# Thinking Maps for G&T Learners

**Stuart Jamieson**
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## Abstract

This research evaluates the use of Thinking Maps as a visual tool to improve the quality of pupils thinking and planning using eight cognitive functions. Central to our work is whether pupils' redrafted writing would improve through greater use of descriptive techniques derived from the application of Thinking Maps. In seeking to prove that pupils would be able to transfer their thinking and planning skills across a range of themes and/or subjects to promote overarching learning concepts we have used relevant forms of data. We hoped to ascertain what teachers and support staff would do to change their approaches to planning by using Thinking Maps to connect learning visually and emotionally.

Fifty Gifted and Talented (G&T) learners from Birchwood Community High School were involved in the project, alongside five learners from year 3 G&T from years of Gorse Covert Primary School. Staff and learners from Birchwood Primary School were also involved in the training and piloting of Thinking Maps although they removed themselves from the final research outcomes.

We identified G&T learners in line with our respective G&T policies (please refer to appendices) Bob Burden's NFER questionnaire Myself As a Learner Scale (MALS) was used to base line the academic self concept of our G&T cohorts.

Birchwood Community High (BCHS) and Gorse Covert Primary school conclude that Thinking Maps were an effective tool in raising the quality of pupils thinking and planning. On average BCHS learners improved their SAT scores by one complete level. Gorse Covert Primary School learners demonstrated that they were able to organise and sustain their writing through the usage of Thinking Maps.

## School and Practitioner Context

Birchwood Community High School is situated in the New Town area of Warrington and was built 21 years ago. Some 69% of learners come from the Birchwood area, with the remainder drawn from about 20 primary schools in other parts of town. The school is a NAGTY ambassador school and is usually oversubscribed despite falling roles locally.

Birchwood ward is ranked within the 20% most deprived wards nationally. The school intake is mainly white British at about 96.2%. The school has a full comprehensive intake, which is broadly in line with the national average for ability. The number of pupils entitled for free school meals is around the national average. At the time of the last Ofsted inspection(March 2006) there were 131 learners on the special educational needs register. A strong emphasis is placed on inclusion, care and guidance and in promoting cultural and sporting activity and community partnerships. The school is a specialist business and enterprise college.

Gorse Covert Primary has 340 pupils, 181 boys and 159 girls aged between 4 and 11 years. The school is located on the outskirts of Warrington. It is above average size, serving an above average socio-economic group community – but with an above average number of pupils entering or leaving the school other than at the normal

times. About 6% of pupils are eligible for free school meals. In the region of 8% come from minority ethnic backgrounds; 3 % of these speak English as a language different to their mother tongue. Approximately 18% of the pupils have special educational needs, a broadly average proportion, and these include specific and moderate learning, social, emotional and behavioural, speech or communication, visual and physical needs. Just over 1% of the pupils have a Statement of Special Educational Needs, and this is broadly average.

**Aims and Purposes of the Study**

The aims and purposes of the study are centred a round the identified research questions:

***a)*** *How will the quality of pupils' thinking and planning improve through specific teaching of eight cognitive thinking maps?*
***b)*** *How will the quality of pupils' redrafted writing improve through greater use of descriptive techniques derived from the application of Thinking Maps?*
***c)*** *What evidence will we have to show that pupils are able to transfer their thinking and planning skills across a range of themes and/or subjects to promote overarching learning concepts?*
***d)*** *What will teachers and support staff do to change their approaches to planning by using Thinking Maps to connect learning visually and emotionally?*

**Methodology**

A total of nine staff from three schools were trained in the learning and teaching applications of Thinking Maps to G&T learners. There was a lead member of staff from each school linked to a support member of staff. Fifty five G&T learners from years 3,4, and 7 learnt to apply eight thinking maps to their learning over a period of one and a half terms. Learning was facilitated through working individually, in pairs, and small groups. All learners gained experience of eight cognitive competencies - defining in context, describing, comparing/contrasting, classifying, organising physical parts, sequencing events, cause/effect and comparing through analogy. MALS evaluation in month one and nine will record learners' views on their self perception and problem solving skills. This was undertaken before and after controlled evaluation recording:
a)confidence in learners measuring their ability in a variety of academic/learning settings,
b) learners enjoyment of problem solving
c) use of reflective learning styles
d) levels of stress
e) access to and use of thinking vocabulary
The MALS scale of twenty self-referencing statements with a choice of five options is applicable to the age range of our G&T cohorts. Classroom teacher forums, and views of learners/teachers also provided evidence to support our four key research questions. Stuart Jamieson collected data with the assistance of Helen Gosney (Gorse Covert) and Francis Connolly (BCHS), having gained permission from Richard Cummings via Bob Burden to utilise MALS We also recorded the progression of G&T learners reading/spelling ages and attainment across NC sub levels through using the examination results from their internal English tests. Warrington's LA literacy adviser Jean Hudson analysed examples of writing across the cohort from both schools, in particular to address research question (a).

**Results**

**Results for the Birchwood Community High School G&T Cohort**

The Birchwood Community High School Year 7 Gifted & Talented cohort consists of two sets;

1. 'Full' and
2. 'Selected'

The 'Full' set of 50 learners is the initial cohort arrived at by simply looking at KS2 SATS data (in this case achieving L5 in all core subjects at Key Stage 2). In order to arrive at the 'Selected' list of 12 learners further data was used as well as teacher nomination (with evidence). The 'Selected' learners are therefore a sub-set of the 'Full' list. As learners appear on both lists it was felt to be of interest to examine both sets of data in order to see if any patterns existed or conclusions drawn.

**MALS – Myself as a Learner Scale (Robert Burden, nfer Nelson)**

This scale was employed as a means of measuring learner self-perception. The questionnaire was administered to all learners ('Selected' and 'Full') involved, pre and post exposure to the Thinking Maps. Upon completion of the questionnaire, the scores were averaged and the range of scores ascertained. From all the staff involved in the delivery of Thinking Maps to the learners, wherever possible a particular member of staff was identified as being the point of contact for that learner (detailed on the table below as 'Link Staff'.

| **BCHS Y7 MALS Testing 05-05** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Pre* | *Post* | | | *Pre* | *Post* | | |
| | | ***Full list*** | | | | ***Selected list*** | | | |
| | | ***MALS*** | | **Teaching** | | ***MALS*** | | | |
| **Sex** | **Form** | ***Score*** | | **Staff** | | ***Score*** | | | **'Link' Staff** |
| M | 7PW | *70* | *78* | **EK** | | | | | **EK** |
| M | 7AW | *98* | *94* | | | | | | |
| F | 7DS | *94* | *76* | | | | | | |
| M | 7ES | *55* | *74* | **DC,EH** | | | | | **DC** |
| F | 7PW | *90* | *94* | **EK** | | | | | **EK** |
| F | 7DS | *75* | *76* | | | | | | |
| M | 7AF | *83* | *95* | **CS, KA, EH** | | | | | **CS** |
| F | 7AF | *50* | *56* | **CS, KA** | | | | | **KA** |
| F | 7ES | *79* | *84* | **DC,EH** | | | | | **DC** |
| M | 7AW | *83* | *77* | **EH** | | | | | **EH** |
| F | 7AF | *79* | *77* | **CS, KA** | | | | | **CS** |
| M | 7AF | *91* | *95* | **CS, KA, EH** | | *91* | *95* | | **KA** |
| F | 7AW | *84* | *93* | **EH** | | *84* | *93* | | **EH** |
| M | 7LR | *84* | *87* | **DC, KA** | | | | | **KA** |
| M | 7AF | *82* | *98* | **CS, KA** | | *82* | *98* | | **CS** |
| M | 7ES | *75* | *86* | **DC** | | | | | **DC** |
| F | 7AW | *84* | *95* | | | | | | |
| F | 7DS | *63* | *56* | | | | | | |
| F | 7PW | *64* | *63* | **EK** | | | | | **EK** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| M | 7DS | *86* | *94* | | | | | | |
| F | 7AF | *78* | *85* | **CS, KA** | | | | | **KA** |
| M | 7AW | *100* | *100* | | | *100* | *100* | | |
| F | 7LR | *89* | *88* | **DC, KA** | | | | | **DC** |
| F | 7PW | *82* | *82* | **EK** | | *82* | *82* | | **EK** |
| F | 7PS | *78* | *72* | **DC, KA** | | | | | **KA** |
| M | 7PS | *78* | *79* | **DC, KA, EH** | | | | | **DC** |
| M | 7PW | *80* | *87* | **EK** | | | | | **EK** |
| F | 7ES | *85* | *89* | **DC** | | | | | **DC** |
| F | 7AW | *85* | *78* | **EH** | | | | | **EH** |
| F | 7PS | *66* | *69* | **DC, KA** | | | | | **KA** |
| F | 7AF | *77* | *85* | **CS, KA** | | | | | **CS** |
| M | 7AW | *78* | *89* | | | *78* | *89* | | |
| M | 7PS | *92* | *94* | **DC, KA, EH** | | | | | **DC** |
| M | 7DS | *80* | *84* | **EH** | | | | | **EH** |
| M | 7AF | *97* | *98* | **CS, KA** | | *97* | *98* | | **CS** |
| M | 7ES | *78* | *91* | **DC,EH** | | | | | **EH** |
| F | 7LR | *91* | *84* | **DC, KA** | | *91* | *84* | | **KA** |
| M | 7ES | *98* | *98* | **DC** | | *98* | *98* | | **DC** |
| M | 7AF | *89* | *92* | **CS, KA** | | | | | **CS** |
| M | 7PW | *71* | *66* | **EK, EH** | | | | | **EK** |
| M | 7ES | *73* | *84* | **DC** | | | | | **DC** |
| F | 7LR | *74* | *85* | **DC, KA, EH** | | *74* | *85* | | **EH** |
| F | 7AW | *84* | *89* | **EH** | | | | | **EH** |
| M | 7AF | *89* | *95* | **CS, KA, EH** | | | | | **KA** |
| F | 7AF | *79* | *86* | **CS, KA** | | | | | **CS** |
| M | 7PW | *85* | *96* | **EK** | | *85* | *96* | | **EK** |
| F | 7AW | *72* | *70* | | | | | | |
| M | 7AF | *94* | *90* | **CS, KA, EH** | | | | | **CS** |
| F | 7ES | *74* | *87* | **DC,EH** | | *74* | *87* | | **EH** |
| F | 7DS | *68* | *63* | | | | | | |
| | | | | | | | | | |

Gorse Covert Primary School

| | | | OT | L R | LR | JP | JP | MK | MK | MM | MM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Focus G&T group | | OT | | | | | | | | | |
| Score out of 100 | | 69 | 76 | 68 | 76 | 77 | 93 | 63 | 56 | 57 | 66 |
| 1 enjoyment of prob s | 25 | 19 | 19 | 15 | 17 | 23 | 24 | 13 | 11 | 18 | 14 |
| 2Confid about sch wk | 30 | 14 | 20 | 18 | 21 | 17 | 22 | 19 | 17 | 12 | 20 |
| 3Conf about learning ability | 25 | 16 | 17 | 17 | 16 | 24 | 22 | 14 | 15 | 19 | 16 |
| 4Taking Care with wk | 10 | 9 | 10 | 2 | 10 | 10 | 10 | 10 | 7 | 2 | 3 |
| 5Lack anxiety | 10 | 5 | 7 | 10 | 7 | 6 | 10 | 8 | 5 | 2 | 6 |
| 6acc & use of prob s vocab | 10 | 8 | 8 | 10 | 7 | 10 | 10 | 7 | 6 | 6 | 6 |
| 7Confid in dealing with new wk | 10 | 6 | 8 | 2 | 8 | 2 | 9 | 8 | 5 | 4 | 9 |
| 8Conf in prob solv ability | 5 | 3 | 2 | 1 | 4 | 1 | 5 | 5 | 4 | 1 | 5 |
| 9Verbal ab/ fluency | 5 | 5 | 4 | 5 | 4 | 4 | 5 | 1 | 4 | 4 | 4 |
| 10Conf in gen ability | 10 | 10 | 9 | 8 | 10 | 10 | 10 | 6 | 5 | 8 | 5 |
| Test results | | Y2 | Y3 | Y2 | Y3 | Y2 | Y3 | Y2 | Y3 | Y2 | Y3 |
| Reading | | 2a | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | 4 |
| Writing | | 2a | 3b | 3 | 3a | 3 | 3b | 3 | 3a | 3 | 3a |
| Maths | | 3 | 3b | 3 | 4c | 3 | 3b | 3 | 3b | 3 | 4c |

The black results were the MALS undertaken at the start of the project. The red scores are results recorded at the end of the project.

O T

76% 76% enjoyment in problem solving
47% 67%confidence in his school Significant increase
64% 68% in confidence in his learning ability
90% 100%care with work
50% 70% lack of anxiety
80% 80%Access to and use of problem solving vocabulary
60% 80% confidence in dealing with new work
60% 40% confidence in problem solving
100% 80% verbal ability
100% 90% confidence in general ability

L R

60% 68% enjoyment in problem solving
60% 70% confidence in her school work
68% 64% in confidence in her learning ability
20% 100%care with work
100% 70% lack of anxiety
100% 70% Access to and use of problem solving vocabulary
20% 80%confidence in dealing with new work Significant increase
10% 40% confidence in problem solving Significant increase
100% 80% verbal ability
80% 100% confidence in general ability

J P

92% 96% enjoyment in problem solving
57% 73% Confidence in his school work

96% 88% in confidence in his learning ability
100% 100% care with work
60%100% lack of anxiety
100% 100%Access to and use of problem solving vocabulary
20% 90% confidence in dealing with new work Significant increase
10% 100% confidence in problem solving Significant increase
80% 100% verbal ability
100% 100% confidence in general ability

M K
Overall decrease 52% 44% enjoyment in problem solving
63% 57% confidence in her school work
56% 60% in confidence in her learning ability
100% 70%care with work
80% 50% lack of anxiety
70% 60% Access to and use of problem solving vocabulary
80% 50% confidence in dealing with new work Significant decrease
100% 80% confidence in problem solving
20% 80% verbal ability increased to 80%
60% 50% confidence in general ability

M M
72% 56% enjoyment in problem solving
40% 67% confidence in his school work Significant increase
76% 64%in confidence in his learning ability
20% 30% care with work
20% 60% lack of anxiety
60% 60% Access to and use of problem solving vocabulary
40% 90% confidence in dealing with new work Significant increase
10% 100% confidence in problem solving Significant increase
80% 80% verbal ability
80% 50% confidence in general ability (had decreased)

**Research questions**
**How did the quality of pupils' thinking and planning improve through specific teaching of eight cognitive Thinking Maps?**
All the children in the focus group reported positive attitudes to the use of Thinking Maps to aid their thinking and planning. L "It has helped me structure my ideas instead of writing loads of information." O perception was that: "It makes work easier." The teacher observed that it made the thinking deeper. For example in using the circle map the children were able to suggest influences for the frame of reference.

**Birchwood Community High School whole school Assessment data**

Assessment data is gathered on a termly basis for all subjects for every learner. English data was extracted for both cohorts, looking at the assessment prior to and after exposure to Thinking Maps. The data is reported in whole and sub-levels. Each whole level is sub-divided into 3 sub-levels, for example level 6 performance would be recorded as 6c, 6b and 6a, with 6c being adjacent to 5a and 6a being adjacent to 7c (and so on). Any change was then recorded as a change in the number of sub-levels e.g. an increase from 5c to 6a would be recorded as +5, a decrease from 6a to 5b recorded as -4.

| | English | | | |
|---|---|---|---|---|
| **Year** | Nov | Feb | Apr | |
| 7 | 6c | 6b | 6a | 2 |
| 7 | 4b | 5b | 5b | 3 |
| 7 | 6c | 6c | 5a | -1 |
| 7 | 5b | 5b | 5a | 1 |
| 7 | 6c | 6b | 6b | 1 |
| 7 | 5b | 5b | 5a | 1 |
| 7 | 5b | 5c | 4a | -2 |
| 7 | 4b | 4a | 5c | 2 |
| 7 | 5c | 5a | 6c | 3 |
| 7 | 5b | 5b | 5b | 0 |
| 7 | 5a | 4a | 5c | -2 |
| 7 | 5a | 5b | 5a | 0 |
| 7 | 3a | 5b | 4a | 3 |
| 7 | 5b | 6c | 5a | 1 |
| 7 | 5c | 5b | 5a | 2 |
| 7 | 5b | 5b | 5a | 1 |
| 7 | 4a | 5c | 5a | 3 |
| 7 | 4b | 5a | 5b | 3 |
| 7 | 5a | 6c | 6b | 2 |
| 7 | 4b | 5c | 5a | 4 |
| 7 | 5b | 5b | 5b | 0 |
| 7 | 5a | 5b | 5a | 0 |
| 7 | 5a | 5a | 5a | 0 |
| 7 | 5c | 5c | 5b | 1 |
| 7 | 5c | 5b | 5b | 1 |
| 7 | 5a | 5b | 5b | -1 |
| 7 | 5c | 5c | 5c | 0 |
| 7 | 5b | 5b | 5c | -1 |
| 7 | 5c | 5b | 5b | 1 |
| 7 | 5c | 5c | 5a | 2 |
| 7 | 6c | 6c | 6c | 0 |
| 7 | 6c | 5c | 5b | -2 |
| 7 | 4b | 4b | 4a | 0 |
| 7 | 4b | 4a | 5c | 2 |
| 7 | 5b | 5b | 5a | 1 |
| 7 | 5c | 6c | 6b | 4 |
| 7 | 4b | 5c | 5b | 3 |
| 7 | 6c | 5b | 5a | -1 |
| 7 | 5b | 5a | 5b | 0 |
| 7 | 4a | 4b | 5c | 1 |
| 7 | 5b | 5a | 6c | 2 |
| 7 | 5c | 5a | 5b | 1 |
| 7 | 4a | 5b | 5b | 2 |
| 7 | 4b | 5c | 5c | 2 |
| 7 | 6c | 6c | 6b | 1 |
| 7 | 6c | 6c | 6c | 0 |

| | | | | |
|---|---|---|---|---|
| 7 | 5c | 5c | 5b | 1 |
| 7 | 6c | 6c | 5a | -1 |
| 7 | 5a | 6c | 6a | 3 |
| 7 | 5a | 6c | 6b | 2 |
| Average change | | | | 1 |

The English assessment data for the whole cohort (see appendix 1) was analysed in an identical manner, the average change for the whole cohort was found to be 0 (zero). On such a large scale the improvement of one sub level across the G&T cohort is significant. There was no other intervention for the G&T group and the rest of year 7 .

**Reading & Spelling and Non-Verbal scores**

This data was also gathered for the G&T cohort. The non-verbal test scores are gathered only once, at the start of Year 7 and they are the nearest we use to an 'IQ' type score. The average is 100, with 'normal' being between 85 and 115. Over 115, therefore, is classed as high. For the reading/spelling scores the highest attainable is 16.9, on the spelling test 15. The nearer you get to the top end, the more difference even one mistake can make e.g. on the spelling test getting 41/50 gives you a SA of 15, getting 40/50 gives a SA of 14.4 – as a result the data should be treated with caution as some apparent 'drops' in scores are not really significant. The whole data-set is reproduced in Appendix 2 but in summary,

| | | **Sep-05** | | **May-06** | |
|---|---|---|---|---|---|
| | **NV** | **RA** | **SA** | **RA** | **SA** |
| **Average** | **120.5** | **14.1** | **13.6** | **14.5** | **13.5** |

**Discussion of Results.**

**National Academy for Gifted and Talented Youth Staff Questionnaire**
**Birchwood Community High School**
For questions requiring a ranked response please score as:
1=Excellent 2=Good 3= Satisfactory 4=Poor

1. How would you describe learners responses to each of the eight Thinking Maps?

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Circle Map | | | ✓ | |
| Bubble Map | ✓✓✓ | | | |
| Double Bubble Map | ✓ ✓✓ ✓ | | | |
| Tree Map | | ✓✓✓ | | |
| Brace Map | | ✓✓ | | |
| Flow Map | ✓✓ | ✓ | ✓ | |
| Multi Flow Map | ✓✓ | ✓ | | |
| Bridge Map | | ✓ | ✓ | |

**Please give some reasons for your choice of ranking.**

**Science**
*The circle map allows more freedom of thought.*
***D+T***
*The most useful map within D+T is the flow map. The learners use it to sequence their thinking and to ensure that making activities are completed in the correct order.*

**Humanities**
*The concept of the double bubble and the bubble one simpler to group than the others however with time and regular use I feel learners will become more confident with them.*

**English**
*Randomly selected information recorded on the circle map made it difficult for some learners to cluster related points in their writing.*

**Languages**
*Double bubble – used to compare schools in Germany to schools in England. This approach helped learners to realise how many similarities there were.*

2. **In what ways have Thinking Maps changed the quality of creating ideas and transferring them into pieces of writing?**
   **Please provide some examples**

   **Science**
   *The circle maps structure brainstorming and allows expansion of ideas. Learners found it easy to write extended paragraphs from their structured ideas.*

   ***D+T***
   *The bubble map provided an ideal opportunity to create ideas for hat designs. The learners have to write a personal statement about themselves. Many struggle to do this. However, with use of the bubble map, they were able to put together a long and very detailed piece of writing.*

   **Humanities**
   *The learners writing has become more structured and the length of writing has increased, learners are more able to see the point of their writing they understand more clearly what they are trying to say and so write more confidently.*

   **English**
   *They helped learners to organise their writing more effectively into appropriate paragraphs with the overall direction of the writing supported by clear links between paragraphs – especially when using the flow map.*

   **Languages**
   *This information is to be used for coursework in September.*

*3.* **Please describe any noticeable or memorable changes in the quality of discussion work which you feel have been directly influenced through the use of Thinking Maps.**

   **Science**

*I feel that this is a target for next year. Learners found it difficult to use the diagrams to aid discussion.*

**D+T**

*During SPRE, the learners completed a multi flow map which looked at the cause and effects of i) taking drugs and ii) smoking. A lively discussion took place with the normally "quiet" learners able to find their voice and contribute well.*

**Humanities**

*Learners are more able to contribute to class discussions as they are more confident in forms of what point to make and when. The Thinking maps provide a formalised way of structuring their thinking so as to enable learners, even the less confident to positively contribute.*

**English**

*Having created a circle map about Shakespeare, the learners had a focus – a reference point to refer to when a whole class map was produced as a way of sharing ideas.*

**Languages**

*We began by doing discussion work and then used the Thinking Map to consolidate our ideas.*

**4. Do you feel learners have gained any greater confidence in using Thinking Maps to assist their written work. Please outline your reasons if generally Yes or no.**

**Science**

*Learners seem to be more familiar with the circle maps and so they make greater use of these. In the English and Humanities dept these are more popular because it allows more freedom to write. As far as Science is concerned the answers required are more restricted – there is usually just one answer. Here I feel the use of the tree map and the flow map has been more useful. The double bubble has been used in lower school to compare and contrast.*

**D+T**

*Generally yes. Thinking maps have enabled the learners to produce quality writing as their ideas are more ordered. They have also been a useful revision tool for exams and tests.*

**Humanities**

*They have and this will improve on learners became more used to using them. Certainly learners can use the double bubble and the bubble map with confidence as these are the most used at the moment.*

**English**

*Yes. Many learners were reluctant to plan a piece of writing because they were unsure of how to do so in a way that would improve their piece of writing. Being aware of the different type of maps, and their various uses, has encouraged learners to consider applying maps more readily.*

**Languages**

*Will not know until September.*

4. **When Thinking Maps have been used by your learners has it made the length of their writing**
   **a) longer  b) shorter  c) about the same**

   **Science**
   *Thinking maps have extended the paragraphs but the sentences are more structured because learners used the maps to organise their thinking.*

   **D+T**
   *Longer*

   **Humanities**
   *Longer. It gives the learners a structure and clarifies the areas they need to write about and in what order.*

   **English**
   About the same.

   **Languages**
   *Will not know until September.*

5. **Do you feel that G&T learners have benefited from the use of Thinking Maps**
   **a) more than none G&T  b) about the same c) neither have benefited**

   **Science**
   *G+T learners usually have already developed skills which they use to structure their writing. However they were so much more adept at choosing the best map to use compared to the lower ability learners, who had to be told which map would be the best in each particular case.*

   ***D+T***
   *About the same.*

   **Humanities**
   *I think the learners grasped the maps much quicker than non G+T as so made more use of them. The less able found them useful to structure their thinking but still require support to structure the writing.*

   **English**
   *About the same.*

   **Languages**
   *About the same.*

6. **Have you changed your approach to planning by using Thinking Maps to connect learning visually and emotionally?**
   **Please give a reason for your answer.**

   **Science**
   *During planning I always ensure that a variety of Thinking Maps are included so that learners can choose the most appropriate I find it easier to use the flow map for notes. This was a great advantage in KS4 when there was so much to remember. It was easier to fit a single idea on a single piece of paper.*

**D+T**

*Visually.*

*I have tried to use symbols or pictures instead of just words to structure learners. Some were successful, others not.*

**Humanities**

*Yes at least one Thinking Map appears in all the new units I have written and I envisage this increasing with time.*

**English**

*Yes. I will build their application into my teaching more often because they seem to provide a confidence boosting platform from which to begin a piece of extended writing.*

**Languages**

*Planning has stayed the same – I would normally have got the learners to list the differences between the two school systems but not the similarities.*

7. **Do you intend continuing with the use of Thinking Maps? Yes/No. Please give a reason for your answer.**

**Science**

*Yes – Learners will be able to extend their writing.*

**D+T**

*Yes. They stimulate and order thinking. Quick and easy to use.*

**Humanities**

*Yes. They are effective on different ends and enable all learners to see patterns, categorise, compare etc.In a way that previously may have been too difficult for some learners, foe the G+T learners it has stretched them and improved their written work.*

**English**

*Yes*

**Languages**

*Yes, where appropriate- would like to think of a way to use them to teach grammar.*

8. **Would you recommend Thinking Maps to other colleagues/subject areas? Yes/No.**
   **Please give a reason for your answer.**

**Science**

*Yes, I would recommend the thinking maps to my colleagues especially if they were teaching KS3. This is because I feel that if they practised in lower school then it would be easier to choose the appropriate maps in KS4 rather than being told to in KS4.*

***D+T***

*Yes. It has been difficult aiming the maps at G+T learners as we teach mixed ability for ten week slots. I've used the maps with all learners and they have been successful, especially with SEN learners.*

**Humanities**

*Yes and there done – also my units including them one taught by all the department.*

**English**

*Yes*

**Languages**

*Will be sharing my ideas with other colleagues.*

**10. Write any personal observations to assist with the final report.**

**Science**

*Personally I feel that the thinking maps accelerate learning. They encourage learners to structure their ideas and their writing. More detail is incorporated within the text because of brainstorming with the circle map. Time however needs to be allocated to teaching the learners how to use the maps. This unfortunately impinges on the curriculum. Learners should have a greater knowledge before KS3 so that they become empowered – totally in charge of their own thinking. We sometimes run the risk of teaching their thought process.*

***D+T***

*Useful to order thinking for SEN learners.*

*Useful as a revision tool.*

*Have used maps before in D+T but most useful and widely used are flow maps. Used extensively at GCSE.*

**National Academy for Gifted and Talented Youth Staff Questionnaire**
**Name Helen Gosney Gorse Covert Primary School**

For questions requiring a ranked response please score as:
1= Excellent 2=Good 3= Satisfactory 4=Poor

3. How would you describe learners responses to each of the eight Thinking Maps?

| | | | | |
|---|---|---|---|---|
| Circle Map | 1 | | | |
| Bubble Map | | 2 | | |
| Double Bubble Map | 1 | | | |
| Tree Map | | | 3 | |
| Brace Map | 1 | | | |
| Flow Map | | 2 | | |
| Multi Flow Map | 1 | | | |
| Bridge Map | | | 3 | |

Please give some reasons for your choice of ranking.

The three maps ranked with 1 have been the Thinking Maps the learners' have chosen to use independently

4. In what ways have Thinking Maps changed the quality of creating ideas and transferring them into pieces of writing?
Please provide some examples

Circle map generated a depth of thinking about the frame of reference and influences.
Double bubble enabled the children to write with their ideas already structured in paragraphs.
Multi flow map led to thought provoking reasons why aliens invaded and the effects stimulated by an extract from War of the Worlds

3 Please describe any noticeable or memorable changes in the quality of discussion work which you feel have been directly influenced through the use of Thinking Maps.
During a discussion on the Victorians using the circle map to record our initial perceptions, the comments from the learners especially the G&T showed a more mature attitude to what drives a society. Eg appreciation of the use of child labours from families and industrialists.

4.Do you feel learners have gained any greater confidence in using Thinking Maps to assist their written work? Please outline your reasons if generally Yes or no.
Yes, it has eliminated the feeling of 'I do not know where to start' or 'how do I group my ideas?'.

5. When Thinking Maps have been used by your learners has it made the length of their writing
a) longer b) shorter c) about the same
Mostly longer

Do you feel that G&T learners have benefited from the use of
Thinking Maps
b) more than none G&T b) <u>about the same</u> c) neither have benefited

6. Have you changed your approach to planning by using Thinking Maps to connect learning visually and emotionally?
Please give a reason for your answer.
During planning the inclusion of a thinking map is now included where appropriate.

8. Do you intend continuing with the use of Thinking Maps?
**<u>Yes</u>**/No. Please give a reason for your answer.

Wide application across the curriculum using a common format.

9. Would you recommend Thinking Maps to other colleagues/subject areas?
**<u>Yes</u>**/No.
Please give a reason for your answer.
It has made me more aware of the types of thinking we ask the learners to engage in and provides the learners with an easy to use visual organiser to display their thinking. It especially has helped those learners(often boys) who find writing difficult.

**NAGTY Thinking Maps Learner Questionnaire Summary**

Please answer the questions below as fully as possible making a choice when asked.

**1=Excellent 2= Good 3 =OK 4= Useless**

1. Please score your enjoyment of working with each of the eight Thinking Maps

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| **Circle map** | 7 | 14 | 5 | 2 |
| **Bubble Map** | 15 | 14 | 2 | 0 |
| **Double Bubble map** | 14 | 12 | 5 | 0 |
| **Tree map** | 13 | 8 | 4 | 4 |
| **Brace map** | 3 | 12 | 8 | 6 |
| **Flow map** | 8 | 16 | 3 | 1 |
| **Multi Flow Map** | 8 | 12 | 8 | 2 |
| **Bridge Map** | 9 | 14 | 5 | 2 |

2. What difference have Thinking Maps made to the way you structure your Ideas?

- Not much difference.
- They haven't really made a difference because I don't understand them.
- Not a lot of difference, since I can't stick to one.
- So I can now plan in different ways.
- It helps me to be organised and to break things down.
- More organised and all in order.
- Makes it neater and easier to understand.
- They help me to plan an idea and get all the aspects of my idea.
- Makes it neater and easier to understand.
- I can plan my work with more efficiency
- I get more ideas and they are more organised.
- It helps me to organise my idea into paragraphs.
- They help me plan out my work more effectively and help me to think of ideas.
- Helped me to plan ideas.
- It is clearer to see your ideas.
- I can think more carefully and all my information has been written down.
- They present your ideas in a way which is easy to follow and understand.
- My work is more structured.
- They have made the quality of my work better as the structure has been planned out more.
- It is clearer to remember
- It helps getting the imagination going.

3. How helpful is to see your ideas on a map before you do your writing?

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| 15 | 12 | 6 | 1 |

4. Have you found yourself using any of the Thinking Maps without your teaching directing you?

| Yes | No |
|---|---|
| 22 | 12 |

5. If yes please provide some examples below

- Bubble map
- The tree map and double bubble.
- When I'm writing a story, I use a spider diagram to write down my ideas.
- All apart from Brace maps.
- English – Circle map.
- In English when writing a lot of work.
- English – Bubble map.
- When I had to do my memory.
- When I was doing English Homework.
- When planning a story I will use a spider diagram.
- Flow maps, double bubble and tree maps.
- When I am in Humanities
- When I was revising
- English – Bubble map.
- Revision and also in English I use a spider graph all the time.
- Bubble map
- Brainstorming
- Learner Passport
- English.
- Bubble map – when planning a story
- What happened next in 'No turning back' – circle map.
- In English when writing a lot of work.
- On music to set out a written piece.
- In English, thinking of adjectives – bubble map.
- A tree map.

6. Do you feel using the Maps has improved the quality of your writing

| **1** | **2** | **3** | **4** |
|---|---|---|---|
| 12 | 12 | 6 | 3 |

7. When you have been taught to use certain maps has it made the length of your writing?

| **Longer** | **Shorter** | **About the same** |
|---|---|---|
| 16 | 2 | 16 |

8. Would you recommend using Thinking Maps to other children your own age?

| **Yes** | **No** |
|---|---|
| 27 | 7 |

9. Please give a reason for your answer.

- It is easier to just start and get ideas as you go along.
- Using maps is an easier way to gather information.
- I find them too hard to understand and we have only ever used them twice.
- If the recommendation is based on my personal experience of thinking maps, I wouldn't recommend their use because as you can see, thinking hats haven't benefited my writing all that much.
- Although Thinking Maps can help, they did not improve my writing.
- Reading maps help your thinking skills and make your writing more complex.

- It will improve the quality and score of your work.
- It is easier to understand your ideas as they are neat and in groups. It's also neater and is a quick and easy way to plan ideas if you have a certain time limit like in exams.
- It would help them.
- When you are revising for your exams you can understand your work much better and you have more quality work.
- You learn things easier.
- It helps to construct your ideas.
- If someone is stuck planning a story I will recommend a map.
- It helps you to plan out your work and think of your ideas. It keeps your writing more structured and organised.
- It will stop them stressing out over work, it is a good method.
- It improves the quality of your writing and it is more detailed.
- It helps you with your work a lot.
- It helps make writing easier because the information is all in front of you.
- It allows you to think about your ideas in an organised way by splitting them up into sections which is easier to manage.
- They help you to think and help to brainstorm.
- It helps you to plan
- Thinking Maps help to structure your work.
- Using Thinking Maps improves the length and standard or writing.
- It helps a lot, especially when you want to plan out stories and letters.
- Instead of you having to remember you can just look back in your book
- It provides time to do a draft and show your ideas.
- It takes time and you could just write it.
- It has helped me to move up a level.
- I think they are stupid!!
- It breaks your ideas up.
- It helps think more various answers.
- It is easier to write descriptive writing.
- It improves your work by a lot.

**Summary & Conclusions**

**Conclusions for the Birchwood Community High School G&T Cohort**

**MALS – Myself As a Learner Scale**

The average (mean) score obtained in the standardisation sample was 71+/- 10.5. As pointed out in the literature however 'there may well be contexts where higher or lower scores provide the norm'. As we are dealing with learners who have already been identified as Gifted & Talented the higher mean readings would therefore be expected. What is of interest are the differences between the two cohorts;

- Mean. For the selected list is higher than the full list both before and after the intervention.
- Mean range. There is a greater increase in the average score for the selected learners.
- Maximum. These are the same as the learner who scored this is common to both lists. The range is, therefore, zero.
- Minimum. This is noticeably lower for the full cohort. The range is not as significant as for the mean.

| BCHS Y7 MALS Testing 05-06 | | | | | |
|---|---|---|---|---|---|
| | *Pre* | *Post* | | *Pre* | *Post* |
| | ***Full list*** | | | ***Selected list*** | |
| | ***MALS*** | | | ***MALS*** | |
| | ***Score*** | | | ***Score*** | |
| **Mean** | ***81*** | ***84*** | | ***86*** | ***92*** |
| **Range** | **+3** | | | **+6** | |
| **Maximum** | ***100*** | ***100*** | | ***100*** | ***100*** |
| **Range** | **0** | | | **0** | |
| **Minimum** | ***50*** | ***56*** | | ***74*** | ***82*** |
| **Range** | **+6** | | | **+8** | |

**Birchwood Community High School Whole School Assessment data**

English assessment data was analysed as outlined in the results section.

- For the Full G&T cohort the average change in sub-level was +1
- For the whole year group the average change was found to be 0 (zero)

**Reading & Spelling and Non-Verbal scores**

The non-verbal test scores are gathered only once, at the start of Year 7 and they are the nearest we use to an 'IQ' type score. The average is 100, with 'normal' being between 85 and 115. Over 115, therefore, is classed as high. For the reading/spelling scores the highest attainable is 16.9, on the spelling test 15. The nearer you get to the top end, the more difference even one mistake can make e.g. on the spelling test getting 41/50 gives you a SA of 15, getting 40/50 gives a SA of 14.4 – as a result the data should be treated with caution as some apparent 'drops' in scores are not really significant. The NV scores serve to illustrate the (already identified) ability of the group.

| | | **Sep-05** | | **May-06** | |
|---|---|---|---|---|---|
| | **NV** | **RA** | **SA** | **RA** | **SA** |
| **Average** | **120.5** | **14.1** | **13.6** | **14.5** | **13.5** |
| **RA Average change** | | **+0.4** | | | |
| **SA Average change** | | **+0.1** | | | |

**Conclusions for the Gorse Covert G&T Cohort**

For more detail see Appendix 3. From learner feedback there appear to be two main areas where significant improvement is apparent;

1. Confidence in dealing with new work (four out of five learners) and
2. Confidence in problem solving ability (three out of five learners).

To a lesser extent there is some apparent improvement in learners';

- Confidence about school work and

- Verbal ability/fluency

In response to the question **How did the quality of pupils' thinking and planning improve through specific teaching of eight cognitive Thinking Maps?**
All the children in the focus group reported positive attitudes to the use of Thinking Maps to aid their thinking and planning.

- L "It has helped me structure my ideas instead of writing loads of information."
- Perception was that: "It makes work easier."
- The teacher observed that it made the thinking deeper. For example in using the circle map the children were able to suggest influences for the frame of reference.

Test results indicate a disproportionate improvement in reading sub-levels over writing.

**Conclusion**

In addressing research question (a) eighteen out of thirty four Birchwood Community High School learners agreed that Thinking Maps had improved the quality of their planning. Three learners responded negatively.
Twenty four Birchwood Community High School learners from the thirty four respondents noted that Thinking Maps had improved the quality of their writing to an 'Excellent' or 'Good' standard – addressing research question (b).
Twenty Seven of Thirty Four Birchwood Community High School learners noted that they would recommend Thinking Maps to their peers. This is a positive response addressing research question (c). The following quotes are note worthy.
Warrington's LA Literacy Co-ordinator Jean Hudson analysed various pieces of writing for the whole cohort of year 3/4 and 7 learners. Amongst her views she stated:
(i) Writing is a difficult task. If learners are gifted and talented in some areas, it does not mean that they can express their thoughts clearly and accurately in the written form.

(ii) The learners need to be explicitly taught and shown how to structure non-fiction texts. I think the task may have limited the learners' responses.

(iii) Unless a learner is particularly gifted in creative/imaginative areas, then I think it is beneficial for them to develop their thinking/writing skills in non-fiction. Most of the writing most people do is after all, non fiction. A proven way to improve content and expression in writing is through speaking and listening activities. Learners are usually more capable of expressing higher level thinking orally than in writing. Their thoughts and ideas need to be challenged and justified and this is a good rehearsal for getting clarity in preparation for writing. Your thinking skills/planning activities are an excellent tool for focusing speaking and listening. Did any discussion take place after the learners had completed their research? Could they have used their Circle Maps as a focus for sharing/exchanging findings? This may have helped them include more detail and organise their ideas into a structure for writing the essay.

(iv) I think that Gifted and Talented learners need the freedom to choose, be quirky, to pursue their own interests and write about them; teacher driven tasks can be very limiting.

In English/language development, the three skills: reading, writing and speaking and listening are all inter-related and inter-dependent. Therefore, I think these learners

would really benefit from reading high quality texts, both fiction and non-fiction. From this they would get a feel for clarity of expression and structure. Exposure to high quality texts would be beneficial to help build a more sophisticated, extensive vocabulary.

Taken together the data would suggest an increase in various measures for the G&T learners compared to the whole Y7 cohort. Within this there appears to be validation of the means used to identify the selected sub-cohort as they mirror this situation with the average readings shifted upwards

- **MALS** - the academic self-perceptions of the Group scores have improved
- **English Assessment data** - the G&T cohort show a greater increase than the whole year group.
- **Reading & spelling scores** - treating this data with some caution there is a greater improvement in reading age than spelling age.

1. The academic self-perceptions of the learners and
2. Generic English skills.

In order to create a full picture it is vital, therefore, to look at this numerical data in conjunction with the learner perceptions gathered via questionnaire, the feedback from staff who have delivered the Thinking Maps and the analysed samples of work from the learners.

**Appendices**

**Appendix 1**: Birchwood Community High School English assessment data for whole Y7 cohort.

| Year | Form | Gender | Nov-05 | Feb-06 | | Apr-06 | Change |
|---|---|---|---|---|---|---|---|
| 7 | PS | F | 4c | 4a | | 5c | 3 |
| 7 | PS | F | 4b | 4a | | 5c | 2 |
| 7 | PS | F | 3a | 4a | | 5c | 4 |
| 7 | AW | M | 4c | 4a | | 4b | 1 |
| 7 | PW | F | 5a | 5a | | 5a | 0 |
| 7 | PS | F | 4c | 4b | | 4a | 2 |
| 7 | PS | M | 4c | 4b | | 5c | 3 |
| 7 | PW | M | 6c | 6b | | 6a | 2 |
| 7 | AW | M | 4b | 5b | | 5b | 3 |
| 7 | DS | F | 4b | 4b | | 4a | 1 |
| 7 | DS | F | 6c | 6c | | 5a | -1 |
| 7 | ES | F | 5b | 5b | | 5a | 1 |
| 7 | PW | M | 4b | 4a | | 4a | 1 |
| 7 | AW | M | 4c | 5c | | 4b | 1 |
| 7 | ES | F | 4c | 4a | | 5c | 3 |
| 7 | PS | M | 4c | 4c | | 4b | 1 |
| 7 | PW | F | 6c | 6b | | 6b | 1 |
| 7 | LR | M | 4c | 5c | | 5b | 2 |
| 7 | DS | F | 5b | 5b | | 5a | 1 |
| 7 | AF | M | 5b | 5c | | 4a | -2 |
| 7 | AW | M | 3a | 5c | | 4b | 2 |
| 7 | AF | F | 4b | 4a | | 5c | 2 |
| 7 | PS | M | 3a | 4b | | 4b | 2 |
| 7 | ES | M | 5c | 5b | | 5c | 0 |
| 7 | ES | F | 5c | 5a | | 6c | 3 |
| 7 | ES | F | 4c | 4a | | 5c | 3 |
| 7 | LR | M | 4b | 4b | | 4a | 1 |
| 7 | PW | M | 4c | 5b | | 4b | 1 |
| 7 | DS | M | 5c | 5c | | 5b | 1 |
| 7 | AW | M | 5b | 5b | | 5b | 0 |
| 7 | PW | M | 5c | 5b | | 5a | 2 |
| 7 | LR | M | 3a | 4b | | 4c | +1 |
| 7 | AF | F | 5a | 4a | | 5c | -2 |
| 7 | AF | M | 5a | 5b | | 5a | 0 |
| 7 | AW | F | 3a | 5b | | 4a | 3 |
| 7 | ES | M | 3b | 4c | | 4a | 2 |
| 7 | DS | F | 4a | 4a | | 5c | 1 |
| 7 | PW | F | 4c | 4b | | 4a | 2 |
| 7 | PW | F | 3a | 4b | | 4a | 3 |
| 7 | AW | F | 5b | 6c | | 5a | 1 |
| 7 | ES | F | 4c | 4a | | 4a | 2 |
| 7 | PW | F | 5c | 5c | | 5b | 1 |
| 7 | LR | M | 5c | 5b | | 5a | 2 |
| 7 | AF | M | 5b | 5b | | 5a | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7 | ES | M | 4a | 5c | | 5a | 3 |
| 7 | LR | F | 4b | 4a | | 4a | 1 |
| 7 | AW | F | 4b | 5a | | 5b | 3 |
| 7 | ES | M | 4b | 4b | | 5c | 2 |
| 7 | DS | F | 5a | 6c | | 6b | 2 |
| 7 | ES | F | 3b | 4c | | 4b | 3 |
| 7 | DS | M | 3a | 3a | | 4c | 1 |
| 7 | PW | F | 4b | 5c | | 5a | 4 |
| 7 | ES | F | 5c | 5c | | 5c | 0 |
| 7 | AF | M | 4a | 4b | | 4a | 0 |
| 7 | ES | M | 3b | 3a | | 4c | 2 |
| 7 | LR | F | 4c | 4b | | 4a | 2 |
| 7 | AW | F | 5b | 6c | | 5a | 1 |
| 7 | DS | M | 5b | 5b | | 5b | 0 |
| 7 | AW | M | 5c | 5b | | 5c | 0 |
| 7 | AF | F | 5a | 5b | | 5a | 0 |
| 7 | AW | F | 4c | 5b | | 4b | 1 |
| 7 | PW | F | 4a | 5b | | 5a | 3 |
| 7 | PS | F | 5b | 5b | | 5b | 0 |
| 7 | ES | M | 3a | 4c | | 4b | 2 |
| 7 | PW | M | 4b | 5c | | 5b | 3 |
| 7 | AW | M | 5a | 5a | | 5a | 0 |
| 7 | ES | F | 4c | 4a | | 5c | 3 |
| 7 | PS | M | 3b | 3a | | 4c | 2 |
| 7 | LR | F | 5c | 5c | | 5b | 1 |
| 7 | PW | F | 6c | 6b | | 6b | 1 |
| 7 | PS | F | 5c | 5b | | 5b | 1 |
| 7 | LR | M | 3a | 4c | | 4a | 3 |
| 7 | PS | M | 5c | 5c | | 5c | 0 |
| 7 | ES | M | 3a | 4b | | 4a | 3 |
| 7 | PW | M | 5a | 5b | | 5b | -1 |
| 7 | DS | F | 4b | 4c | | 4c | -1 |
| 7 | AF | F | 4a | 5c | | 4a | 0 |
| 7 | ES | F | 5c | 5c | | 5c | 0 |
| 7 | PW | M | 4a | 5c | | 4a | 0 |
| 7 | AW | F | 5b | 5b | | 5c | -1 |
| 7 | AF | F | 4b | 4b | | 4a | 1 |
| 7 | PS | M | 4c | 4b | | 4a | 2 |
| 7 | AF | M | 4c | 4b | | 5c | 3 |
| 7 | LR | F | 4b | 5c | | 4a | 1 |
| 7 | PS | F | 5c | 5b | | 5b | 1 |
| 7 | LR | M | 4c | 4a | | 4a | 2 |
| 7 | DS | M | 4c | 4b | | 4b | 1 |
| 7 | ES | M | 4c | 4c | | 4a | 2 |
| 7 | AF | F | 5c | 5c | | 5a | 2 |
| 7 | LR | F | 4a | 5a | | 5a | 3 |
| 7 | PS | M | 3a | 3a | | 4c | 1 |
| 7 | DS | M | 4a | 4a | | 4a | 0 |
| 7 | DS | F | 5c | 5c | | 5c | 0 |
| 7 | AF | F | 5c | 4a | | 5c | 0 |
| 7 | PW | F | 4a | 6c | | 5b | 2 |
| 7 | ES | F | 4a | 5c | | 5c | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7 | AW | M | 6c | 6c | | 6c | 0 |
| 7 | LR | M | 4a | 4a | | 5a | 2 |
| 7 | PS | M | 4b | 4a | | 5c | 1 |
| 7 | AF | F | 5c | 4a | | 4a | -1 |
| 7 | PS | M | 6c | 5c | | 5b | -2 |
| 7 | LR | M | 4b | 4b | | 4a | 1 |
| 7 | DS | M | 3c | 3c | | 3c | 0 |
| 7 | PW | F | 3a | 5b | | 4b | 2 |
| 7 | DS | F | 5c | 5c | | 5b | 1 |
| 7 | DS | M | 5c | 5b | | 5a | 2 |
| 7 | DS | F | 5c | 5b | | 5b | 1 |
| 7 | DS | M | 4b | 4b | | 4a | 1 |
| 7 | LR | M | 4c | 4b | | 4a | 2 |
| 7 | PS | F | 4a | 4a | | 5b | 2 |
| 7 | AW | M | 5a | 5a | | 5a | 0 |
| 7 | AF | M | 4b | 4a | | 5c | 2 |
| 7 | PS | F | 5c | 5c | | 5c | 0 |
| 7 | ES | M | 5b | 5b | | 5a | 1 |
| 7 | LR | F | 5c | 6c | | 6b | 4 |
| 7 | AW | M | 4c | 4a | | 4b | 1 |
| 7 | AW | F | 4c | 5c | | 4b | 1 |
| 7 | ES | M | 4b | 5c | | 5b | 3 |
| 7 | LR | M | 4b | 4b | | 4b | 0 |
| 7 | AF | M | 4a | 4b | | 4a | 0 |
| 7 | LR | F | 3b | 4c | | 4c | 2 |
| 7 | AF | F | 4c | 4b | | 4a | 2 |
| 7 | AF | M | 4c | 4b | | 4c | 0 |
| 7 | AF | M | 6c | 5b | | 5a | -1 |
| 7 | DS | M | 4b | 5c | | 5b | 3 |
| 7 | PS | F | 4a | 5c | | 4a | 0 |
| 7 | PW | M | 5b | 5a | | 5b | 0 |
| 7 | DS | F | 4a | 5c | | 5c | 1 |
| 7 | ES | M | 4b | 4a | | 5c | 2 |
| 7 | ES | M | 4a | 4b | | 5c | 1 |
| 7 | AW | M | 4a | 5b | | 4a | 0 |
| 7 | LR | F | 4b | 4b | | 4a | 1 |
| 7 | ES | M | 5c | 5b | | 5b | 1 |
| 7 | LR | F | 5b | 5a | | 6c | 2 |
| 7 | AW | F | 4c | 5c | | 4a | 1 |
| 7 | PW | M | 4a | 5c | | 4c | -2 |
| 7 | DS | M | 4b | 4b | | 4b | 0 |
| 7 | PW | M | 5c | 5b | | 5b | 1 |
| 7 | PW | M | 4b | 5b | | 5c | 2 |
| 7 | DS | F | 4a | 5c | | 5c | 1 |
| 7 | PS | F | 4a | 4a | | 5a | 3 |
| 7 | PS | F | 4c | 4a | | 5c | 3 |
| 7 | DS | M | 4a | 4a | | 4b | -1 |
| 7 | ES | F | 4c | 4c | | 4b | 1 |
| 7 | AW | F | 5c | 5a | | 5b | 1 |
| 7 | AF | F | 4a | 5c | | 5c | 1 |
| 7 | PW | M | 5a | 5a | | 5b | -1 |
| 7 | AF | M | 4a | 5b | | 5b | 2 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7 | PW | M | 3a | 5c | | 4b | 2 |
| 7 | LR | F | 4c | 4b | | 4a | 2 |
| 7 | AW | M | 3a | 4a | | 4b | 2 |
| 7 | AF | F | 4b | 5c | | 5c | 2 |
| 7 | PS | F | 4c | 4c | | 4b | 1 |
| 7 | PS | M | 5b | 5c | | 5b | 0 |
| 7 | AW | M | 4c | 4a | | 4a | 2 |
| 7 | PW | M | 4c | 5c | | 5c | 3 |
| 7 | PW | M | 6c | 6c | | 6b | 1 |
| 7 | LR | F | 4c | 5b | | 4a | 2 |
| 7 | ES | F | 5c | 5c | | 5b | 1 |
| 7 | ES | M | 4c | 4a | | 5c | 3 |
| 7 | AW | F | 6c | 6c | | 6c | 0 |
| 7 | AF | M | 5c | 5c | | 5b | 1 |
| 7 | PS | F | 4b | 5c | | 5b | 3 |
| 7 | PS | M | 4a | 4b | | 4a | 0 |
| 7 | DS | F | 4a | 5c | | 5b | 2 |
| 7 | LR | F | 4b | 4a | | 4b | 3 |
| 7 | ES | F | 6c | 6c | | 5a | -1 |
| 7 | DS | F | 5a | 6c | | 6b | 2 |
| | | | | | | **Average Change** | **0** |

**Appendix 2:** Birchwood Community High School G&T Cohort Non-verbal, Reading & Spelling Scores.

| | | | Sep-05 | | May-06 | |
|---|---|---|---|---|---|---|
| **Sex** | **Form** | **NV** | **RA** | **SA** | **RA** | **SA** |
| M | 7PW | 118.0 | 15.9 | 15.0 | 16.9 | 15.0 |
| M | 7AW | 119.0 | 14.8 | 13.9 | 14.8 | 13.2 |
| F | 7DS | 117.0 | 11.9 | 15.0 | 13.5 | 14.4 |
| M | 7ES | 108.0 | 15.9 | 15.0 | 16.9 | 12.2 |
| F | 7PW | 128.0 | 14.3 | 15.0 | 16.9 | 13.9 |
| F | 7DS | 132.0 | 16.9 | 12.9 | 16.9 | 15.0 |
| M | 7AF | 104.0 | 10.7 | 10.5 | 12.6 | 12.4 |
| F | 7AF | 121.0 | 11.2 | 11.8 | 10.4 | 9.4 |
| F | 7ES | 111.0 | 14.8 | 15.0 | 16.9 | 13.9 |
| M | 7AW | 113.0 | 12.2 | 12.6 | 16.3 | 13.5 |
| F | 7AF | 110.0 | 12.1 | 12.2 | 13.7 | 12.6 |
| M | 7AF | 140.0 | 16.9 | 15.0 | 16.9 | 15.0 |
| F | 7AW | 128.0 | 13.9 | 13.9 | 16.3 | 15.0 |
| M | 7LR | 140.0 | 16.9 | 15.0 | 16.9 | 13.0 |
| M | 7AF | 136.0 | 16.9 | 13.9 | 16.9 | 13.2 |
| M | 7ES | 105.0 | 13.3 | 14.4 | 15.9 | 15.0 |
| F | 7AW | 110.0 | 11.7 | 14.4 | 13.1 | 12.4 |
| F | 7DS | 117.0 | 13.1 | 15.0 | 16.9 | 15.0 |
| F | 7PW | 107.0 | 14.8 | 12.9 | 14.8 | 14.4 |
| M | 7DS | 139.0 | 11.9 | 11.8 | 12.0 | 12.2 |
| F | 7AF | 104.0 | 15.6 | 15.0 | 16.9 | 15.0 |
| M | 7AW | 125.0 | 16.9 | 14.4 | 13.7 | 15.0 |
| F | 7LR | 116.0 | 16.9 | 12.6 | 13.1 | 12.2 |
| F | 7PW | 133.0 | 12.9 | 13.5 | 13.9 | 13.5 |
| F | 7PS | 130.0 | 13.3 | 13.9 | 16.9 | 15.0 |
| M | 7PS | 117.0 | 15.9 | 14.4 | 15.6 | 14.4 |
| M | 7PW | 129.0 | 10.2 | 12.9 | 12.1 | 11.8 |
| F | 7ES | 104.0 | 11.7 | 15.0 | 15.1 | 15.0 |
| F | 7AW | 119.0 | 16.9 | 15.0 | 16.9 | 14.4 |
| F | 7PS | 122.0 | 13.3 | 12.2 | | 13.2 |
| F | 7AF | 130.0 | 16.9 | 15.0 | 16.9 | 15.0 |
| M | 7AW | 139.0 | 16.9 | 13.2 | 16.9 | 13.2 |
| M | 7PS | 125.0 | 11.4 | 11.6 | 11.7 | 13.2 |
| M | 7DS | 120.0 | 13.2 | 10.8 | 13.0 | 11.2 |
| M | 7AF | 138.0 | 11.9 | 15.0 | 13.0 | 13.9 |
| M | 7ES | 115.0 | 13.3 | 15.0 | 15.6 | 12.6 |
| F | 7LR | 128.0 | 16.9 | 14.4 | 16.9 | 13.9 |
| M | 7ES | 115.0 | 16.9 | 13.2 | 16.9 | 13.5 |
| M | 7AF | 139.0 | 12.4 | 15.0 | 16.9 | 15.0 |
| M | 7PW | 110.0 | 12.2 | 12.6 | 14.8 | 12.6 |
| M | 7ES | 123.0 | 14.3 | 12.9 | 13.7 | 12.9 |
| F | 7LR | 114.0 | 16.9 | 13.5 | 16.9 | 12.4 |
| F | 7AW | 104.0 | 13.9 | 11.8 | 12.9 | 13.5 |
| M | 7AF | 115.0 | 9.7 | 15.0 | 13.7 | 15.0 |
| F | 7AF | 135.0 | 11.7 | 10.8 | 12.9 | 11.4 |
| M | 7PW | 103.0 | 12.8 | 12.6 | 15.1 | 14.4 |
| F | 7AW | 100.0 | 12.4 | 12.6 | 13.1 | 11.4 |

| | | | | | | |
|---|---|---|---|---|---|---|
| M | 7AF | 125.0 | 14.8 | 13.2 | | 12.9 |
| F | 7ES | 122.0 | 16.9 | 15.0 | 16.9 | 15.0 |
| F | 7DS | 125.0 | 15.9 | 15.0 | 16.9 | 13.5 |
| | **Average** | **120.5** | **14.1** | **13.6** | **14.5** | **13.5** |

**Appendix 3**: GC MALS Learner responses

O T
76% 76% enjoyment in problem solving
47% 67%confidence in his school Significant increase
64% 68% in confidence in his learning ability
90% 100%care with work
50% 70% lack of anxiety
80% 80%Access to and use of problem solving vocabulary
60% 80% confidence in dealing with new work
60% 40% confidence in problem solving
100% 80% verbal ability
100% 90% confidence in general ability

L R
60% 68% enjoyment in problem solving
60% 70% confidence in her school work
68% 64% in confidence in her learning ability
20% 100%care with work
100% 70% lack of anxiety
100% 70% Access to and use of problem solving vocabulary
20% 80%confidence in dealing with new work Significant increase
10% 40% confidence in problem solving Significant increase
100% 80% verbal ability
80% 100% confidence in general ability

J P
92% 96% enjoyment in problem solving
57% 73% Confidence in his school work
96% 88% in confidence in his learning ability
100% 100% care with work
60%100% lack of anxiety
100% 100%Access to and use of problem solving vocabulary
20% 90% confidence in dealing with new work Significant increase
10% 100% confidence in problem solving Significant increase
80% 100% verbal ability
100% 100% confidence in general ability

M K
Overall decrease 52% 44% enjoyment in problem solving
63% 57% confidence in her school work
56% 60% in confidence in her learning ability
100% 70%care with work
80% 50% lack of anxiety
70% 60% Access to and use of problem solving vocabulary
80% 50% confidence in dealing with new work Significant decrease
100% 80% confidence in problem solving
20% 80% verbal ability increased to 80%
60% 50% confidence in general ability

M M
72% 56% enjoyment in problem solving
40% 67% confidence in his school work Significant increase
76% 64%in confidence in his learning ability
20% 30% care with work
20% 60% lack of anxiety
60% 60% Access to and use of problem solving vocabulary
40% 90% confidence in dealing with new work Significant increase
10% 100% confidence in problem solving Significant increase
80% 80% verbal ability
80% 50% confidence in general ability (had decreased)

**Appendix 4**
G&T Policies for
Birchwood Community High School and Gorse Covert Primary School

***Birchwood Community High School***
*A Business & Enterprise College and Leading Edge School*

**Gifted & Talented Policy**

**Principle**

**Birchwood Community High School is committed to meeting the needs of all its learners and developing their potential fully, including those who are Gifted & Talented (G&T). We believe that every learner has the right to receive an education that is appropriate to their ability and needs; therefore provision for G&T learners is not an add-on but integral and inclusive.**

**The purposes of the Gifted & Talented policy are:**

To ensure that G&T learners have access to an appropriate curriculum.
To give learners the opportunity to work at higher cognitive levels.
To provide opportunities to realise and develop specific skills or talents.
To improve the motivation and achievement of G&T learners.
To have a whole-school impact on the self-esteem and attainment of all learners by helping to foster an achievement culture, where effort as well as ability is respected and rewarded in a wide variety of areas.

**Accordingly the School will:**

1. Have a named member of the Senior Management Team (SMT) responsible for G&T issues.
2. Ensure that each department has a named G&T representative.
3. Adhere to a broad and flexible definition of what being G&T means.
4. Employ a range of strategies for the identification of G&T learners.
5. Maintain a register of G&T Learners, through the named member of the SMT.
6. Support the application for membership of the National Academy for Gifted and Talented Youth (NAGTY), for those learners who fulfil the criteria.
7. Consider contributions, within available resources, towards visits to NAGTY Summer Schools and other relevant NAGTY outreach activities.
8. Build in to schemes of work and lesson planning coherent provision for G&T learners.
9. Co-ordinate activities associated with G&T learners, through the named member of the SMT.

**Evaluation**

1. Departments will record G&T outcomes as part of the Annual Review.
2. The designated member of the SMT will monitor current legislation, other issues or changes and recommend amendment to policy or practice as and when necessary.
3. The designated member of the SMT will, using any relevant data, update the G&T register at least once each year or as other circumstances dictate.

**The attached appendices have been added to give more specific guidelines regarding the School's policy with regard to issues of:**

1) **Definitions of G&T learners**
2) **Identification**
3) **Grouping Policy**
4) **The Curriculum**
5) **Monitoring and Assessment**
6) **Parents**
7) **Professional Development**

## Appendix 1) Definitions of Gifted & Talented learners

Gifted learners are those who achieve, or have the ability to achieve, at a level which is significantly in advance of that expected of their peers, in a number of different subject areas. Talented learners show, or have the potential for, advanced ability in creative arts and sport. Learners who demonstrate any or a combination of the intelligences identified by Howard Gardener Model:

Linguistic Intelligence.
Musical Intelligence.
Logistic/Mathematical Intelligence.
Spatial Intelligence.
Bodily Intelligence.
Inter-personal Intelligence.
Intra-personal Intelligence.

An exceptional pupil is one who is outstanding in either potential or achievement in one or more spheres of activity which can be regarded as beneficial to the pupil and to society. Children capable of high performance include those who have demonstrated achievement and/or potential ability in any of the following areas:

General intellectual aptitude.
Specific academic aptitude.
Leadership ability.
Creative or productive thinking.

## Appendix 2) Identification

It is recognised that identification can be difficult, and is an ongoing process. We are constantly 'talent spotting'; and our most challenging task is to spot the gifted under-achiever. The register is flexible; since assessment of ability is longitudinal there is need for constant assessment and re-evaluation. Learners can move onto the register at any stage; staff are encouraged to be vigilant in uncovering latent ability which is not being utilised. A wide range of strategies, both quantitative and qualitative, are used to identify Gifted & Talented learners; with the awareness that identification is not an end in itself – it is only valuable if it leads to better provision. The school Gifted & Talented register is inclusive; because our definition is not restricted to only the academically gifted, but recognises a wide range of human talents and abilities. The following strategies are currently used to identify Gifted & Talented learners, with the understanding that all have their limitations;

CAT tests.
National Curriculum KS2 and KS3 Tests.
World Class Tests.
Internal summative and formative tests.
General and subject specific checklists.
Teacher nomination.

Peer, self and parental nomination.
Identification by provision.

## Appendix 5) Grouping Policy

At Birchwood Community High School subject areas will set where there is clear agreement within the department that this is beneficial to all learners. However, it is understood that top sets are not homogeneous; ability ranges within any set may be vastly different. The most gifted will still need to be extended and work differentiated. Where setting does occur there must be flexibility; provision for learners to move easily from one set to another. Where learners are taught in mixed ability classes, teaching and learning programmes will be matched to learners' ability; this includes consistent provision for the most gifted. Highly gifted learners may also be withdrawn from lesson(s) for higher level work within a small group.

## Appendix 6) The Curriculum

*Approaches within the classroom.* It is recognised that achievement comes through a combination of factors. Birchwood Community High School will provide the opportunity for learners to show their individuality and ability. Variety in provision will ensure that opportunities are maximised. The long term aim is to have programmes of work which have built into them at every stage enrichment and extension activities. Strategies for gifted learners will include:

Extension and differentiation – not more work but more appropriate work.
Stimulating lessons, so that learners are motivated by challenge.
A curriculum with an emphasis on higher order thinking skills, e.g. problem solving, decision making, predicting, evaluating etc.
Learning tasks which are not routine but are creative and have a degree of open-endedness and uncertainty to permit learners to impose meaning, make reasoned judgements or produce multiple solutions.
The opportunity to take risks in an organised way and, sometimes to fail.
Acceleration.
Partnership approaches.

*Out of class approaches.*

Enrichment activities including visits, master-classes, summer schools.
School clubs.
Competitions.
Resources.
Musical, drama, art and sporting opportunities.
Appropriate pastoral care and counselling, including learning mentors.

## Appendix 7) Monitoring and Assessment

Assessment for gifted learners, as for all learners, needs to be an integral part of the assessment cycle. To assess work effectively each curriculum area will decide what the essential components of ability in that area are and make sure that these are included within whole school assessment procedures, so that judgement and decisions are valid and relevant. Assessment will be formative as well as summative. It will be used as a diagnostic tool to inform the learning programme of individual learners and as an integral part of target setting.

## Appendix 8) Parents

Parents can help the school by providing relevant information; they see their child in a different context to the classroom. Birchwood Community High School will involve parents wherever possible so that their knowledge of the child can inform the school's provision and school can offer information and advice about the child's teaching and learning programme.

## Appendix 9) Professional Development

The school recognises the need for further staff training to meet the needs of Gifted & Talented learners. The school G&T co-ordinator will organise appropriate training with the services of outside agencies such as NAGTY, NACE etc.

gifted talented youth
THE NATIONAL ACADEMY

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