the evidence of continuously variable national attainment in all the Ebacc subjects. This explains why New Labour, needing to demonstrate some success resulting from their huge increase in investment in education, was so keen on non-GCSE vocational equivalents, where there is frequently no distribution at all; just a 100% pass rate at C or above for merely completing all the specified tasks.

What is the Problem with Manipulating the Grade Distribution in Maths in Favour of C?

The following questions and issues arise from the distortion of the Perry Beeches maths distribution in favour of grade C. Note that they are questions, not judgements, for which further research is required.

1. Why are there so few Ds compared to Es and Fs? Were the Ds converted to Cs by applying a disproportionate effort to those pupils on the borderline of C and D? Did the pupils gaining Es, Fs and Gs receive their fair share of the school's teaching and resources?

2. Why are there so few Bs compared to Cs? Was the effort put into raising Ds to Cs at the expense of raising Cs to Bs? Were potential B grade pupils taught the full syllabus, or was selective coverage of the syllabus combined with drilling and revision to ensure a C grade the overriding priority?

3. Has the priority been for pupils to be taught so as to understand and enjoy maths, or have they been drilled (in a highly effective way), perhaps aided by features of the selected GCSE syllabus, to maximise getting a C grade? Do exam boards collude in or encourage this approach? Has this become a more common feature of current KS4 maths teaching?

4. Some 119 pupils gained a C grade or better in maths, and 128 in English, yet just 9 gained the English Baccalaureate (C grades or better in English, maths, a humanities, science and a modern language). These are the foundation subjects needed for almost all combinations of academic A levels, a fact recently confirmed by the Russell Group of universities (2011 publication,

'Informed Choices'). Could it be that the time, effort and resources deployed by the school to obtain Cs in English and maths, plus the massive vocational programme needed to match these with at least three other Cs, works against providing a proper broad and balanced education required for the English Baccalaureate? Is this school devoting equal resources to pupils of all abilities with regard to maximising their growth in understanding? Is the school maximising the opportunity of its pupils to achieve the English Baccalaureate and so enabling progression to top universities or is it instead maximising its league table status so as to better compete with neighbouring schools? Is there any other route to survival in the current system for schools like Perry Beeches that admit a high proportion of lower-ability pupils? If a higher proportion of such pupils follow a Baccalaureate enabling curriculum then there will be many more sub-C grades in the contributing subjects. It is important to recognise that this would not be an indicator of bad teaching. Good teaching of cognitively demanding material should produce a bell curve grade distribution from any cohort of pupils that reflects a normal pattern of continuous variation in ability. The more effective the teaching, the higher should be the attainment across the full distribution but there should be no expectation of any reduction in the *variation* of attainment. Such an outcome would obviously be bad for the school's league table performance, but would it be bad for the education of its pupils? Should curriculum breadth and balance only be allowed for brighter pupils likely to obtain a C or better, or is it a basic educational right for all pupils including those unable to achieve a C? How does the educational value provided by the vocational alternatives compare with grades lower than C in the Ebacc subjects? What is the real currency of these vocational courses in the job market or in high-quality post-16 vocational education and training?

5. The highly successful Perry Beeches model is increasingly being followed by other English schools and especially those whose intakes include a significant proportion of lower-ability pupils. The Government's favoured academies have led the way in acting as a vanguard for this model of curriculum change to be taken up by local authority schools (see de Waal, 2010). One of the founding purposes of the academy schools established by the Blair Labour Government and a prime justification for them was to provide just such leadership, the quality of which is assumed to spontaneously arise from some inherent free-market-inspired, performance related pay-driven competitive vigour, compared with an assumed dullness within the local authority sector where teachers may be motivated only by their love of their subject and their professional commitment to communicating it as effectively as possible. The newer market-driven approaches are undoubtedly achieving startling levels of apparent school improvement but are they producing better-educated school leavers?

6. Compared to other advanced countries the proportion of English students studying maths at *any* level post-16 is very low. Is part of the reason for this the way maths is taught so as to maximise C grades at GCSE rather than to inspire students at the upper end of the ability range to take up this vital

foundation subject at AS level and to secure valuable incremental improvement in the G to E grade range for lower-ability pupils? A level maths is required for almost all science and engineering degree programmes and is a significant advantage for many other humanities-based degrees. At the same time *all* progression to higher grades is worthwhile across the entire ability range but this can only be achieved if effective teaching is matched to ability and current level of attainment so that all pupils at all levels are challenged and stretched. This is impossible if sub-C grade performance is regarded as failure regardless of the quality of teaching and the effort and individual progress made by the pupil. The essential weakness of the Gove Ebacc is that it discourages schools from allowing less able pupils to take its subjects and to provide appropriately differentiated teaching matched to ability levels.

Further evidence for concern is provided by the latest Programme for International Student Assessment (PISA) international comparisons, which show English pupils' performance on the slide in English and maths since maths GCSE was included in league tables. England's performance fell from 17th to 25th in reading and 24th to 28th in maths. Note that science, which is not essential for league tables, has not fallen back so much. Note also that all these trends are less evident in Scotland and Wales, which do not have league tables. The trend has been occurring for many years and certainly cannot be blamed on Perry Beeches. However, many of the schools that feature in the latest DfE 'most improved schools' list also appear in earlier 'most improved' lists, showing that this form of apparent school improvement has now been occurring in the English education system for a considerable time, leading to ever more widespread adoption of approaches that could be educationally damaging. The crucial question is whether the methods used so successfully by Perry Beeches, if more widely adopted, will raise the overall performance in maths and English at all levels of ability or whether they might be contributing to the decline. What is certain is that the dramatic difference in the grade distribution obtained by Perry Beeches compared to the national distribution is highly significant. If it does indeed represent a breakthrough in the effective teaching of maths, then the Government needs to take note and draw the attention of all schools to how it has been done. Conversely, the evidence points to the possibility that the increase in C grades has been achieved at the cost of distorting the provision of maths teaching to the detriment of those pupils that might otherwise have obtained a B or a D. This could conceivably have had a demoralising effect on less able pupils for whom a D grade obtained from studying the full maths syllabus could and should be recognised as representing significant and functionally worthwhile attainment. A Level maths teachers do not now generally regard the C grade at GCSE as a good enough entry requirement for AS/A level courses. Does this mean that potential B grade pupils are lost to AS/A level progression because of the way they are taught for C grade maximisation at GCSE?

These data and questions were shared with an experienced maths teacher in another school far from Birmingham with no knowledge of Perry Beeches School. She commented as follows.

> My view is that most schools put their best teachers and resources on the D grade classes. At XXX we also put emphasis on turning B grades to As. The league tables put an emphasis on getting a C grade in maths and English and most schools seem to draw up lists of students that need extra help to achieve this, so they often get extra help inside and outside lessons. This would thwart the bell curve distribution of grades. But the modular exam makes it much easier to teach to the test. Students do not have to retain information for so long and I feel there are not so many challenging, interesting questions as on the linear papers. I feel the change in curriculum over the years has limited the holistic teaching of maths due to the frequent modular exams, as you only get time to teach the exam components, hence teaching to test not for fulfilment, enhancement or enjoyment.

On 14 December 2010 the head of Perry Beeches telephoned me in response to my FOI enquiry. During this conversation he stated that 'very few' of his pupils went on to study maths at AS or A level despite 119 out of 159 gaining a C grade or better at GCSE. His school gained a good/outstanding judgement from Ofsted and is clearly being held up as model. The head said he regarded passing English and maths at GCSE as like 'passing the driving test' and something that just has to be done as a rite of passage. In this he appears to be accurately reflecting the current view of both the Conservative-led Government and the Labour Opposition, and he would appear to have the support of the Ofsted inspectors who were so impressed with his school.

Successive governments, Ofsted and the media have given tacit and unquestioning support to these arguments and assumptions. Could they be wrong? If so, the consequences for our education system are devastating.

Post-16 Progression of Perry Beeches Pupils

Annex 6 shows the pattern of AS level courses chosen by Perry Beeches 2010 leavers. It is clear that the school has in general been successful in supporting progression to AS level studies. This achievement should not be underestimated. However, of equal importance to the total numbers is the pattern of subjects chosen. 'Soft' subjects that are unhelpful for entry into top universities proliferate. According to the FOI responses of post-16 provider institutions there were 156 2010 Perry Beeches leaver enrolments onto 27 different AS level courses in seven post-16 institutions. However, just 13 of these are for AS maths and 14 are for AS English or English Literature. It has already been noted that international comparisons reveal that the English education system appears to be unique in developed countries in making such limited provision for the

study of maths post-16. Outside AS levels, there is very little other post-16 maths education available. The other 'enabling' AS subjects are also rather thinly represented in the choices of ex Perry Beeches students. It would be interesting to compare this pattern with that of the academically selected 'indigenous' pupils in the sixth forms of the grammar schools to which some of the Perry Beeches leavers have transferred. A much smaller overall proportion of the Perry Beeches pupils progresses to AS level courses than is the case in the selective grammar schools and this is to be expected because Perry Beeches is an all-ability school. It is also a medium-sized school for 11-16 year-olds (with no sixth form of its own). If only around half of the pupils in such schools study mainstream academic subjects in KS4 (apart from English and maths) then fewer specialist subject teachers are needed and can be employed than if all pupils follow the same broad and balanced subject curriculum. This could reduce the chance for all pupils of being taught by an enthusiastic subject specialist. It could also reduce the professional development opportunities of the non-specialist teachers drafted in to gain expertise from their specialist colleagues. This could weaken subject-based departments, thus not helping with the retention or recruitment of the experienced specialist teachers needed to inspire pupils to go on to AS/A level and university and making it less likely that pupils will receive A level advice from specialist teachers who have themselves graduated from top universities. The effect on less able pupils should also not be underestimated. How much better it is for a less able pupil to be taught physics or history by teachers who understand it thoroughly themselves than by non-specialist conscripts 'delivering' a 'package' or module they do not understand at a deep level. This is a very real problem in science where, for example, non-specialists who misunderstand the relationship between electric current, potential and energy in physics are likely to fail to teach these concepts at anything other than a misleadingly superficial and unsatisfying level. It is surely the least able pupils who need the best teaching if they are to overcome the intellectual hurdles required to acquire understanding. All teachers improve their own understanding when they have to make a personal intellectual investment in planning their own lessons, courses and teaching methods. This is only possible in strong departments led by subject specialists with the confidence and clout to press the necessary curriculum, timetabling and staffing arguments upon the senior managers of the school. Such once near universal school practice now appears to be in decline. How can it be secured in a medium-sized 11-16 comprehensive school if the mere 'delivery' or even contracting out of vocational courses takes up half or more of the KS4 curriculum?

Some Wider Concerns about School Improvement in the English Education System

How has it come about that the GCSE performance of English schools and pupils has soared in the last decade when the perception from many outside the

education system, and especially the Confederation of British Industry (CBI), employers and higher education professionals, is one of decline in knowledge, understanding and capability? Their concern appears to be confirmed by the latest international PISA study that shows that comparative national performance in maths has fallen significantly despite this subject showing a spectacular improvement in GCSE results. If even the C grade successes have achieved this benchmark by concentrating on the easier parts of the syllabus, and by drilling rather than teaching for understanding, then this is a mechanism that could explain the decline in maths performance of English pupils when subjected to tests that have not been designed by competing English exam boards to satisfy the pressing need of English schools to compete in the English league table system. If this reasoning is correct, then widespread adoption of the Perry Beeches methods will make things worse.

It must be recognised that the high pass rates at Perry Beeches, combined with competitive success in the league tables, are likely to have had a very positive effect on pupil and teacher morale. Success breeds success and this has drawn celebrity and political endorsement at the highest level, including from the Secretary of State himself. However, these positive features of the school, achieved through outstanding leadership, should be readily transferable to a genuinely broad and balanced curriculum with equal resources allocated to all pupils. It is just not true that easy vocational options are needed to pacify and control less able pupils, as has been claimed by Labour members of the Education Select Committee. Our best comprehensive schools, once strongly supported by the Labour Party, have demonstrated this in the past. Indiscipline in schools has steadily increased *alongside* the vocationalisation of the KS4 curriculum for the less able. We have an ever-growing national NEET (Not in Employment, Education or Training) problem that suggests that all young people, including the least academically able, *need to be better educated*, rather than loaded with more and more qualifications that prove to be worthless in the jobs market, and which lead to alienation on the part of these young people. The think-tank Demos, in its March 2011 report, 'The Forgotten Half', is highly critical of low-level (Levels 1 and 2) vocational courses, which it describes as, 'more than worthless'. However, abolishing the current KS4 vocational curriculum would certainly have an adverse effect on results, and in the current league table system would especially damage all-ability schools. The problem is not vocationally relevant teaching in our schools – arguably more of it is needed but across the full ability range – but vocationally labelled courses that make minimal cognitive demands yet have ludicrous and unjustified equivalences to GCSE. These are often sold to pupils and parents as providing a first foothold on the staircase to a good job only for this promise to evaporate when our young people face the realities of the job market and the low value accorded to such qualifications in securing progression to genuinely high-quality vocational training. This failure of access to and take-up of *genuinely* vocationally relevant education and training post-16 must be a key reason for

the growth of NEETs, leading to a potentially dangerous underclass of unemployed and increasingly unemployable young people.

The stakes for schools are very high indeed so no one can blame heads and governors for opting for a formula that produces success in the system that schools are forced to be part of. This fact would have been especially pressing in the recent past at Perry Beeches where the school's former attainment of only 21% good GCSEs including English and maths led to changes brought about by the new head. Vital issues, however, relate not just to league table status but to progression to high-quality vocational education and training and to access to university for children attending comprehensive schools threatened by the 'failure' label and by an Ofsted system driven by the same narrow focus on floor targets (raw results levels below which are deemed by the Government to be unacceptably poor). The narrow social class/parental wealth profile of our top universities and the national interest in terms of our ability to produce a well-educated workforce with sufficient numbers of graduates in the academic subjects needed for economic success and national cultural enrichment all depend on progression to both academic and high-quality vocational education. So why are our further education colleges dominated by low-level vocational courses of the sort so strongly criticised by both Professor Wolf and Demos? Part of the answer must lie in the nature of their funding agreements with government and the existence of perverse performance-related incentives. What are needed are better-educated school leavers across the full ability range. The KS4 curriculum must enable progression to quality academic *and* vocational pathways post-16. It is hard to see how this objective is served by drafting the lower achievers into pseudo-vocational courses that have very limited value for the pupil either in employment or general educational terms.

Perry Beeches is arguably one of the best comprehensive schools in England and was in 2010 genuinely the most improved on the basis of the requirements of the league tables. It therefore provides an important case study for evaluating the likely effect and consequences (intended and unintended) of any changes planned by the new Conservative-led Government. In the case of maths it appears that a strong argument can be made that by making a C grade a high-stakes target within a competitive system this could be having the perverse result of *depressing* the overall attainment in maths of English school leavers. Similarly, it appears that making five grade Cs at GCSE or equivalent a high-stakes threshold for both pupils and schools over the last two decades has led to a *decline* in the number of well-educated pupils at the end of Year 11, certainly as judged by the requirements of the English Baccalaureate. A competitive league table system will always produce winners and losers based on the market strengths possessed by schools in attracting the most able and least problematic pupils. While the winning schools *might* (unforeseen perverse incentives notwithstanding) exemplify what the Government perceives to be best curriculum practice, the losers would always contribute a balancing negative effect on overall national educational standards.

On 22 July 2011 the Secretary of State at last appeared to recognise these issues and, ostensibly in response to the Wolf Report, he announced that from 2014 vocational qualifications will no longer be worth more than a single GCSE. Only two non-GCSEs will count in the headline league table measure, and to be counted at all, vocational qualifications will have to meet a tough set of criteria. This is likely to result in schools changing their curriculum from easy vocational subjects to prioritising the C grade performance in their chosen Ebacc qualifying subjects. As Perry Beeches has shown that this can be done in English and maths, then presumably it can also be done with other subjects as well, but with the same risk of similar perverse outcomes from 'cramming'. It appears that many schools are already anticipating this by bringing KS4 forward to Year 9, requiring pupils to make option subject choices at age 13 instead of 14 and losing the opportunity for cognitive consolidation in Year 9 through a policy of early GCSE entry in Years 9 and 10. Year 11 may mainly be used for mopping up residual essential C grades. Such a strategy would encourage cramming in all three years. These developments have been made possible by the abolition of statutory KS3 testing. It remains to be seen whether such changes will be educationally beneficial or whether they will just represent another chapter in the ever-changing saga of manipulating the curriculum in order to succeed in the league tables and jump the next 'tough' performance target to be imposed upon schools by the Government.

Is Perry Beeches Part of a National Pattern?

The evidence obtained by cross-referencing the 2010 national English Baccalaureate data with school improvement in the years 2007-10 as measured by the league table standard of 5+ A*-C grades including English and maths suggests that Perry Beeches is indeed part of a national pattern (see Annex 7). The 'most improved' schools vary considerably in the curriculum strategy they have adopted. Some with high average ability intakes have been able to combine across the board improvement in results with a high Ebacc performance. However, most comprehensive schools will always have a cognitively mixed intake, with big differences between schools related to specific catchment issues. Floor targets introduced by the last government and raised further by the present one, combined with the market forces represented by local and national league tables, force many of these schools to change their curriculum in ways necessary to obtain league table success and escape the ever-present threat of being labelled a failure. Michael Gove insists that all pupils are entitled to attend a school that offers a full, broad and balanced curriculum. In this he is surely right because even if the average ability of the intake of schools serving poor communities is low there will always be some pupils, however few in number, that are sufficiently able to progress to our top universities.

The table in Annex 7 suggests that such pupils could be *worse off* if they attend our most improved schools. The evidence is compelling. If Ebacc measures the extent to which schools can enable academic progression post-16,

and this is seen as good education, then the pressure for school improvement defined in league table terms has been making schools worse and further disadvantaging their pupils.

In 2010 Perry Beeches represented the pinnacle of the school improvement table. Out of 159 pupils in Year 11, 128 gained an A*-C in English and 119 in maths. The school is meeting the requirement of the Government and the CBI to emphasise teaching the 'basics'. Yet only nine pupils met the requirements of the English Baccalaureate. When the DfE's 'most improved' school list is cross-referenced with the EBacc results it is quite clear that the trend is for the 'most improved' schools to be providing the worst educational entitlement. Some will argue that EBacc does not actually represent good education and is in some way elitist. It is also argued that vocational pathways are of equivalent merit to academic ones. This can be reduced to the truism that all humans regardless of ability are entitled to equal rights and esteem. But this is unhelpful in judging the relative merits of school curricula in educating and enabling our school leavers.

The problem with pre-16 vocational education in our schools is that it has been introduced with the political motivation of enabling schools to appear to improve in order to justify a very particular market-driven national education policy adopted by only one country in the United Kingdom and no others in the wider world that feature anywhere near the top of the international educational league table of pupil attainment. The crucial judgements must be those of the Wolf report and Demos that state that most of the low-level vocational courses taken in KS4 are more or less worthless. It really is as strong as that.

The evidence presented in this article is that as the league table system gave rise to this deeply worrying state of affairs it is therefore the underlying problem. It cannot, therefore, be the basis for the solution, however much a government driven by free-market ideology fiddles with it. However they are modified, league tables will always produce perverse incentives. It has already been noted how these may already be on the drawing boards of schools as they seek to maintain their league table status within the newly announced post-2014 curriculum rules. Disappointingly, neither the Conservative-led Government nor the Labour Opposition appears to have grasped the pernicious role of the C-grade-driven league tables as the true barrier to the raising of educational standards across the full ability range.

How could transparency be guaranteed and schools held to account without league tables? It is first necessary to point out how little transparency now exists in our school system. The most basic information about the subjects entered and the grades achieved in each subject is not easily available from a school. Not only is the Freedom of Information Act needed but enquirers will need to be very well informed and persistent in its use to get hold of such information.

Annex 4 shows that it is very difficult indeed for even an educational professional, let alone a parent, to obtain information about the GCSE

equivalences and the contribution of vocational courses to the school's league table performance. Annex 5 shows that even when it is obtained (from Ofqual) it is difficult for the layperson to understand. Without this information it is impossible to assess curriculum quality or to be able to frame the right questions. For example, why does Perry Beeches need to run four different courses in the use of computers (OCR National Award, OCR National Diploma, OCR VRQ_100/6211/7 and OCR VRQ_100/6212/9) but declines to offer a GCSE course in this subject?

An obvious first step towards improving transparency and accountability to parents would be to reinstate the statutory requirement to publish more curriculum information in the annual prospectus. At the very least this should include the subject-by-subject GCSE and equivalent results that at present can only be obtained for Perry Beeches and other schools through FOI or since 31 March 2011 by making a very determined search of the DfE website. (Even then some proficiency with Microsoft Excel will be needed.) The requirement to publish full subject-by-subject results in the prospectus was quietly dropped in September 2005 at the height of my research for the *Times Educational Supplement* into the curriculum of the 2004 '100 most improved schools' (Titcombe & Davies, 2006). This research led to the first published exposure of what widely came to be regarded as the 'GNVQ scam', which the previous government did its best to cover up to support its case that school standards were genuinely rising in line with exam results as a consequence of its policies. The GNVQ (General National Vocational Qualification) was replaced by a much larger and even less coherent menu of vocational qualifications that are at least as problematic.

The second measure would be to reform the basis of Ofsted inspections to restore the requirement to report a *genuinely educational* evaluation of the curriculum of schools that includes an assessment of the degree to which pupils are enabled to progress to vocational and academic further and higher education and to employment. The current inspection regime merely reinforces the league table system by parroting league table data as if they were a valid performance measure, *which they most certainly are not.* Ofsted reports currently reveal very little about the detailed curriculum of a school and do not even include the subject-by-subject results that are so vital to forming a judgement.

The new government is right to be asking questions about the changes that have taken place to the curriculum in our secondary schools under the former government. This research is an attempt to provide some rarely revealed facts that lie behind the headline published exam results of schools. It highlights just one school, but one that in 2010 claimed to be 'The most improved … – ever', so such research surely contains much to challenge a government committed to improving our education system, especially if it appears to be about to launch major changes in the wrong direction.

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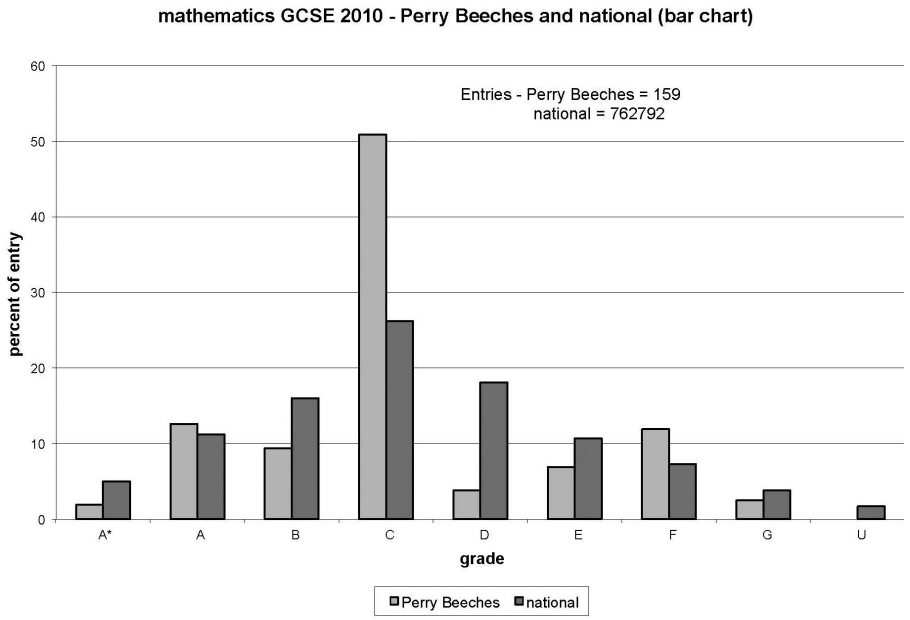
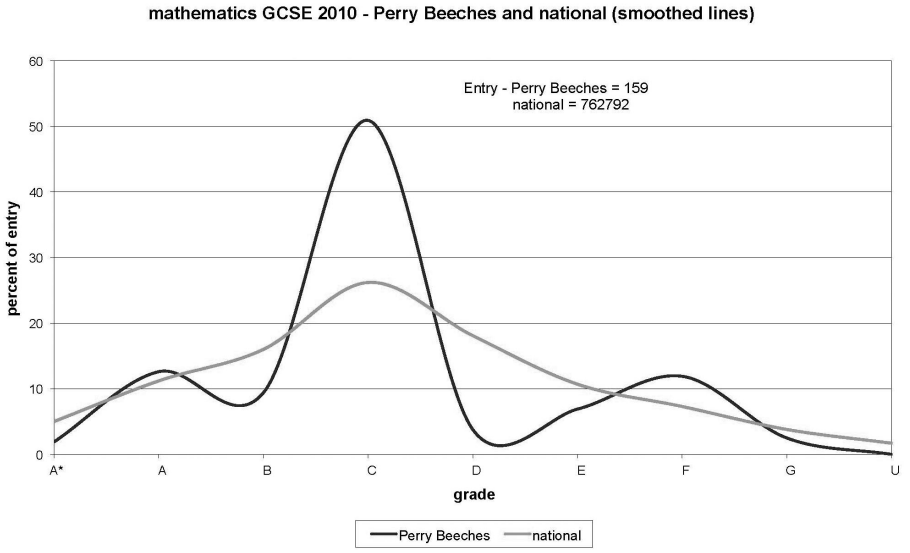
Annex 1. Perry Beeches School 2010 GCSE Results

Subject	Entered	A*	A	B	C	D	E	F	G	U
Art & Design	47		12	8	19	6	1	1		
D&T Food Technology	42	4	5	6	20	5	2			
D&T Resistant Materials	29		7	10	12					
D&T Textiles Technology	51		6	13	23	6	1	2		
Dance	7			3	2	1	1			
English	*159*		*13*	*38*	*77*	*14*	*12*	*1*	*4*	
English Literature	56		8	25	17	5	1			
French	14		2	3	4	5				
Geography	63		6	12	28	14	2	1		
German	1	1								
History	47	3	14	17	3	9	1			
Humanities	26	2	1	6	10	5	1	1		
Mathematics	*159*	*3*	*20*	*15*	*81*	*6*	*11*	*19*	*4*	
Persian	1				1					
Polish	1		1							
Religious Studies	68	6	14	23	13	9	3			
Science (Core)	*1*				*1*					
Science Single Award	*70*	*3*	*14*	*26*	*27*					
Science Additional	*71*	*7*	*12*	*25*	*27*					
Spanish	3				2	1				
Sport/PE Studies	14	4	5	3	1	1				
Totals		*33*	*140*	*233*	*368*	*87*	*36*	*25*	*8*	
English Bacc	*159*				*9*					

No. on roll = 159; total of A*-Cs = 774.

Annex 2 . Mathematics GCSE Grade Distributions





Annex 3. Perry Beeches School 2010 Vocational Equivalents Results

Subject	Entered	No. C+ passes	Fails	GCSE value per pass	Total of A*-C GCSE equivalents
Applied Science BTEC 1st Cert	61	61	0	2	122
Applied Science BTEC 1st Dip	27	27	0	4	108
Building BTEC 1st Cert	16	16	0	2	32
Childcare Skills BTEC 1st Cert	28	28	0	2	56
Computer Use OCR Nat Award L2	122	122	0	2	244
Computer Use OCR Nat Cert L2	29	29	0	4	116
Computer Use OCR VRQ L2 (100/6211/7)	2	2	0	1	2
Computer Use OCR VRQ L2 (100/6212/9)	6	6	0	3	18
Film/TV Production BTEC 1st Cert	24	24	0	2	48
C&G Health & Safety VRQ L2 (100/1900/5)	23	23	0	1	23
Literacy L2	54	54	0	0.5	27
Numeracy L2	45	45	0	0.5	22.5
NCFE Nutrition/Diet VRQ L2 (100/4426/7)	4	4	0	1	4
Performing Arts BTEC 1st Cert	13	13	0	2	26
OCR Preparation for Work VRQ L2 (100/1167/5)	2	2	0	0.5	1
BTEC Preparation for Work QCF L2 (500/4071/6)	15	15	0	1	15
Sports Studies BTEC 1st Cert	26	26	0	2	52
Sports Studies BTEC 1st Dip	13	13	0	4	52
Totals	**510**	**510**	**0**		**968.5**

Annex 4. How to Find the GCSE Equivalence of Vocational Qualifications from the Ofqual Website (email correspondence from Ofqual)

To find the qualification on the Register of Regulated Qualifications you need to take the following steps:

1. Select the 'Search Qualifications' tab
2. In the 'Qualification Number' box type in the number as follows 100/6212/9, this is the format for all qualifications regulated by Ofqual, i.e. 000/0000/0
3. In the Advanced Search box select the link Show/Hide
4. Scroll to the bottom of the page and select the drop down list titled Show Qualifications and select 'All'
5.Select the Search button
7. Once the search results are displayed you can click on the qualification to obtain further details about that qualification
8. In the qualification details at the bottom of the page there is a link to View Performance Measures, this will then give the relevant information.

This should enable you to find all of the qualifications listed in your original e-mail.

Please note that when looking for a new qualification the database retains the previous information you have searched for and therefore you will need to select the Search Criteria link and at the bottom of the page there is a reset button which will clear all the information.

The author found it impossible to find the GCSE Equivalence of many of the Vocational Options taken by Perry Beeches pupils without the help of Ofqual in the form of these fully workable instructions that came as a personal email from the Customer Relations and Information Manager. The error in the point notation (6 is missing) appears to have no effect

Annex 5. VRQ Use of Computer Qualifications (from the Ofqual website)

Qualification Number 100/6211/7
OCR Level 2 National First Award in ICT
Performance Measures

Grade	Contribution to L1 threshold	Contribution to L2 threshold	Contribution to L3 threshold	Performance points
Distinction	20.00	20.00	0.00	55.00
Merit	20.00	20.00	0.00	49.00
Pass	20.00	20.00	0.00	40.00

Qualification Number 100/6212/9
OCR Level 2 National First Certificate in ICT
Performance Measures

Grade	Contribution to L1 threshold	Contribution to L2 threshold	Contribution to L3 threshold	Performance points
Distinction	60.00	60.00	0.00	165.00
Merit	60.00	60.00	0.00	147.00
Pass	60.00	60.00	0.00	120.00

The 'Contribution to L2 threshold is the essential data.
(20 = 1 GCSE A*-C, 40 = 2, 60 = 3, 80 = 4).

Annex 6. Perry Beeches 2010 Leavers' Progression to AS Courses

Post-16 Institutions:
Barr Beacon Language College
Birmingham Metropolitan College
Bishop Vesey Grammar School
King Edward VI Grammar School, Aston
King Edward VI Grammar School, Handsworth
Plants Brook School
Sandwell Academy

Facilitating subjects most likely to be required or preferred for degree courses at Russell Group universities

English/English Lit (14)
Maths (13)
Physics (5)
Biology (8)
Chemistry (9)
Geography (3)
History (8)
Modern languages (0)

Total 60

Other subjects

Accounts (2)
Anthropology (1)
Business studies (14)
Computing/ICT (15)
Drama (1)
Economics (6)
Film studies (4)
Art (3)
General studies (4)
Government and politics (1)
Graphics (3)
Health and social care (4)
Law (7)
Media studies (2)
Philosophy (3)
PE (1)
Psychology (16)
Religion (1)
Sociology (8)

Total 96

Annex 7. Average 2010 Science, Humanities, Languages and English Baccalaureate GCSE A*-C Results in the 2007-10 Most Improved Schools

Percentage point improvement 2007-10	**2 x science 2010** (%)	**Humanities 2010** (%)	**Language 2010** (%)	**Ebacc 2010** (%)
30% + (23 schools)	37.4	22.2*	20.4	5.6
20-29% (118 schools)	39.7	25.8*	18.8	7.9
10-19% (233 schools)	46.0	29.5*	28.1	13.9
National average 2010	45.7	34.1	30.9	15.6

These data have been compiled by cross-referencing the Ebacc data for individual schools from information released by the DfE on 31 March 2011 (accessible from the DfE website) with the 2010 DfE release naming the most improved schools in rank order. Improvement is defined as the difference between the 2007 per cent 5+ A*-C including English and maths and the corresponding 2010 figure.

Unfortunately, the 31 March DfE information on the national Ebacc results is incomplete in that data for schools where the number of pupils gaining the qualification is less than three have been suppressed (no figure given). Since these are the poorest results the effect is to inflate the averages. Fortunately, except for the data marked * the unsuppressed true figures are available in the School Performance tables and have been used for this table.

This means that the figures marked * contain a small error and are higher than the true figure. However, the pattern is clear. School improvement is inversely linked to Ebacc performance.