



St Mary's Hall

HIGHER ORDER THINKING POLICY

Introduction

Many of our pupils have the skills to access information, but beyond the lapping of information as entertainment, some do not have the skills they need to flourish in our “information age”. Many can communicate online, but not collaborate; they lack a critical approach to information – all is seen of equal worth; and living life and learning at the pace that they do, being asked to slow down, to move back into first gear in order to think hard about what, how and why they are learning – this is incredibly effortful; they may not, in many cases, have a language for doing so.

Recognising this in our pupils, we aim to develop learners across the age and performance range who value good thinking and want to think well. We cannot pretend to provide all the answers, but we can subscribe to an approach that helps pupils overcome some of the problems outlined above – problems with barriers to progress and development, not only across the curriculum, but also in everyday life. In this sense, there has never been a more critical time to infuse the teaching of deep and reflective thinking within our curriculum. Our Jesuit identity and the established Ignatian Paradigm encourages a very strong commitment to reflection including deeper and wider thinking across the curriculum (see Appendix 1)

Can all benefit?

Adopting a growth mind-set (Dweck, 1988), we appreciate that thinking skills, like all other skills, can be learned, practised and improved. As we develop our ability to think, we improve our capacity to learn. Regardless of our age, background, or current level of performance, we can all improve our thinking with encouragement, guidance and practice.

It may be helpful to breakdown the art of thinking into sub-skills that we aspire to work upon and improve over time. This may be seen as a simplification of the wonderfully complex thing that is thinking, into a mechanistic “means to an end” that ignores the mysteries of silent reading, unconscious thought and insight. We appreciate that it is important to keep sight of this criticism and try to give our young people time to experience and reflect on these other dimensions of thinking which are less easily articulated and, therefore, all too often ignored.

Bloom (1956)

One way in which thinking can be subdivided and classified traditionally for different purposes is Blooms Taxonomy, which is shown below:

| Levels of Thinking | Question cues |
|--|---|
| Knowledge: recall information | <i>State, identify, list</i> |
| Comprehension: make sense of ideas | <i>Explain, describe, illustrate</i> |
| Application: apply understanding in new contexts | <i>Apply, solve, predict, infer</i> |
| Analysis: identify structures and patterns | <i>List component parts, identify cause and effect, distinguish between irrelevant/relevant, compare and contrast</i> |

| | |
|--|--|
| Synthesis: combine ideas to make something new | <i>Generalise, summarise, design, hypothesise, invent, create, compose</i> |
| Evaluation: make judgements based on reasoned argument | <i>Give arguments for and against, develop criteria, assess, judge, prioritise</i> |

Although this may apply less today than in the 1950s, Bloom found 80% of teaching questions require students to respond only the simplest “recall of knowledge” level.

The value of Bloom’s Taxonomy is that can help us see the connection between the questions we ask and the level of thinking they require from our pupils. Hence, it can help us plan our lessons or series of lessons based on increasingly higher order questioning.

For example:

- *Who invented the light bulb?* (identify)
- *Can you explain how it works?* (describe/explain)
- *What was the impact of this invention?* (analyse)
- *Was it the most significant invention of this period?* (compare and contrast; evaluate)

PRICE

An alternative taxonomy of thinking skills as promoted by the DfES Secondary Strategy *Leading in Learning* initiative, which organises the skills into five categories: **PRICE**.

| Categories of thinking | Thinking skills |
|--------------------------------|---|
| P rocessing Information | Locate/collect information; sort and classify; sequence; compare and contrast; identify part/whole relationships. |
| R easoning | Give reasons; draw inferences/make deductions; see relationships; explain; make informed decisions. |
| I nquiry | Ask questions/define problems; plan/gather data; predict outcomes/consequences; draw/test conclusions. |
| C reative Thinking | Generate, develop, and evaluate ideas; suggest hypotheses; imagine. |
| E valuation | Set and use criteria; make judgements. |

In contrast with Bloom’s taxonomy, there is no implied hierarchy in the PRICE model and there is an overlap between categories so that Creative Thinking involves Evaluation, and Inquiry involves Reasoning. Staff may find PRICE easier to remember and that it relates well to the types of lessons that they are likely to teach, e.g. a lesson collecting and understanding information, a series of lessons in which students carry out a group inquiry, or a lesson involving the generation and development of ideas, and so on.

Principles of teaching thinking

Accepting possible differences in alternative models of thinking, no matter which thinking skills we would like to focus on with our pupils, or what strategies we would like to use, a high quality thinking lesson will be characterised by six key principles, which we should all aim to include in our teaching. Ideally, the lesson will be:

1. ACTIVE – *giving pupils the opportunity to explore ideas using a variety of thinking to take account of the learning styles.*
2. MEANINGFUL – *the lesson was being taken. There will be made between skill focus of a lesson and its usefulness in everyday life, or other areas of the curriculum.*
3. CHALLENGING – *lessons will aim to change minds. The idea is to present pupils with cognitive challenge that is not so great as to overwhelm, but not so slight that it is uninspiring. At least part of the time, the pupils will be working on the edge of their understanding.*
4. COLLABORATIVE – *pupils learn from each other, so collaboration makes sense. Pupils may work in small groups at times using their own approaches. The teacher's role is to support them as they explore their differences of opinion and interpretation.*
5. MEDIATED – *pupils are challenged in as much as possible to think for themselves. The teacher may at times take on the of guide and adviser, rather than that of expert.*
6. REFLECTIVE – *if they are to be effective learners, pupils need to think about their thinking. The teacher's role is to ask pupils questions to help them figure out what they have learned, how they learned it and where it might be useful in future.*

A'Echevarria and Patience (2011) suggest that learners struggle typically with five key 'thinking problems' that they face, which relate closely to the PRICE taxonomy and might act as a barrier to progress across the curriculum.

1. PROCESSING INFORMATION - *Struggles to order and organise new information and therefore recall it.*
2. REASONING – *has trouble forming an opinion and justifying a view; tends to be uncritical of ideas and information.*
3. INQUIRY – *Finds it hard to initiate and sustain an independent project or inquiry.*
4. CREATIVE THINKING – *Struggles to come up with new ideas.*
5. EVALUATION – *Evaluation is superficial; little awareness of the criteria they are using to make judgements.*

Higher Order Thinking in Practice.

Over and above our aim to include this philosophy in our planning for teaching and learning, specific exemplars of Higher Order Thinking activities in school have included: adopting the International Primary Curriculum up to the end of Year 6, which explicitly

seeks to develop children's skills in this area; classroom display boards, where pupils attach key questions that arise from their learning on a central display board for all to see and teachers to use in planning their next steps; starting lessons with activities drawing on Socratic dialogue; encouraging pupils to write their own 'reports' on their progress and suggest future targets; displaying critical thinking posters in classrooms and communal areas around the school; pupils critiquing famous artists' work; talk/thinking studies, visiting lecturers etc.

In addition to these initiatives, we introduced Critical Thinking into the Year 6 (Upper Elements) timetables for the first time in 2015/16 and has been further developed over the last two years.. This programme introduces pupils, through a range of activities, to the skills of higher order thinking, which are a combination of knowledge, judgement, values and attitudes. Metacognition is likewise key, so pupils will be encouraged to question and understand better why they think in the way they do, as well as learn to analyse the opinions of others. Building on concepts such as Philosophy for Children (P4C), objectives based around Religious Education and interactive experience with the Stonyhurst Collections and artefacts, the broad range of stimuli, encourage discussion, pupil interaction, debate and decision-making. Already, pupils are gaining confidence in asking questions, expressing their views and learning through discussion, appreciating that they do not always have to be right! This is critical if teachers are to promote a "growth mindset" (Dweck, 2012) in pupils that have academically and results-driven fixed expectations. Not only is it hoped that these sessions will prompt the development of skills that raise attainment across the curriculum, but also help prepare scholarship candidates in particular for the written exams and interviews that are frequently part of the scholarship assessment process. Within our Jesuit educational context and Ignatian Paradigm this level of opportunity to experience, think, reflect and act are in keeping with our educational aims.

"Intellectual Character"

Through the school's learning and teaching we hope to promote our pupils' "Intellectual Character" (Simister, 2013), which is made up of a number of facets:

Cognitive

- ☑ **Curiosity** – and eagerness to ask questions and to explore beyond what is merely required; to be investigative; to discover, learn and understand new things.
- ☑ **Originality** – the inclination to visualise; to make connections; to be creative with one's thoughts rather than to think within conventional boundaries; to think laterally to generate novel ideas and solve tricky problems.
- ☑ **Good judgement** – a desire to avoid gullibility; to use reason and think critically; to assess options carefully and think about the value of ideas and information before deciding who and what to believe and what to do in different situations.
- ☑ **Flexibility of mind** – a readiness to be open-minded, to recognise alternative perspectives and welcome novel ideas and viewpoints; to adjust one's beliefs and change one's mind in the light of new evidence and arguments.

Emotional

- ☑ **Ambition** – an intrinsic motivation, a desire to aim high and set clear goals; a willingness to put in lots of effort and to try and be the very best one can be.
- ☑ **Initiative** – a willingness to be independently minded, think ahead and work things out for oneself; a resource full, to organise oneself well and not rely on others to be told what to do.
- ☑ **Focus** – the willingness to be careful, accurate and thorough; to pay attention to detail and avoid silly mistake; to concentrate well become absorbed in what one is doing.
- ☑ **Risk-taking** – the courage to take a chance rather than to choose the easy option; to try new challenges and push oneself to develop new skills, even when success may not be guaranteed.
- ☑ **Resilient** – a willingness to seek alternative ways of doing things when one comes up against an obstacle and persist when it might be easier to give up; the instinct, sense of balance and humour to recognise that everyone stumbles but what matters is learning to deal positively with fairly.
- ☑ **Reflectiveness** – and inclination to review, to ponder and consider methods and approaches that have been tried; to analyse both successes and failures with a view to making the most of one's potential.

Social

- ☑ **Collaboration** – the capacity to work productively with other people, to pool talents and to build collective solutions; to know when to seek help from and when to support other people; to judge effectively went to speak up and went to compromise.
- ☑ **Self-assurance** – the confidence to deal positively with difficult or unexpected situations to do one's best to remain calm and composed; to believe what in one's own capabilities and to communicate to others with fluency, clarity, expression and persuasiveness.

Conclusion

It is the school's aspiration that the teaching of these thinking skills becomes engrained in the school's curriculum, which encompasses all that we intend for the children. Increasingly the school's monitoring systems, such as work scrutiny, lesson observations and review of lesson plans, look for the development of these skills and how they are promoted in different areas of the school.

As Ian Gilbert (2007) suggests, "Teaching children to think quickly, deeply and with agility has to be one of the greatest gifts we can offer them as they take their place as adults in the 21st Century." Indeed, when a young person can combine those mental skills with confidence and self-esteem to believe in the legitimacy of their own thoughts, to speak their mind articulately (and change it judiciously when they have to), to contest poor thinking and prejudice assertively and with confidence, and enjoy the challenge of mental sparring, then surely we have done the best job we can as a school.

We must always remember the ability to think flexibly and critically is profoundly human and increasing and expanding our ability to do so is positive for humanity. We encourage this powerful thinking to stimulate 'action' and effort to make a positive difference to the lives of those around us and, in turn, further afield. This reflection and deeper thinking is to stimulate and encourage 'action' as 'men and women for others' (see Appendix 1)

This policy should be read alongside other linked documents, such as the school's Mission Statement and Aims and the Teaching and Learning Policy.

Reviewed: Summer 2018

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Reviewer: SMH Headmaster