Serving the needs of children with high learning potential

Comino Foundation Consultation at St George's House, Windsor Castle
6-7 November 2017

"We have to look beyond what we always look for."
"The value of each child is greater than that which can be measured by number."
"Every child needs to feel known, recognised and valued."
"One size does not fit all."

Participants

Janice Allen	Headteacher, Falinge Park High School in Rochdale
Stewart Bailey	Managing Director Virtual Viewing
Dr Nick Barnes	Psychiatrist, Child and Adolescent Mental Health Services London; Honorary Senior Lecturer at University College London
Dr Adam Boddison	Chief Executive for nasen (National Association of Special Educational Needs)
Jason Buckley	Director of P4C Co-operative; The Philosophy Man; Gift Courses Director of Studies; Outspark MD
Dr Michael Catchpool	Headteacher, Milton Road Primary School, Cambridge
Prof José Chambers, MBE	*Development Fellow, Comino Foundation*
Anna Comino-James	Trustee, Comino Foundation and Potential Trust
Philippa Cordingley	CEO of The Centre for the Use of Research and Evidence in Education (CUREE)
Ben Davis	Headteacher, St. Ambrose Barlow RC High School & Sixth Form in Salford
Sue East	Headteacher, St Andrew's Primary School in Bath
Carolyn Goodhew	Recently Senior Lecturer, Bath Spa University
Sam Grinsted	Coordinator, RSA Creative Learning and Development team
Dr Kathryn Hobbs	Headteacher, The David Nieper Academy, Alfreton, Derbyshire
David Holloway OBE	Company Secretary, The Ideas Foundation Trust
Gill Houghton	Head of Abraham Moss Community School (3 to 16)
Rebecca Howell	Senior Education Consultant at Potential Plus UK
Ron Lewin	Trustee of the Potential Trust
Prof Bill Lucas	Director of the Centre for Real-World Learning, University of Winchester
Heather MacRae	Managing Director of the Ideas Foundation
Kate Mulcahy	Manager, Reach Out Makerspace, Imperial College, London
David Perry	Trustee, Comino Foundation
Nicola Potts	Headteacher, Christ the King Primary School in Salford
John Slater	Chair, Comino Foundation Trustees
Julie Taplin	Deputy Chief Executive, Potential Plus UK
Monica Walczak	Executive Headteacher, St Patrick's RC Primary School, Rochdale and Alice Ingham RC Primary School, Rochdale
Denise Yates	Chief Executive of Potential Plus UK

The Comino Foundation convened this consultation in collaboration with Potential Plus UK[1].
The consultation was designed to provide an opportunity, for headteachers and others who are engaged with the current education system in England, to spend time together considering their responses to our central question:

> "How can the education system in England better serve the needs
> of children with high learning potential?"

1.   Our opening discussions - clearing the ground/ mapping the territory

Participants were quick to establish areas of agreement. They were all keen to respect diversity and celebrate individuality. They all wanted to acknowledge the "EXTRA-ordinary."

At the same time, and unsurprisingly, the discussion was threaded with familiar phrases from government policy such as "closing the gap" and "diminishing the difference". Themes such as "diminishing the difference" are powerfully influential in England at the system level. For many school leaders in England now, such themes embody the core values of equity and inclusiveness. OFSTED expects schools to demonstrate that they are using their Pupil Premium funding to "diminish the difference" by supporting the progress of children from disadvantaged backgrounds. The idea of also focussing effort and resource on the needs of those with "high learning potential" can seem to be in tension with the "diminishing the difference" agenda, so some participants found our focus "uncomfortable." Ironically, the motivations behind the last Labour government's first "gifted and talented" programme, which began in 1999 as part of the Excellence in Cities[2] initiative and "was designed to raise the educational achievement of very able pupils in state-maintained secondary schools in inner-city areas," was driven by aspirations similar to the aspirations underpinning the "diminishing the difference" agenda. Excellence in Cities was one of the outcomes of the 1997 White Paper Excellence in Schools (Great Britain, 1997) which indicated an intention to create:

> "inclusive schooling ... that recognises the different talents of all children and delivers excellence for everyone."

However, participants tended to agree that, given that teachers have limited resources of time and energy, when asked simultaneously to respond to the needs of children with "learning difficulties"[3] and to the needs of "high potential learners," many teachers will act on the assumption that the 'most able' can fend for themselves.

The impact of the language chosen to identify "high potential learners" was a recurrent theme throughout this consultation. Many, especially the headteachers, were uneasy with the phrase "high potential learners" being used to label a group thought to have significantly different characteristics from the other 90% - 98% of children. Headteachers are necessarily committed to the belief that, in a range of different ways, all children have "high potential" and that it is the school's task to help unlock that potential. In discussion it was suggested that there can be a "tug of war" between the need for a school to be inclusive - accepting and valuing all - and a requirement to recognise that some children may have "special gifts." Participants felt it was helpful that an alternative language had replaced the "gifted and talented" brand, and attitudes reported on the closure, in 2010, of the National Academy of Gifted and Talented Youth at the University of Warwick were still discernible:

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[1]   https://potentialplusuk.org/

[2]   www.education.gov.uk/publications/eOrderingDownload/RR675a.pdf

[3] https://www.theguardian.com › Teacher Network › Teachers' workload

"I've always had a problem with the gifted and talented register because I prefer to think inclusively about the needs of all young people."[4]

One participant spoke of the hostility he encounters at education conferences when raising the needs of the most able children. He suggested that at such gatherings the 'most able' had become "the last minority whose needs it is acceptable to ignore or denigrate". One of the headteacher participants commented:

"They may be high attainers on entry - and their IQ when tested may be within the top 2% - but they are still children with all of the issues that young people have and it is our job as school leaders to support them as individuals. I prefer not to use the term 'ability.' When that is related to SATS grades or GCSEs, it is referring to a specific test at a specific time and in a specific environment - it doesn't capture all the strengths of a child. Therefore, we have banned the terms 'high ability', 'mixed ability', 'low ability' as that limits learning and expectations."

Several participants thought that, whatever labels are used to distinguish more able children from the rest, any label is likely to be problematic. They resisted the idea that a process of assessment at a particular age, however sophisticated, will deliver a definitive "diagnosis" of a child's learning potential, thinking that the development of school-age children is unpredictable and necessarily in a state of flux. They asked whether assessment can ever be viewed as a "one-off" event which can systematically, validly and reliably identify potential and echoed the cautions expressed here:

"Assessing whether pupils are more able at one particular point in time is not necessarily a secure way of deciding what their potential is, or what educational experiences would best suit them."[5]

"Sternberg (2000) asserts that gifted individuals continually need to be developing the kinds of expertise that render them gifted and that if they do not, they stop being identified as gifted or become gifted has-beens. He maintains that this expertise is not an end-state but a process of continual development. Dweck's (2007) research also endorses this perspective. Further support for the developing nature of giftedness comes from Clarke (2001, p.5) who challenges the concept of the genetically inherited, immutable view of intelligence as no longer valid. Based on brain function research she declares:

'Intelligence must be considered dynamic just as the growth of the functions of the brain is dynamic with higher levels of intelligence actualized only when appropriate challenge is provided.' "[6]

Participants also worried about labels suggesting that those with "high learning potential" could be seen as a homogeneous group. At the very least, they felt, the language needs to be more fine-tuned in order to indicate the complex diversity and often "spiky profile" of individuals with "high potential". "High learning needs" was aired as one alternative categorisation. When it was suggested that a way of measuring the size of such a group might be "those whom the MENSA test of intelligence places in the top 2%", other participants were sceptical of MENSA's relevance to school-age children and wary of limiting the concept of "high learning potential" to attributes such as those which are tested *en route* to MENSA membership.

A sub-group proposed by some participants, and new to others, was that of children with "dual or multiple exceptionalities" (DME), as identified in a UK government publication as recently as 2008:

"A simple definition: a child with dual or multiple exceptionalities (DME) is highly able and also has some kind of difficulty. It is likely, but not definite, that the difficulty will hinder the effective expression of their high ability."[7]

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[4] Helen Mathieson, headteacher, Treviglas college in Newquay, Cornwall, quoted in The Guardian, 02.02.10

[5] Strand, Steve, National Academy for Gifted and Talented Youth (NAGTY)
Department for Education and Skills (DFES), corp creators. (2006) *Identifying gifted students: an evaluation of the National Academy for Gifted and Talented Youth (NAGTY) procedure.* [Occasional Paper 10]

[6] Koshy, V. and Pinheiro-Torres, C. (2013), 'Are we being de- gifted, Miss?' Primary school gifted and talented co-ordinators' responses to the Gifted and Talented Education Policy in England. British Educational Research Journal, 39: 953–978. doi: 10.1002/berj.3021, which has been published in final form at http://onlinelibrary.wiley.com/doi/10.1002/berj.3021/abstract.

[7] http://webarchive.nationalarchives.gov.uk/20130401151715/http:// www.education.gov.uk/publications/eOrderingDownload/DCSF- 00052-2008.pdf

Headteachers agreed that, currently, children in this sub-group might well find that, whilst their learning difficulties will be recognised and addressed in school, their areas of high potential might well not be spotted, resulting in de-motivation, inappropriate interventions and a continuing failure to achieve potential. We were fortunate to have with us Dr Adam Boddison, CEO of *nasen*, whose blog[8] has set out very clearly the DME dilemmas:

> "The reason that it is not easy to spot this group of children is that their abilities can mask their needs just as their needs mask their abilities, so they can appear to be 'average with flashes of brilliance'. This means that teachers may get very few clues about the extent of a child's true potential or needs which can cause tension; for example, the education professionals may see a child struggling within a classroom environment and parents/carers see the same child coping fine at home where there are fewer pressures or expectations to achieve.
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> A child with DME can face several barriers to learning, including:
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> > ➢ Strengths may conceal a learning difficulty, making SEN ( ) more difficult to identify.
> > ➢ Needs and abilities may be misdiagnosed or misinterpreted.
> > ➢ Where SEN is identified, emphasis can be placed on supporting this to the exclusion of high learning potential, which also needs to be recognised and supported.
> > ➢ Where strengths are identified, traditional support for high learning potential is not suitable as it is reliant on basic skills being in place.
> > ➢ High learning potential alongside SEND (Special Educational Needs and Disability) can facilitate average achievement and so the child does not qualify for additional support."

As well as scepticism about the reliability of the available methods of identification of children with "high learning potential", it was apparent that there is in England an uneven distribution of relevant professional expertise to assist in any identification process, with London seeming to provide schools with greater access to such expertise than other areas. As local authority support services shrink, in some areas of England, advisory services, such as that offered in the past by educational psychologists and psychiatrists, were reported as being in very short supply. Even where such advice is still locally available, accessing it has to be funded from increasingly tight school budgets and so for many schools seeking such advice on behalf of the most able children is, in practice, unlikely to be a priority.

Potential Plus UK is a membership organisation. Three years' membership for a nursery school costs £200, for a primary school £265, and for a secondary school £400. Membership provides schools with access to:

> "a package of support designed specifically for senior leadership, teaching staff and governors to:
>
> • Support you in your work in school with more able students
> • Support you in your relationship with the parents and carers of these students
> • Support the whole school in the development of its more able policy and provision."

but not with individual assessments of pupils. Three years' family membership costs £99. Potential Plus UK will conduct assessments of individual children at the request of parents. Parents who are Potential Plus UK members are charged £550 for an assessment and a School Communication Advice pack, which enables parents to open a discussion about the results of the assessment with their child's school. (The non-members' price for this service is £750.) These assessments are based on background information, observations on the day of assessment and the results of the following tests:

> ➢ Kaufman Brief Intelligence Test, Second Edition (KBIT-2) – an IQ test
> ➢ Kaufman Test of Educational Achievement, Third Edition
> ➢ Brief Form (KTEA-3) – an academic achievement test
> ➢ Short Sensory Profile2 - a screening tool to identify possible sensory issues
>   affecting the child's day to day life

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[8]   www.specialschoolsvoice.org/dual-and-multiple-exceptionality/

> ➤ AWMA Working Memory Assessment - measuring the child's ability to store and use information appropriately
> ➤ CTOPP2 Comprehensive Test of Phonological Processing, Second Edition - a speed and accuracy test measuring how effectively the child is able to process information.

Another recurring theme in our initial discussions was the impact of the performance measures by which English schools are now judged. This was identified by one participant as:

> "Children at the service of the school's agenda."

Each state school's need to focus on the data being used to judge a school's effectiveness was felt to drive a narrowed version of education, to encourage a culture of teaching to the test and to result in "lack of room for risk-taking." Participants bore witness to "a growing and concerning trend" explored in a recent RSA publication:

> "that of schools narrowing their focus, and hollowing- out their teaching, in their desperation to meet the constantly shifting demands of the government's accountability system."[9]

For example, they knew of primary schools which now teach only maths and literacy and of headteachers who game the system to keep out of their school pupils whom they judge to be potentially resource-intensive and/or low-achievers. 'Teaching to the test' and the narrowed focus that is reportedly found in schools 'gaming' the system may well be unhelpful for all pupils, but it was felt likely to be most unhelpful for those with "high learning potential". One headteacher described how she had taken the bold step of deciding not to use the government's performance measures as the driver for assessing teacher effectiveness, preferring instead to focus on encouraging adventurous and innovative pedagogy. She had found that "giving back to teachers the freedom to love their subject" meant that her teachers were now more professionally engaged and that, as a consequence, the school's performance data improved anyway!

2.   Sharing research and linking it to professional experience

A 2003 NFER publication exploring: "What works for gifted and talented pupils – a review of recent research" found:

> "there have been relatively few empirical studies of gifted and talented education and, consequently, evidence-based policy and practice are scarce. Instead, much of the literature reflects practitioner experience."[10]

Confirming the current shortage of UK research in this field, Philippa Cordingley, Chief Executive of CUREE (Centre for the Use of Research and Evidence in Education) shared with us some small scale teacher research[11] conducted in 2008 - when schools were still required to keep a Gifted and Talented (G&T) register. The web link given below outlines a range of practitioner findings from this research. In one example, Ben Rule, then a teacher in a comprehensive school in Dorset, investigated why some of his school's Year 8 students, whom the school had identified as G&T, were under-achieving. He did this by asking G&T students from Year 10 to work with these students as peer coaches. As well as helping to identify the causes of underachievement, the peer coaches also helped the younger students to tackle some of these issues.

Just over half the Year 8 students in the study felt that they had lost the motivation to do well in at least one of their subjects because of **a clash between their style of learning and the teacher's style of teaching**. Their most common complaint was that learning activities in the classroom provided them with little choice about how to complete them – they were given **few opportunities to be original, creative or develop their own ideas. They felt they were being told what to think and say in order to do well. This mismatch typically happened in the subjects in which the students were thought to be most**

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9   https://www.thersa.org/discover/publications-and.../reports/the-ideal-school-exhibition

10   https://www.nfer.ac.uk/publications/LGT01/LGT01.pdf

11   http://www.curee.co.uk/files/publication/1219322564/inside_info_issue3.pdf

able. For example, one student under-achieved in English and humanities more than in other subjects because she disliked having to complete lots of short, structured answers. She preferred to write longer pieces that explored open-ended questions. Another student, who had a passion for art, underachieved in the subject because he questioned his teacher's conventional methods – he wanted to be more explorative and innovative in the techniques and materials he used for his work. Just over half these students also described how they spent at least one hour a week working at home on their own projects, which were related in some way to a subject at school, but which they had generated themselves and would never share with their teacher.

Confusion over the difference between 'learning' and 'work' caused some students to be labelled as underachievers, when in fact they were not underachieving at all. This seemed to be particularly true of auditory learners, especially boys. For example, four of the boys said that they saw no point in the 'work' of making notes and writing down factual information which they had either read about in textbooks or heard the teacher explain at the start of the lesson. They felt that writing it down did not enable them to remember it any better and in fact interrupted their thinking about the subject. They felt they could 'learn' more by discussing the subject in greater depth and complexity than by recording information on paper. The issue for these boys was that their particular learning styles were not being acknowledged and their need to be challenged was not being met. **The types of 'work' the students were being given was in effect preventing them from using their initiative, being creative, questioning, analysing and working collaboratively – in other words, all the things that brought 'learning' to life for them.** Situations such as these caused gifted students to disengage from learning or disrupt the learning of others in the class.

Both boys and girls said that they would like to be taught revision skills to help them to prepare for tests and exams. Some felt they were able to get by without revision, but others found it hard to learn key information in a focused way that prepared them for tests. **Students felt they would benefit from being taught a wider range of strategies for note taking, reading, writing and research; things that might have passed them by at earlier stages. They also hoped that the wider range of strategies might enable them to adapt pieces of work to their preferred styles of learning and thinking.**

Peer coaching was thought to be helpful to these younger students because it gave them a sense of being understood (helping them to overcome feelings of loneliness and isolation) and of being accepted (helping them to overcome their fear of failure and to feel more self-confident).

In addition, Philippa shared the results of a CUREE review[12], based on filtering the results of 3000+ studies, producing a synthesis of 43 studies of curriculum interventions which addressed the issue of "challenge" in learning. The review found that teachers worry more about 'over-challenge' than 'under-challenge', but that effective challenge matters for all - not just the highest achievers. The review confirmed that effective challenge depends on both curriculum and lesson design, but is then dependent on how that design is enacted in each classroom. The most effective challenge often involved students in developing critical thinking through collaborative inquiry and problem solving and was geared not just to raising attainment or achievement, but also to motivation, for instance by pushing students to work deeply and to demonstrate depth. Constructing challenge effectively involves diagnosing each learner's starting points *in advance of a unit of work* to pitch the level of challenge appropriately. Enquiry-based teaching strategies, which engage children in investigations and critical thinking help with this. Crucial to effective challenge is the teacher's knowing *when* to 'step back' and assume a more facilitative role.

Another participant was Nick Barnes, a young people's psychiatrist, Cognitive Analytic therapist and Honorary Senior Lecturer at University College London, who has worked for over 15 years in Child and Adolescent Mental Health Services (CAMHS) in London and as a volunteer in the youth sector. Nick shared the insights these roles have offered him. Currently he is working in teams that support children

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[12]

http://www.curee.co.uk/files/publication/1271161317/Year%202%20Challenge%20Report%20FINAL%20from%20QCDA%20website.pdf

with learning disability and neurodevelopmental need, as well as children in care. His experience in these roles has made Nick keen to break down some of the barriers that make it difficult for young people with complex needs, such as those with "dual and multiple exceptionalities," to experience effective professional support. He spoke of the need for a "systems approach," where all those working to help young people come together in collaborative teams:

> "Silo working, especially within the economic environment of austerity, has led to a culture where statutory services place expectations upon each other, rather than relying upon a more shared and collaborative approach. This working in isolation often results in repetition of assessments and delay in recognition of the young person's total need. With repeated encounters with statutory services, young people often become easily disillusioned, as they see little benefit gained from engagement, and subsequently become less and less able to trust in services in the future.
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> So many of the young people I have worked with are clearly bright and able students, but are stuck and trapped by unmet needs and /or social /environmental circumstances. By the time they reach specialist provisions, such as a Child and Adolescent Psychiatry, their needs have often become so entrenched that the benchmark for their success and achievement is far lower than any previous aspirations that their teachers, parents, or the young people themselves, may have had. Adding to this misrepresentation of the student's abilities, many of the tools we use to assess their ability and potential often provide quite distorted and at times unhelpful outcomes, in that they reinforce the perception of the student through their deficits and difficulties, rather than being attuned to their strengths and abilities. Once a young person's barriers to learning become entrenched, then finding ways to help such individuals to believe they can even have a future, never mind achieve their potential, can be hugely challenging. I would argue that this is why we need a more relational approach to learning – both as a preventative approach across all learning settings, but also specifically for those young people who have become completely disenfranchised by what services are able to offer them.
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> Relational learning therefore needs to include:
> -   Establishing a safe environment for learning
> -   Building trust with others – recognising that we learn through our relationships
> -   Working Alongside, in respectful collaboration
> -   Setting the right climate for learning
> -   Working within the young person's Zone of Proximal Development (Vygotsky)
> -   Fostering hope through early experience of success/attainment
> -   Supervision and support for the staff working with these young people."

3.   Moving the discussion forwards

Having spent time together exploring, from our differing perspectives, our areas of agreement and disagreement, there was still an uneasiness about identifying and labelling some children as having "high learning potential" and about the process of identification. However, this uneasiness sat next to increasing areas of common ground. We agreed that there will always be able children who have 'special learning needs:' there will be those who need additional challenge; who learn with unusual speed, who have a mix of needs and abilities - a "spiky profile"; those whose development is asynchronous – for instance, whose intellectual development may be well in advance of their emotional maturity. By this stage in the discussion, the group at St George's was, perhaps, finding itself drawn into "relational learning", where despite the different views we had explored, there was a shared recognition of a diverse collection of able young people whose learning needs were not currently being met.   So, we asked ourselves some more questions.

Whatever we call them, what kinds of learning do we think best suit "these children"?

"These children" need:
➢   At any given time, at least one compelling learning experience, which draws them in, captures their interest, excites them, challenges them
➢   To learn in a context where they feel known, acknowledged and valued
➢   A voice
➢   The chance to explore challenging questions; time for finding out, exploring, pondering, investigating, making….
➢   Opportunities to think, to talk, to share ideas with each other
➢   "Un-teaching" – releasing from the notion that their role is to be passive recipients of the one right answer

- ➢ Challenges which encourage them to work together towards achieving an outcome which is not pre-determined, using means which are not prescribed
- ➢ Permission to experiment – to try things out - to get things wrong - to cope with uncertainty - to make use of error as part of learning – 'to tinker'
- ➢ A classroom which is open to 'adults other than teachers' – to conversations, explorations, collaborations
- ➢ Encounters with experts in any field, who will share with young people their ways of working – showing that learning often happens by trial and error, that drafting and re-drafting are the habits of experts and are often necessary to produce an excellent final result
- ➢ A school open to other contexts – a school which goes out into the world outside – 'a school without walls.'

What kind of teachers do "these children" need?

Teachers who are

- ➢ Also learners
- ➢ Active and imaginative designers of learning
- ➢ Open to discovery
- ➢ Ready to be surprised
- ➢ Ready to listen to and learn from their pupils.

Is it possible to have this kind of learning and this kind of teacher in today's schools?

Depressed as we were by many aspects of schooling in England today, we concluded that it is still possible to support this kind of learning, but that it requires schools with teachers, perhaps especially with headteachers, who have the qualities listed above, and who are also brave, determined and, ideally supported in collaborations with like-minded professionals. We heard from three participants whose experiences, in their different ways, provided examples of how to make available learning which is exploratory and adventurous and which opens up the possibility of deeper engagement.

a.   An intervention which shifted both teacher and pupil attitudes to learning

Nicole Potts, Headteacher of Christ the King Primary School in Salford, outlined the surprising impact in her school, for both teachers and pupils, of engaging in a project helping children to develop, 'Engineering Habits of Mind' as identified in research commissioned the Royal Academy of Engineering[13] .   Nicola reported that the school's participation in this project, in collaboration with SEERIH[14] at the University of Manchester, had had a significant impact beyond the confines of the project itself. She told us how working with the children to develop 'engineering habits of mind', where the core habit is the habit of:

> "Making 'things' that work and making 'things' work better"

had shifted her teachers' thinking and their practice and had freed them, as well as the children they teach, to "tinker" – to experiment, to try things out, adjusting and improving, working towards a variety of outcomes. In a special edition of the Association of Science Education's *Primary Science Journal – Winter 2016/17*, she wrote a full account of this experience and added this note for other headteachers:

> **"From one Headteacher to another**   Tinkering may or may not be for you, but what I urge you   to do, through any curriculum development project you choose to adopt, is to lead by example, lead by being part of the development – from the inside and consistently. I attended each and every training event with my teachers – we were a true team, we shared the ups, we shared the downs, but we shared …..

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[13]   www.raeng.org.uk/publications/.../thinking-like-an-engineer-implications-full-report

[14]   www.fascinate.manchester.ac.uk/media/eps/fascinate/Tinker-Report-15.02.16.pdf

Play – play – and play some more. Trust in staff that they will drive toward high standards – it's what they do best, they have ingrained senses to do the right thing by children. But they need to be fascinated too – they need time to experiment – to talk and 'play with ideas together. They need, and benefit from, external support – the University of Manchester's SEERIH team were our nectar from which we could make honey. All teachers, whatever their age or phase, need to feel the power to create. Invest in failure. We all know that learning comes through failure, so don't fall at the first fence; embody and exemplify the Habits of Mind of: perseverance, problem-finding, creative problem-solving, creativity.

Tinkering made sense to us – it opened a door to our creativity – whether you call it 'Tinkology', tinkering or engineering, we have enjoyed the creative process of making. It has been the thing that has most changed in our classrooms, and when children are making with their hands they are personally seeking to find new ways to learn, new answers to their own questions, new understandings about the world around them. Isn't that what school improvement should be about?"

b.   A recently-established out-of-school provision

Imperial College has recently opened, as part of its White City campus, The Invention Rooms. The first facility of its kind in the UK, The Invention Rooms is a community innovation space for making ideas into reality. Based within The Invention Rooms, the Reach Out Makerspace provides local young people, free-of-charge, with hands-on experience of designing and prototyping. Kate Mulcahy, the Makerspace Programme Coordinator, described the 12-week Maker Challenge Programme for 14-18 years-olds. It recruits local participants who potentially face obstacles in advancing their education, for example due to household income being below a certain level:

> "There are 20 pupils in our first cohort. We held two, full-day intensive Saturday sessions earlier this month, where we did lots of ideating   basically training in ideas generation and development, brainstorming, refining and critiquing. Then the young people come in once a week on a Thursday from 4.30pm to 7.30pm. We do crash courses in using the equipment and machines, so the first session was woodworking; then they did Computer Aided Design (CAD); next week is laser cutting; after that 3D printing; then programming using microcontrollers like Arduino and Raspberry Pi; and electronics. After the training there will be three open sessions when they can develop their own project. As long as they've done the induction and training, they're allowed to use all the equipment, supervised by a leader who is a subject specialist."

Participants found this provision relevant to our theme because of the contrast between the learning experiences it offers and the learning experiences which appear to be the norm for these young people. In the Makerspace, they experience a context which is open to the adult community and work in a space next to a working environment used by experts. Kate told us that:

> "the ideation sessions were quite an awakening for them in terms of mind-set, because they are accustomed to thinking in terms of right and wrong answers to problems, whereas we are just looking for creative and novel ideas. But I think they quickly got the hang of that. Some of the students are now starting to think about their final projects and we have some diverse and ambitious ideas. One of them is working on scale prototype fire safety system for tall buildings, where in the event of a fire, foam is ejected from the base of the tower allowing people to jump to safety. Of course, this was a direct response to the Grenfell tragedy which is within sight of the Invention Rooms and has affected all of the students in some way. I think it's important to point out that, while some of the schools we're dealing with do have design technology (DT) departments, many have sold all their equipment due to cut backs, which is heart-breaking. So they need more hands on experience and constructivist learning."

c.   A teacher development intervention

We also heard from Jason Buckley, The Philosophy Man.[15] In 2015, the Education Endowment Foundation funded research into the effectiveness of an inquiry-based learning approach, called Philosophy for Children (P4C). The researchers worked with the charity Society for the Advancement of Philosophical Enquiry and Reflection in Education (SAPERE) to carry out a randomised controlled trial involving 3,159 pupils across 48 schools in the UK. Philosophy for Children is designed to help children become more willing and able to question, reason, construct arguments and collaborate. For the trial, teachers were given two days of professional training before the year-long programme began and provided with on-going support. The study suggested that disadvantaged pupils taking part in the intervention saw their reading skills improve by an additional four months, their maths results by three months and their writing ability by two months, compared to a control group not doing the philosophy

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[15] https://www.thephilosophyman.com/

sessions. Feedback from the teachers in the trial suggested that the Philosophy for Children approach had a beneficial impact on wider outcomes such as confidence, patience and self-esteem. Small scale research in this area has continued, thanks to further funding from the Nuffield Foundation. is making it possible for. P4C helps teachers generate good discussion with and between children –showing them how to structure a conversation between children in which they ask effective open-ended questions, and are nudged into thinking more deeply.

4. <u>Asking ourselves the question again:</u>

<p style="text-align:center">"How can we help the education system in England better serve the needs of children with high learning potential?"</p>

Towards the end of our discussions some participants felt that we had perhaps reached conclusions which echoed these reflections, which were expressed at the ending of the national Gifted and Talented scheme:

> "...a more fruitful way forward is to consider how the specialness can be embedded in all activities, using the widest repertoire at our disposal, developed through constant sharing of practice and reflection and whether the enhancement, whatever it looks like, ought not to apply to all pupils." [16]

> "Instead of a total abandonment of the (G&T) policy, it may have been better to offer more focused professional development, for example, strategies for enhancing classroom provision and promoting higher order thinking, creativity and critical thinking thereby enabling teachers to support their gifted and talented pupils in realising their potential and specific talents."[17]

So, when participants came together at the end of the consultation:

➢ Some were now keen to advocate for more explicit attention to be given to those with "high learning potential" – to try to get the agenda 'back on the table' in a positive way and to focus on:

- o Awareness - build awareness of the issues
- o Exploration - explore current practice and its impact
- o Identification - identify who these children are; complete 5 case studies
- o Organisation – making new connections; forming partnerships
- o Use – use all this to serve children's needs better.

➢ It was suggested that in a year's time we might have another consultation, bringing this same group together to report on "what we've done, what we've achieved, what didn't work out, what problems we encountered, what we noticed going on… and that we keep communicating with each other meanwhile to keep up the momentum."

➢ One headteacher offered to spend a year focussing on these issues in her school and to report the outcomes.

➢ To celebrate the 4 Ps: Potential, Purpose, Pleasure, Pride in achievement!

<p style="text-align:right">José Chambers, Development Fellow, Comino Foundation.</p>

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[16]   Koshy, V. and Pinheiro-Torres, C. (2013), 'Are we being de- gifted, Miss?' Primary school gifted and talented co-ordinators' responses to the Gifted and Talented Education Policy in England. British Educational Research Journal, 39: 953–978. doi: 10.1002/berj.3021, which has been published in final form at http://onlinelibrary.wiley.com/doi/10.1002/berj.3021/abstract.
[17]   https://www.nfer.ac.uk/publications/LGT01/LGT01.pdf