The importance of capturing evidence of childrens' progress.

Introduction

This white paper has been prepared by Naace through the support provided by Fujitsu. The project to explore this involved telephone interviews with seven schools, followed by visits to three schools to interview several teachers in depth. In addition to this white paper there is a series of short videos in which teachers explain why they believe capturing evidence of pupils' progress is important and how this captured evidence is used to help increase pupils' engagement and to raise their achievement. There videos are available in the Third Millennium Learning Award area of the Naace website.

The project and this paper were stimulated by the submissions made by nearly 100 schools to gain the Naace Third Millennium Learning Award. These submissions comprise a 5 minute video, prepared to explain to parents the kinds of third millennium learning experience children have at the school, and a 10 minute educational commentary video to explain to other schools the rationale for the practices the school has adopted and to give some insight into how they were developed. The parent videos are publicly available at http://www.Naace.co.uk/thirdmillenniumlearningaward/videos. The educational commentary videos are available to all Naace members once logged on to the Naace website.

In the great majority of these Award submissions it is clear that the schools place a strong emphasis on capturing evidence of their pupils' progress and on using this with pupils and parents. This is a key part of the way in which these schools are encouraging pupils to engage much more strongly with the school and to be engaged by learning. It is this higher engagement that appears to be central to the education being provided in these schools, which surpasses good traditional learning. The whole process of driving engagement through learning is explained in the section below on the 'virtuous spiral of improvement'.

This white paper reports on the views and practices of these schools and reflects on the impact on children of both the strong emphasis on capturing evidence of progress and of how this evidence is used. This is strongly related to development of thinking internationally on how learning can be improved, particularly development of a growth mindset amongst all the pupils in the school.

1) The focus on progress relative to the focus on achievement.

Though there can be much debate about the aims of education, about what schools should be doing and about what as a society we need young people to know and to be able to do, no-one will deny that the achievements of both young people and their schools should be measured. This is central to school accountability systems around the world.

What children achieve by the end of their schooling is critically important in opening opportunities for them beyond school and in their careers. All schools, including the schools studied, focus very strongly on helping their pupils achieve the maximum possible exam and test results. However it is also undeniable that children, when they enter a school, have different levels of capability, knowledge and understanding. Hence some children will need to make more progress than others in order to reach or surpass expected levels by the end of their schooling and to achieve the best they are capable of.

The question that schools have to be clear about is how best to balance their focus on progress and achievement. Both are important. Achievement does not come without progress but if progress is not related to levels of achievement this will do a dis-service to young people, their parents and society as a whole.

The schools studied in the creation of this project resolve this issue of whether to focus most on progress or achievement by putting their prime focus onto the process of learning and how young people learn best. They do this within a school-wide culture of high expectations and high standards of behaviour for learning. The high expectations are set and maintained through other parts of the 'virtuous spiral' (see below), particularly the provision of many different audiences for students' work and achievements and an ethos that a very important part of pupils' activity in school is to help each other learn as well as to learn themselves. The high standards of behaviour for learning are being achieved by ensuring the pupils understand that the purpose of the school is to enable all pupils to learn to the best of their ability and hence behaviour which interferes with the learning of others is unacceptable. In these schools the learning behaviour code is clearly understood by all and the senior leadership team have created systems that enable the teachers to practically manage and improve childrens' behaviour should it slip. This environmental culture in these schools is obviously important in enabling the schools to capture and use evidence of progress in the ways that they do.

The schools also maintain a strong focus on actual levels of achievement, but in the words of one teacher "We never make a big deal of things the children are not good at, we support them (to get better) but we celebrate the things they are good at.". Another teacher said "Progress is individual, its a progression within oneself, the achievement will come as part of that progress, the achievement is the point that they progress to, if a student hasn't progressed they can't achieve, for me it's as simple as that.". These statements illustrate the strong ethos in these schools that if they focus on watching and celebrating progress, building confidence and feelings of success in pupils, that the best possible achievements will be reached. This ethos of celebrating progress first and achievement second contrasts with the ethos found in some schools, and promoted in some school systems, of regular high-stakes testing that can act to put the focus primarily on achievement.

How children learn best is a complex issue involving the role of the teacher and their pedagogy, the social environment in which children learn, including their out-of-school environment as well as the in-school environment, and what happens in childrens' brains. In the final analysis it is not possible to put learning into young people, they have to learn for themselves. The external influences will of course have an impact on why learning happens and how well learning happens. Learning can

happen through fear, through need, through the desire to please others and through the personal desire to achieve. This white paper looks at how and why schools that put significant emphasis on capturing evidence of progress are balancing these factors.

2) The importance of evidence of progress to schools and pupils.

More will be said in later sections about kinds of 'evidence of progress' that schools are capturing. As an initial description this should be taken to include examples of any kind of work that children produce and demonstrations of their capability, whether this be on paper, as recordings of activity and performance, or any other outcome of their learning activity. It should also be taken to include teacher and peer assessments of outcomes of their work and their own reflections and comments on what progress they have made.

Historically accountability measures for schools and pupils have focused mainly on achievement rather than progress. Measurement and discussion of progress has historically been in the context of levels of achievement, with the scores on tests being recorded in the teacher's 'Markbook'. This practice continues and the schools typically report that formal assessments of pupils' achievement are made every half term and committed to the school's management information system, and reported to pupils and parents.

The practice that is now spreading, in which the schools studied are showing the way, is the development of a process which pupils can follow to make progress in their learning. There are two aspects to this process. The first aspect is the activity that the schools get the pupils to engage in that helps them see and reflect on their current capabilities and what they need to do to become more capable. The second aspect, which is discussed in the section on the 'virtuous spiral of improvement' is the psychological impact that the activities focused on progress have on the pupils' attitudes to learning and their levels of engagement in learning. The positive attitudes to learning and the higher engagement in learning activities in these schools are increased through the learning itself rather than by any external incentive, reward or future promise of success, though these can play a part once pupils' self-belief reaches a level that enables them to imagine they can achieve those future promises.

The process that the schools have established which is helping pupils use the focus on progress to improve their learning skills and achievement involves:

- Processes that make it clear to pupils that the work that they do will be captured and stored, in some cases over many years, so that it is possible for themselves, their teachers and their parents to review and celebrate their progress. One example is pupils in primary school having a writing book in which they do occasional pieces of extended writing during a year, which is kept and added to in future years, enabling them to see how the quality of their writing has changed. Another example is use of online systems that make it easy for pupils to look back over an 'audit trail' of their work and the teachers' comments on it and suggestions for improvement.
- Ensuring that feedback from the teachers to the pupils is focused not just on what is good about the piece of work and what is weak, but on what the pupil should or could do to improve the weaker parts of the work and the work as a whole.
- Systems that enable all pupils to know that they are good and successful at some activities. Though the schools studied have a strong focus on academic achievement this celebration of

what the pupils are good at is very broad and encompasses non-academic achievements, particularly for pupils who are not yet achieving well in academic learning. As an example in a secondary school with 1400 pupils, one third of these pupils have some kind of leadership role in the school, being involved in groups such as digital leaders, playground leaders, environmental or community groups and so on.

- Time allocated in lessons for the pupils to read the teacher's feedback and to act on it, either by making improvements to their work as suggested by the teacher or by adding their reflections on the feedback the teacher has provided. In order to make these improvements or reflections clear the schools have systems to differentiate it from the original work, such as getting the pupils to do these changes and reflections in a green pen. One school refers to this time in lessons as 'DIRT' time, an acronym easily remembered by students that stands for Directed Improvement and Reflection Time.

- Opportunities are created for pupils to discuss their work and how they are or can improve it with others in addition to their teacher. This includes use of peer assessment, online communications with parents and more formal opportunities such as parents evenings and days when parents are invited into school to work with their children.

- The schools take every opportunity to celebrate good work of all kinds, increasingly taking advantage of digital systems to do so as well as physical displays and gatherings in school, both in individual classes and wider groups, such as whole-school assemblies. This celebration of pupils work is important in setting expectations and leverages the desire pupils have to emulate older children.

While most countries still put the prime accountability focus for schools on achievements of young people, there is growing concern to measure how well young people are progressing towards the required levels of achievement. In the UK for example, the main accountability measure for schools has been amended to include the 'Progress8' measure that looks at the progress pupils have made. As it is now recognised that we need the majority of the population to have high levels of understanding of complex issues and skills in problem solving, and high levels of information skills, schools are now being held accountable for 'narrowing the gap' between pupils who start school with low levels of achievement and poor learning and those entering the school with high levels of achievement and good learning skills. While the accountability measures for schools still focus primarily on achievement there is growing recognition that schools that succeed in getting all pupils to make good progress from their starting points should be recognised as so doing. Hence the capturing of evidence of progress is important to schools for this reason.

There is also growing concern that children who start school with relatively high levels of achievement and good learning skills are not then making sufficient progress from this starting point and could achieve more. For schools this creates a need to see the progress these pupils are making. A further concern for schools is that there are calls from industry and business leaders for schools to enable their pupils to achieve capabilities that are not tested in national examination systems, such as teamwork and collaboration skills. This is a relatively new demand on schools that has not yet been included in accountability measures. It is included in this white paper as achievements in this area are unlikely to be measured through testing and examinations and hence both achievements in these areas and progress towards them are much more likely to be demonstrated through the capturing of evidence of what young people are doing. The schools studied do a considerable amount to capture evidence of these kinds of progress.

3) Levels of progress.

For the school and the teachers a focus on helping young people recognise the progress they are making requires that the teachers know what kinds of individual skills and knowledge are required to enable progress in overall capabilities in a subject area, such as being a good creative writer or being able to use mathematics to solve problems. This is a large topic on which there is much debate, as breaking learning into very granular components and attempting to track progress in all of these creates a huge workload for teachers, but understanding of the granular components is vital in enabling teachers to help pupils progress. This section has been included in order to point out how the schools studied are tackling this issue.

A key element in the approaches the schools are using is greater visibility of good work. This enables much greater discussion between teachers, and between pupils and teachers, about what contributes to making a piece of work good or exceptional. The schools are therefore generating much greater clarity on the granular skills, understanding and knowledge that are required. It is made explicit for the pupils what they need to improve to make their work better, and examples are available to them.

A second key element of the approach the schools are taking is the focus on what children are good at. This creates a focus on capability rather than just knowledge and individual skills. By creating an environment in which pupils are happy to have their capabilities celebrated, and where the culture of the school is one of pupils helping each other learn, this focus on overall capability is reinforced.

Following on from this focus on capability, the schools place an emphasis on mastery. Rather than getting high-achieving pupils to progress faster through the syllabus, the emphasis is on higher-achieving pupils undertaking harder and more complex problems that use the knowledge and skills being worked on. The concept of mastery is that the ability to teach someone else the area of learning being studied indicates that the pupil has gained full understanding of the ideas and the skills necessary to use this understanding.

The overall impact of these approaches is that the need to learn individual skills or ideas is put into the context of the overall capabilities the pupils are being asked to develop, with examples easily available to them of what pupils that have succeeded in mastering these things can do.

4) The importance of evidence of progress in promoting learning.

There is growing understanding of what happens in the brain to create learning. However neuroscience is not yet sufficiently advanced to provide a basis for devising more effective learning environments and processes. The insights that can help schools and teachers create better learning are still at a rather 'gross' level. For example it is known that fear puts the brain into a 'fight or flight' mode through raised adrenalin levels which make learning while in this state difficult or impossible. In order to gain insight into how capturing evidence of progress and using this with pupils affects learning in the brain we are reliant on schools' observations of how children react to this, which is covered in this section and the following section.

Before we get to what schools observe, it is useful to discuss the issue of how young people perceive progress. Human beings sometimes learn in ways that make progress towards achievements explicit; learning skills with tools or in playing a musical instrument is one such example. Sometimes learning happens without being noticed, such as when children watch what is

happening around them and pick up information without conscious effort to do so. In such cases it is possible for a person to progress towards higher levels of achievement without noticing. Awareness of learning is necessary in order for progress to be noticed.

As it is the job of schools to prepare young people for life, and because young people develop a sense of what they wish to achieve in life, it is important that children become aware that they are making progress in learning. This is rather a double-edged sword, in that being aware of their progress can give them a sense of achievement and success, but it can also be stressful if progress is not as fast as they and their teachers and parents desire.

The schools studied endeavour to enable pupils to regularly look at their progress without incurring undue stress or feeling that even challenging targets are unachievable. Part of this is achieved by giving the children security of mind that they are good doing some things if not others. The schools are also instilling a growth mindset (discussed below) to increase childrens' self-belief and confidence that they can make progress with learning they find difficult. The high expectations have to be perceived by the learner as achievable even if requiring high effort to achieve them. The schools therefore work individually with pupils in jointly setting targets to be high but achievable in the student's mind. For example, one of the schools studied is able to agree such challenging and aspirational targets with pupils that only 30%-40% of the pupils actually achieve these targets. But this is done without generating feelings of failure as it is made clear to the pupils what progress they have made towards these aspirational targets. The school also finds that some pupils are able to exceed even these aspirational targets. These are often pupils that have come from other schools where they have developed a sense of failure and as a result have adopted considerably depressed aspirations for themselves.

5) Growth mindset.

In the past few years pioneering work has been done by Professor Carol Dweck and others on the idea of 'growth mindset'. The central idea, which has been researched and found to be effective in adult situations as well as with young people, is that people are more creative, problem-solve better and learn better if they have growth mindset ways of thinking rather than 'fixed mindset' ways of thinking. A growth mindset is a belief that their intelligence and mental capability are not fixed and that the brain can grow and become 'fitter' when used, just as muscles can. A fixed mindset is a belief that intelligence and the capabilities of your brain are fixed and hence that some achievements will forever remain impossible.

The degree to which young people have a growth mindset appears to affect how they react to evidence of their progress. Children with a fixed mindset are likely to see a lack of progress as an indication that they are less intelligent than classmates. Those with a growth mindset are more likely to believe that their lack of progress is not due to an inability to learn but due to them needing to spend more time, with more help, until they succeed in learning the topic.

The schools studied are promoting growth mindset ideas within the context they create, that all pupils are good at some things and that it is not a matter of a class of pupils containing more capable and less capable children, but instead being a class of children who are all capable, but capable of different things. This enables the teachers to honestly discuss with pupils their levels of achievement without creating feelings of failure. Indeed the issue of failure is confronted directly in these schools, by making it clear that failure is a step on the route to success, as it is the experience

through which the children learn what it is they cannot yet do and for which they need to seek help (from their teacher or classmates) in order to get better at doing it.

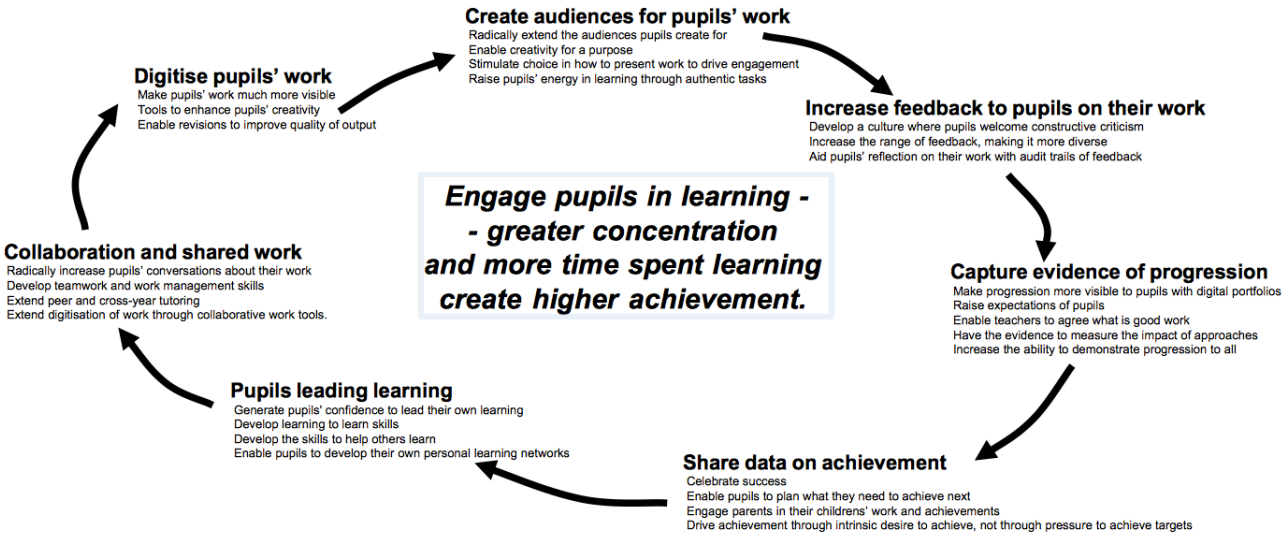
4) The virtuous spiral.

Analysis of all the submissions from schools that have gained the Third Millennium Learning Award has led to the development of the diagram below. This expresses the techniques these schools use to increase pupils' engagement in learning and to develop their growth mindset. The approach acts psychologically to change pupils attitudes. For example, before pupils are willing to put their work in front of audiences, such as the rest of the class, they have to be comfortable that the criticism they receive on their work will be helpful and not damaging.

The interviews with the teachers as recorded in the videos contain many examples of how this change in attitude is being created. For example, an early years teacher explained how some pupils initially find praise difficult to accept, because of their lack of self esteem and self belief. She explains how she changes this attitude by initially providing praise individually, then among a small group and slowly developing the child's ability to receive praise and their self-esteem until they are happy for their capabilities to be praised in front of the whole class.

The capturing of evidence of progress is a critical part of this virtuous spiral, as it is the activity that initially most clearly shows pupils that they are making progress they can be proud of. Then, as the approach spirals up to higher confidence, greater self-esteem and greater progress and achievement, pupils can take a greater role in leading learning and in helping their peers, which reinforces the feedback on their capabilities.

The use of the school's digital environment to display work is the key enabling part of the spiral of improvement, as it underpins all the other parts of the spiral. It enables wider audiences, stronger feedback, more visible progress and achievements, and is a communication channel through which pupils can help their peers.



5) Classroom management and pupils capturing evidence of progress.

Traditionally the progress of learners has been captured through marking of pupils' work by teachers and recording of grades in their markbook. This was then extended by occasional tests done in class, formal assessments perhaps every half term, and end of year tests and exams.

Teachers providing feedback through marking, while being accepted as a key part of what teachers do, has at times proved somewhat contentious when the school leaders and school accountability agencies have attempted to set standards for the regularity of marking. This can work well in primary schools where teachers normally teach the same class for the whole day, as giving every child feedback through marking two or three times a week is manageable within teachers' workloads. Primary teachers also have the opportunity to give verbal feedback more often, through seeing more of the children. In secondary schools where some subject teachers see pupils for only one or two lessons a week, attempting to mark the work of every pupil every week and to provide useful feedback imposes an unsustainable workload on these teachers. It is more achievable for the major subjects of Maths and Language but is still likely to mean that only some of pupils' work is assessed thoroughly and extensive feedback given.

As it has become clearer from research that provision of better feedback has a big effect on improving learning and achievement, schools have sought ways to increase feedback without putting an undue workload on teachers. This has put a greater emphasis on peer assessment, which when considered to be part of peer tutoring is also known from research to have a strong positive impact on learning. Schools that use peer assessment effectively have usually put considerable effort into developing the right culture amongst the pupils to ensure that the feedback given is correctly balanced, by requiring pupils for example to criticise other pupils' work on the basis of "Two things I like and one thing I would change". This balances praise against criticism towards building feelings of success rather than making pupils feel that their work is of little value.

In developing approaches to capturing evidence of progress schools and teachers have to be aware that there are two requirements, the requirement to help the child learn and the requirement for the teacher and the school to be able to demonstrate in accountability that feedback on progress is effective in improving learning. This is leading schools to more formally structure the use of feedback that is provided on paper in pupils' books. The schools are also allocating class time, as discussed above, for pupils to respond to this feedback, either by adding to their work to improve it in the ways recommended or to provide comments and reflections on the teacher's feedback. To make this clear as an audit trail, some schools have instituted a policy whereby different colours will be used, teachers making feedback comments in one colour and then pupils acting on this feedback by writing in a coloured pen different to that of the teacher's and to that used in the original work. Some schools also are noting in this audit trail when verbal feedback has been given in class.

The impact of these approaches is that the process of learning and of the need to improve work is becoming much more explicit to pupils. And as the expectation to improve work is higher there is also in these schools a higher expectation by pupils that the support to enable them to improve will be available. As this potentially increases the teacher's workload, schools are ameliorating this by making support from the teacher available in different ways, such as online, and by enlisting the time of pupils in providing support to each other, through peer tutoring, working in groups and by nominate 'class experts' or 'school experts'. In some schools a high proportion of the pupils have some kind of leadership or expert role. The schools tend to spread these roles across numerous

aspects of the life of the school, so while relatively few pupils may be acting as class experts on academic learning, any feelings by other pupils that they are less 'clever' than these more academic pupils is avoided by the pupils seeking academic help seeing themselves as experts in other spheres, such as sport, music, art, playground leadership, digital leadership or other ways.

The introduction of technology into processes for the capturing of evidence of progress enables schools to take these techniques to a new level. Combined with online spaces that can display files, images and video, the opportunity to create audit trails of progress is extended from the pupils' books into spaces which are accessible not only in class, but out of class and from home. The technology can also speed the processes of capturing evidence of progress and hence make them more workable and not such a pressure on teachers' workloads.

The schools commented that the ease of use of the technology to capture evidence of progress makes it possible for teachers to pass this task on to the pupils themselves. Doing this also makes it much clearer to them that the whole purpose of being in school is to make progress towards targets that they own and can see the point of.

There are three aspects to consider about the technology schools need to make available to capture evidence of progress. It should make possible:

- Teachers able to use technology in class to feed captured evidence of work and progress and their comments into the school's assessment recording systems.

- Pupils, either themselves or through their teacher, to be able to feed captured evidence of work and progress into their own profiling system.

- Teachers and maybe pupils to be able to feed captured evidence of work and progress into systems that display pupils' progress and achievements to wider audiences, through systems such as class blogs and school online galleries.

6) Extending capture of evidence beyond the school.

As soon as evidence of progress is put online it can be made available to parents. This initially will act to generate conversation between pupils and their parents. This increases the feedback to pupils on their work and will increase the praise they receive and sense of self-worth.

Schools doing this are likely to take opportunities to talk to parents about the ways in which feedback to pupils helps them by raising their confidence and by convincing them that they can achieve more. Initial opportunities are provided by parents' evenings. The school may then create additional opportunities by inviting parents into the school for working sessions with their children. The schools studied place a great emphasis on involving parents in this way.

Some schools that use online systems are providing parents with logins to these systems, that enable them to see their children's work, in addition to anything they do that is made publicly available. This starts to enlist the parents as partners in their children's development and learning. Parents may also have greater opportunities to contact their children's teachers, to ask questions and to provide information they feel the teachers should be aware of about their child's current health, activities or even state of mind (for example if a relative has died which has upset the child).

Some schools are taking this partnership with parents further, particularly with younger children.

Online systems are being used to display images and video of what their children have been doing in school, particularly when this shows desirable development. And in a few schools parents are able to contribute into these systems examples of what their children have achieve at home, in order to make the teachers aware that their children have developed new capabilities that the teachers can then extend and further develop.

Conclusions.

The schools studied are capturing evidence of pupils' progress, and using this with pupils and parents, because they are confident that the approach they take to this is instrumental in raising pupils' achievements considerably.

The experiences of these schools clearly show that technology is a key enabler that enables them to radically extend the amount of evidence of progress which is captured and to extend the ways that it is used.

There is clear understanding in these schools that their strong focus on progress raises pupils self-esteem and confidence, and that this is very important in accelerating progress and in raising levels of achievement.

The schools put considerable effort into developing a learning culture in the whole school, that acts to reduce fear of failure while at the same time enabling pupils to accept and strive for more aspirational targets. The ideas of growth mindset are a key tool in establishing this whole-school culture.

In these schools there is growing involvement of pupils and parents in the processes of learning and in helping pupils reflect on and act on feedback on the evidence of their progress that is now more visible.

The schools have every intention to further develop the ways that evidence of progress is captured and used which is illustrative of the power they believe this approach has in increasing learning.

Credits.

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The videos created by this project that this paper draws on, and the submissions for the Naace Third Millennium Learning Award, are available in the school improvement area of the Naace website,

http://www.naace.co.uk.