

Report on the visit by Mrs Fiona Knapp to Maidstone Grammar School for Girls, for the purpose of accreditation by Exeter University's Cognitive Education Development Unit as an Advanced Thinking School.

Prior to my visit to the school on 7th May 2015, I received a submission from Mr Paul Harris, the Deputy Headteacher for accreditation as an Advanced Thinking School. The portfolio of evidence to support the submission was submitted electronically and provides excellent real-life evidence, including videos and presentations, and offers a powerful insight into the school's on-going development as a Thinking School. Much of the evidence is referenced in this report, and reflects the significant and sustained progress the school has made in its on-going journey as thinking and learning community, since the initial Thinking School Accreditation in May 2012.

Maidstone Grammar School for Girls (MGGS) is a well-established selective school with a PAN of 180, and some 1229 pupils on roll including a co-educational Sixth Form of 350. Approximately 75 students speak English as an additional language, 67 receive Pupil Premium funding and 14 have identified special educational needs, although no students are statemented. The school accepts Year 7 girls from about 50 local primary schools, and entry is through the Kent age 11 assessment procedure. The school was rated as Outstanding in the last Ofsted inspection, which was carried out in May 2009, and has been a Specialist School for Science and Mathematics since 2003.

During my visit, I met with the Acting Headteacher, and members of the Senior Leadership Team, the Drive Team and the Thinking Skills Co-ordinator, talked to a range of staff and met with a group of parents and governors. I also had a tour of the school organised and led by two Year 9 students, met with two representative groups of students and observed parts of a number of lessons across the curriculum and the school in which thinking tools and strategies were being used very effectively to

engage students in the learning, challenge and deepen their thinking and generate some skilful higher-order questioning.

The school has a clear vision of establishing an ethos in which the students are encouraged to develop as articulate, creative, discerning, intelligent sharp thinkers who are engaged in deep learning underpinned by academic literacy and a true sense of scholarship. This focus on scholarship and the importance of developing independent thinking, intellectually astute students with a desire to explore subjects deeply in a questioning and rigorous way underpins and is central to everything that the school believes is essential in developing as a thinking and learning-focused community, and is summarised by Paul Harris in the Advanced Thinking School submission:

‘Our vision is to create a natural ethos within the school so that the effective learning dispositions (defined by Professor Costa and Dr Kallick as Habits of Mind) become an integral part of our students’ nature. We wish our students to be intellectually sharp, agile thinkers who can think creatively, understand the subtlety and nuance of language and argument and who can draw upon learning experiences and strategies to help solve problems and questions that they do not automatically know the answers to.’

Since their initial accreditation as a Thinking School, MGGS has made significant progress in engaging with the wider learning community. Of particular note are:

- Outreach visits to KS2 pupils in four local primary schools; activities designed, prepared and delivered by MGGS Sixth Form students;
- Primary school staff training delivered by members of the Drive Team;
- Saturday morning ‘Thinking Skills Masterclasses’ for Year 5 students;
- A Sixth Form Neuroscience Conference with speakers from King’s College London and attended by nine other Kent Grammar Schools;
- A presentation about the Thinking School journey to Christ Church University, Canterbury;

- Submission and publication of two articles to Thinking Schools International;
- Formal visits from a range of organisations in connection with the thinking schools initiative, including the School Improvement Network, USA; Sacred Heart High School, London; Burham Primary School, Kent and Roedean School, South Africa.

I met with the Sixth Form students who had been involved in the primary school outreach visits and was impressed by their thought-full reflections and evaluation of the tasks they had planned and undertaken. They both valued the opportunity to work with younger pupils, and appreciated the benefits for themselves of embracing and developing multiple perspectives, engaging in reflective questioning and challenging and changing their own perceptions. They also commented on the fact that the depth of their pupil's thinking and their level of questioning had impressed the primary school teachers.

During the academic year 2013/14 all teaching staff were set a Performance Management target to complete a 'Teaching and Learning Evaluative Research Project' that was linked to the School Development Plan, fulfilled a departmental need and had the potential to support the school's commitment to its on-going journey as a Thinking School, and recognition as an Advanced Thinking School. Staff were provided with guidance prior to them deciding upon an area of research, the means of reporting upon the project outcomes was standardised and included criteria linked to advanced thinking school accreditation so that, where possible, each report included reference to the cognitive, social and emotional elements of the work. In November 2014, a summary of each completed piece of research was collated in the Teaching and Learning Projects Booklet. This was issued to colleagues as part of sharing good practice and submitted as part of the evidence for this accreditation. The projects included:

- The role of thinking maps within Art and Design to support and extend the critical learning of KS3 and KS4 classes.

- Developing the use of Thinking Maps with the new GCSE Product Design course with a focus on the exam paper.
- Evaluation of the Year 8 'Big Question': 'What Makes an Argument?'
- How can we introduce thinking skills to new teachers to the school and affect student outcomes?
- To develop thinking skills in KS4 mathematics
- Investigation of how the use of questioning techniques differs between key stages?
- Develop stretch and challenge resources for Year 7 in R.S.
- Comparison of outcomes (assessment) for 2 Year 11 Double Science groups, focusing on using Thinking Maps and De Bono approach with one group on 'Energy' topic.
- The use of thinking skills to deliver synoptic skills to year 13 students.

Whilst it was not possible to repeat this as a common appraisal target in the academic year 2014/15, such classroom based action research has proved to be invaluable in informing high quality teaching and learning, and will continue to be encouraged across the school.

Since the initial accreditation MGGS has undertaken some specific training on 'Embedding Thinking Skills' with particular reference to the Sixth Form in Autumn 2012, and an INSET Day on David Hyerle's Thinking Maps in February 2013. This training was delivered by Kestrel Education and was the launchpad for the introduction and use of Thinking Maps across the school. There is an established programme of training for newly appointed staff, including two compulsory one-hour sessions in September and January, which provides a useful forum for discussion and the sharing of ideas, and the NQT training programme also includes a focus on thinking skills. All teaching colleagues are kept up-to-date via a range of updates, presentations and discussions at different meetings as well as through the planned programme of lesson observations and feedback Staff have access to a wide range of resources including a 'Pocket guide to using thinking skills in the classroom' a range of PowerPoint

presentations and videos, and 'The Blue Sky Thinking classroom' on the School's VLE which is also accessible to the students. The support staff I met feel that they are fully briefed and informed, and a bespoke training session, Six Key Ways to use Thinking Skills in the Workplace, was provided for support staff in February 2014. The Drive Team meets regularly to review progress and plan the next steps and the school also sent delegates to the Thinking Schools' Conferences in 2012 and 2014.

Students also have specific lessons to introduce and/or review the cognitive approaches. Year 7 students receive an introductory lesson about thinking skills on their first day of the academic year in September. Similarly, Year 12 students have an introductory lesson in the first weeks of their Sixth Form programme of study and this is usually delivered by a member of the school's Leadership Team. This academic year, Years 8 to 11 also had a short thinking skills presentation during their form time in September. In addition the KS3 Curriculum Booklets for parents include information about the importance of cognitive approaches at MGGS and outline the ways in which students will be encouraged to use their thinking skills in a variety of ways including:

- Developing the ability to ask perceptive and thoughtful questions to enhance learning.
- Developing Higher order thinking skills: being able to analyse, synthesise and evaluate ideas and information along with creative thinking are all higher order thinking skills.
- Developing Creative thinking: being able to 'think outside the box', to look at problems and issues from different perspectives and offer different, unusual and unique solutions.
- Using a range of 'thinking tools' such as Edward De Bono's Six Hats™ and David Hyerle's Thinking Maps® to help the learning process.

Curriculum innovation is a significant feature of the Year 7 and Year 8 programmes at MGGS, and enrichment lessons for these students include an hour a week in which a range of 'Big Questions' are explored through an enquiry based approach. During my visit I observed Year 8 groups considering 'What makes a good argument?' The

students were making group presentations about an issue they had already considered and discussed, and their classmates were asked to spot flaws in the arguments, offer counter arguments and deliberately challenge the thinking. Some lively and thought-provoking discussions ensued! The top French set were exploring the Big Question, 'What makes a great thinker?' and yet another group were reflecting on the ways in which music reflects and influences society. In a Year 7 Mathematics lesson the students were exploring algebraic equations and, through skilful and probing questioning, were challenged not only to think mathematically, but also to explain and justify their thinking and pose further questions. In all the lessons I observed there was clear evidence that the school has fully embraced the cognitive approach and embedded a range of thinking tools and strategies into the practice. The students I met spoke readily about their thinking and talked confidently about the range of cognitive approaches they use, see them as central to their learning as well as demonstrating them in practice.

Another curriculum initiative is the introduction of a Level 2 qualification in Thinking & Reasoning (OCR). The course will start with Year 9 students in 2015/16 and will run for two years with one hour a fortnight timetabled for its delivery. Lesson plans have currently been prepared for approximately the first half of the course, and the Thinking Skills Co-ordinator will oversee and evaluate the initiative.

The Extended Project Qualification (EPQ) is an important part of the school's sixth form enrichment programme, which provides stretch and challenge for some of the most able students. Over the past year students have studied a wide range of subjects and given presentations that have been judged to be of a very high order. Subjects covered have included:

- Alzheimer's disease – Could it be cured in the future?
- Have Economic policies held back economic growth and poverty reduction in the Philippines
- How far can Feminism ideologies be supported by examples of interactions between the sexes from the mammalian and avian classes

- To what extent can Speech and Language Therapists help people on the Autistic Spectrum to integrate into society?
- To what extent do the styles of composers of film music differ when trying to evoke particular emotions in the listener?
- Does the environment or genetics have a greater influence on the development of congenital heart defects
- To what extent can ergogenic aids enhance performance and recovery of recreationally active individuals both physically and psychologically?
- What evidence is there to support that Britain and America have a special relationship?
- Will the textiles industry ever be able to cope with oil?

An example of a Y13 reflection, evidenced in the portfolio, offers a clear indication as to how knowledge and understanding of Bloom's Taxonomy and Habits of Mind, combined with the skill to apply the strategies and approaches in practice had a significant impact on the way in which the student approached a lengthy and demanding piece of work, as well as on the quality of the completed project.

Three other highly able Y13 students completed an online Oxford University taster module in which they studied a published scientific paper at the cutting edge of Physics and produced a summary. This very challenging task exposed them to previously unknown scientific terminology and concepts, and a level of Physics beyond their experience. All used Habits of Mind to help them with the task and one showed a considerable degree of persistence and courage in phoning the author of the paper to seek clarification of a key point! All three students passed the module, one with the highest possible marks and all said they would use the same skills and strategies again when approaching similar tasks.

As part of my visit I also met with another group of students to reflect with them on their experiences of cognitive education at MGGS. It was clear from the discussion that they know about a range of tools and approaches, see them as central to their learning and are able to talk about them with confidence. They also commented on the strengths of the school and feel that:

- There is a real sense of togetherness and community;
 - There is an ethos of finding out, questioning and discovery;
 - They learn about the process of learning itself and have the ability to solve problems calmly;
 - They are encouraged to be creative and persistent;
 - There is no limit to what they can do and achieve;
 - Their learning is deep and enriching;
 - It is second nature to use the thinking tools and strategies – they are so effective;
- They learn how to think; it is easy to find knowledge but much harder to be a thinker;
- Everyone needs to be both a thinker and a learner. You can't have one without the other;
 - It is natural to be curious and inquisitive and to want to think and learn. The school nurtures a sense of enquiry.

All stakeholders are committed to the cognitive learning approaches, which lie at the heart of the school's life and work. The parents I spoke to feel well informed about the school's approaches to cognitive education through induction and information evenings, the website, curriculum booklets, school newsletters and News@MGGS. They also said they learn much from what their daughters discuss and use at home, and value the fact that they are developing as confident, creative, independent learners, thinkers and problem-solvers. They say that the school has the reputation of being at the cutting edge and is highly regarded by parents and the wider community, They would value more detailed information about the specific tools and strategies used, and suggested that a Parent Handbook and workshops would be helpful.

The governors are fully supportive of and committed to cognitive education. There is a link governor who has visited the school to learn more about the approaches and has attended a Drive Team meeting and a Year 5 Masterclass. These visits are reported back to the whole Governing Body as part of the on-going governor monitoring

processes. The Acting Headteacher also reports to the Governing Body as part of her Headteacher Reports.

Clearly much has developed since Maidstone Grammar School for Girls was first accredited as a Thinking School and through thought-full and inspirational leadership combined with a relentless drive for excellence, ongoing self-evaluation and review and the willingness of governors, staff, pupils and parents to embrace new ideas, the school provides a powerful example of effective cognitive education in action.

I concluded the visit by meeting with the Drive Team and discussing some ways in which the school could continue to develop and refine their practice as they move forward. This might include:

- To establish a Student Drive Team
- To consider training groups of students as resident experts in each of the key thinking strategies
- To review the purpose and use of the Q Matrix and consider the Three-Story Intellect
- To revisit, further refine and develop David Hyerle's Thinking Maps, focusing on the thinking process rather than the name of the Map and further developing the use of Maps in combination with each other and with other thinking tools.
- To develop the use of the metacognitive Frame of Reference for all Thinking Maps
- To consider the work of Professor Philip Cam in further developing Communities of Enquiry and P4C at KS3
- To consider current research such as that from Project Zero at Harvard to further develop the culture of thinking, and the use of a range of structures and routines to 'make thinking visible.'
- To review the language of thinking used to better reflect the very clear focus on cognitive education that lies at the heart of the school's life and work.

In conclusion, Maidstone Grammar School for Girls meets all the criteria set by Exeter University's Cognitive Education Development Unit as an Advanced Thinking School. This is reflected through the wide range of evidence in the portfolio, displays around the school, observation of planning, and classroom practice, the students' application of the tools to enrich and enhance their learning, and discussions with the Headteacher, the Drive Team, students, parents, governors and a range of staff. I therefore recommend that accreditation be awarded until May 2018.

A handwritten signature in black ink that reads "Fiona Knapp". The signature is written in a cursive style and is positioned on a light blue rectangular background.

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On behalf of Professor Rupert Wegerif, Director, Cognitive Education Development Unit