

Putting It All Together

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ABSTRACT

So you've heard the big name speakers? Now you've got to go back to the classroom and try to put it all together in a way that works for you and your students. This is a highly practical session led by a classroom practitioner. Walk with me through the journey of integrating SOLO taxonomy, Blooms / Anderson's taxonomy, questioning frameworks, metacognition, Habits of Mind, ICT and online communities, differentiation, individualised programming, thinking maps and more, into your high school planning and teaching of gifted students.

INTRODUCTION

This workshop is called "Putting it all together" because that is precisely what I've been doing in the last five years of the GATE (Gifted and Talented Education) journey that I have been on. It is like I have been given a giant jigsaw puzzle, in a box with no picture on the outside to show me what the finished product is meant to look like. In fact, the manufacturers of the puzzle do not quite know what the finished product is meant to look like because the pieces in the box all come from different companies. Each company has put much research and time into constructing what their piece of the puzzle should look like – and many of the pieces are incredibly detailed and intelligent in their design. But it comes down to me, the classroom teacher, in the end to work out how all the pieces fit together.

I am a high school English teacher in Auckland, NZ. High school in NZ is five years – Year 9-13 – and is for 12-18 year olds. Our school, Rutherford College, is in a multicultural, lower-middle class suburb. It streams its students from the highest to lowest ability, based on their entrance test results and their previous school's recommendations.

One of the rewards of teaching gifted and talented students has been the professional development I have received. Our school has been on the receiving end of two NZ Ministry of Education funding contracts for gifted students. These contracts enabled me to attend numerous conferences and workshops, and to get the current theory and research on teaching G&T students, as well as strategies and ideas for what to do in the classroom. The hard part in all this, however, was getting back to school with all these strategies and theories and trying to figure out how to do something with it all that would make a difference for my students.

So this brings me to my first main section of this presentation.

WHAT DO I DO WITH MY LEARNING?

What do most people do with their learning? What happens to seminar handouts and those carefully-taken notes at conference workshops? Most people would say that these get filed. But that word filed is rather euphemistic. It suggests a sense of ordering and organising. But if my method of filing notes in the past is anything to go by, it basically means: putting them in the bottom of a drawer. This method of filing not only caused valuable teaching and learning tools to be neglected, but also the loss of motivation and enthusiasm that had been gained from the sessions I had attended.

When I embarked on my gifted and talented learning, I realised that something had to change if what I learned was actually going to impact my teaching. So here's what I've done instead:

1. Connect the learning

This means that as I sit and listen to seminar speakers, I am continually making connections between what they are saying and my own classes. Instead of waiting until after the workshop to consider the implications for my students, I do it on the spot. Scribble down a

note: *This would work in a novel study; more thought needed here....* Scribble down names of students that embody the point being made or who need particular follow up. Scribble down a question: *Is this applicable to us? Who manages this at our school? Which students fit this?* As the thoughts hit you, note them down. They may not come to you later when you want them to.

2. Reflect on the learning

If my learning was going to make any difference to my students, then I needed to take time to reflect on it. There are many ways to do this. But I decided to buy a massive art folio book into which I could stick all my professional learning notes. This would mean that, aside from oversized manuals, all my notes on gifted education would be in one place. One place. Not some on my desk, some in a cabinet, some in a drawer as they had been in the past. All in one place.

But more than this, I decided I needed to interact with the notes. I needed to highlight, to underline, to circle important parts. And then I needed to annotate around the notes with my own thoughts about their relevance.

3. Revisit the learning

Of course, this lovely collection of highlighted and annotated notes is only helpful to me if I revisit it. I need to go back to my notes and annotations during my planning of schemes, units and lessons. My learning folio needs to be open as I plan and evaluate my courses, the pages well thumbed, to ensure that I am applying the parts I have deemed relevant and interesting. Even several years down the track, I find returning to some of those first few pages in my learning folio useful. There are ideas there I wasn't ready for then but that I am

now. There are strategies I didn't fully appreciate or understand when I glued them in, which, because of more recent learning, I now value.

HOW DO I PLAN FOR GIFTED AND TALENTED STUDENTS?

In New Zealand we have a lot of freedom in terms of planning and course design. We have a detailed curriculum in English, but the way we teach it, the texts we give to our students, the order in which we teach is up to the teacher's discretion for the most part. So it is from that structure that I talk to you about planning today. If you have a more prescriptive curriculum, then I encourage you to consider how elements of what I share could be applied to that tighter structure.

Every course taught in my school is required to have a scheme. A scheme is a detailed breakdown of what I plan to teach in a unit, how it links to the national curriculum, the learning outcomes for the students, the methods I will use, the resources the unit will require, the thinking and literacy strategies I will utilise, and the assessments I will give my students. Designing a scheme for a gifted and talented class means I need to stop and ask myself: What will make my scheme different from a mainstream English scheme? What exactly do gifted students need in their learning?

There are many workshops that you can attend to find the answer to that question. Books are written on this topic, research is undertaken on it. But here are the brief conclusions I keep in mind as I plan:

- Opportunity to ask 'why?'
- A big picture awareness of our unit
- Opportunities to think deeply

- Transparency of assessment processes
- Real life application or meaningful contexts for learning
- Challenge in areas of giftedness
- Variety in approach to learning and assessment
- Opportunity for student control over their learning

The challenge then, as I sit down to plan my schemes of work, is to ensure that I cater for these needs. So I keep a list like this handy, and I keep my learning folio handy as well as I sit down to plan.

The unifying factor in our unit of work is our thematic approach and our overarching question. Our Year 9-10 programme for gifted students is based on thematic units across all subject areas – although Maths struggles to fit in at times. This means that in Term 1 each year, the theme across all subjects for Year 9 gifted students is water. So in Social Studies they look at the water cycle, in Science the chemical properties of water and other liquids, in Physical Education they do snorkelling and Waka Ama (traditional Maori canoeing), and in English we look at the ability of language to flow like water via a study of a Shakespearean text. We also employ common teaching and learning strategies across all subject areas.

In English, we take this a step further, and use overarching questions – fertile questions or big questions they are commonly called. These serve to unite our learning for the term. Our most recent theme in Year 9 was Energy, and in English we adapted the theme to ask this question: Is a picture worth a thousand words? We looked at the energy, the power, the impact of visuals (picture) and the energy, the power of poetry (words) in this unit. This covered our national curriculum requirements (visual and written texts) as well as provided a meaningful context. At the end of the unit, students are required to pull together all the

threads of their learning in English and their other subjects and life in general, and come up with an answer to this question: Is a picture worth a thousand words?

So that is one aspect of our planning. A second is our use of the SOLO taxonomy. SOLO stands for Structure of Observed Learning Outcomes and was developed by Biggs and Collis (1982). <http://www.learningandteaching.info/learning/solo.html>

It describes level of increasing complexity in a student's understanding of a subject, through five stages, and is applicable to any subject area.

1 Pre-structural: Here students are simply acquiring bits of unconnected information which have no organisation and make no sense.

2 Unistructural: Simple and obvious connections are made, but their significance is not grasped.

3 Multistructural: A number of connections may be made, but the meta-connections between them are missed, as is their significance for the whole.

4 Relational level: The student is now able to appreciate the significance of the parts in relation to the whole.

5 At the extended abstract level, the student is making connections not only within the given subject area, but also beyond it. He/she is able to generalise and transfer the principles and ideas underlying the specific instance.

We found this structure useful for several reasons. Firstly, it focuses on the ability to make connections and understand their significance, which is an essential skill in all subject areas. Secondly, its final stage of extended abstract thinking is exactly the kind of thinking we want

to be moving our gifted students towards. We had identified the opportunity for our students to think deeply as one of our key needs. SOLO provided us with a model we could apply to almost any learning activity or assessment. Thirdly, our national assessment system NCEA is increasingly using SOLO in its development of examinations and internal assessments. And fourthly, it is a taxonomy which supports all phases of the teaching process, from planning, through to delivery and assessment. Its ability to do this renders it another unifying feature of our gifted and talented programme.

Once we had decided to base our learning and assessments on SOLO, we wanted our schemes to reflect SOLO. So we coded all our teaching and learning activities according to SOLO. We wanted to see several things. We wanted to see the types of thinking we were requiring of our students, and to especially gauge whether we were providing them with enough extended abstract thinking challenges. Once we had coded the activities, we could look at them and decide that yes, our students were getting plenty of opportunities to think to an extended abstract level, or no, most of our activities were at a multi structural or relational level. Then we could adapt our teaching and learning as needed. So at a glance I can look at our scheme for a unit of work, and ascertain the types and depth of thinking the unit will require.

Now that we know the kinds of thinking that we are requiring, we can target our strategies more helpfully. I can see that a word snowball or a brainstorming task for example, is great for helping students come up with lots of ideas, but that because it is basically a list with limited connections, it remains a uni or multi structural activity. And I can see that when I ask students to evaluate or generalise about something, I am actually asking them to undertake something that involves considerable thinking, and that they will need scaffolding,

maps, and other strategies to build them towards their evaluation or generalisation if they are to do it effectively. Therefore, on our scheme of work, we list the strategies we will use to support the types of thinking we are asking of our students.

WHAT CAN LESSONS FOR GIFTED AND TALENTED STUDENTS LOOK LIKE?

I am going to give you a sample of a couple of introductory lessons in a thematic unit on structure. In this unit, students consider structures in English. They look at parts of speech, at syntax (sentence structure), and at narrative structure (how stories are structured). They complete a novel comparison study where they look at the various structures in two novels and compare and contrast them in an essay. But I want to explain how we begin this unit.

The first thing I would do as the students entered the room would be to give them one of de Bono's thinking cards. These come from his Mind Pack and are useful for all sorts of situations. You could make your own or get students to make some, but I was given the pack so I use them. I tell the students our theme for the term is structure, and ask them to tell their neighbour what structures make up the item on their card. So a bucket, for example, has structures like a handle, and a flat base to stop it falling over. They often go further and begin discussing things like atoms and cells. Once this is done, they must find a new partner. This time they talk about how the structures in their item could work together with the structures in their new partner's item. This is harder. A bucket and an umbrella could work together as a rain collecting device for example, with the structure of the umbrella creating run off and the bucket collecting it. This is simply getting the students to think creatively and originally. They tend to love it as long as it isn't overused. Twice per year is enough.

Next, I would get students to do a massive brainstorm of anything with structure. They could do this as a think-pair-share activity, or as a round robin task, passing their paper between members in a group and adding new ideas as their thoughts are enhanced by reading other students' ideas. After this, I imagine there would be some kind of discussion about the fact that everything has some kind of structure. I'd then ask them to categorise their structures as they see appropriate – they can use some type of categorising map for this. Students come up with all sorts of headings – plant, animal, human made, chemical... conversations can get quite heated. They have to justify their thinking to each other, listen to and evaluate others' rationales.

Following this I would write our big question for the term on the board “Why structure?” and get them to use a “define map” to figure out exactly what the question is asking. In a “define map”, students list synonyms for ‘why’ and ‘structure’ in the centre and different words, unrelated ideas in the next ring out. Then they can hopefully come up with some paraphrases of the question to show they have really considered what the question is asking.

The next step would be to get them thinking about the structures in the novels they had been reading. Here I could use some question starters or question cubes. Using these, students can generate and answer questions about their novels' structures. The questions may not be hugely deep ones using these starters, and in their novel comparison assignment I use the Williams Model to really get them writing and answering complex questions. But this is a good start. I would probably ask for 10 questions from each group, and then ask students to choose 4-5 from the whole class to answer. They may come up with questions such as:

- Who is the most highly organised person in *October Sky*?
- How is structure important in Homer's family?

- What structures exist in Homer's circle of friends?
- How is Homer's future mapped out for him if he stays in Coalwood?

If I want to make it more complex I can add a second cube with auxiliary verbs on it – will, might, should, could etc. So questions take on a hypothetical nature: How might Homer's life have been different if his Dad was not such a highly organised workaholic?

Part of the homework programme during these lessons would be an online discussion.

Online discussions extend class time beyond our 50 minute periods, and allow for more interaction than can occur in a classroom because online, everyone can chat with everyone else. It is also a way for those who contribute less in class to have their voices heard.

I use a free online classroom called Nicenet (www.nicenet.org) but there are many types available. Some of your schools will have these set up already. Ours doesn't have a user-friendly one yet. I would bring in some of the more affective and personal reflections on structure at this point, and get them chatting about things such as:

- What hierarchies are in your life? How do they affect you?
- How structured are you as a person – do you prefer to be organised / disorganised, on time / late, etc?
- Can you have too much structure? What would that be like? What about too little?
- What physical structures do you come across every day?

My purpose here is to give them a wide understanding of what structure is and the way it affects their lives. More than this, the online discussions are excellent reflective tools for the students. We as teachers say that we value reflection. An online classroom is one way we

can show we value the process of reflecting as we are requiring students to spend time in reflection.

Somewhere in here I would issue them with their novel comparison assignments and would move into the teaching topics I want to cover in this unit – parts of speech, syntax and narrative structure. At the end of the unit we would return to the big question of ‘why structure?’ and they would need to pull together all their thinking for the term and provide an answer to this question.

At this point I may also get them to fill in a reflection diary, although I tend to use this more with my older students and get them to do it every 2-3 weeks. The reflection diary is important in consolidating their learning and helping them see the learning journey that they have been on recently. It is also helpful for me as their teacher to see what they have appreciated, what they are still struggling with, how they are feeling about my class.

Usually once or twice a week, I will also have students reflect orally at the end of a period. They will need to tell a partner one thing they have learned, or as they leave the room tell me something they have learned. Again, it is good to do this to help students realise that they have learned things, and to consolidate that learning.

So what are the general principles we can draw from these lessons? My examples have been very English focused but the general principles are applicable to all other disciplines.

- Access prior knowledge
- Relate the learning to real life situations
- Get students to problem solve

I did this through the use of the picture cards at the start of the unit.

- Get them generating ideas – as many as possible to encourage fluency
- Get them organising and justifying their organisation of their ideas

I did this through the brainstorming and the categorising tasks.

- Get them to link their learning to something bigger – an overarching question or theme so they can see how their learning fits together
- Get them questioning
- Get them involved affectively – considering the personal implications of their learning
- Get them involved in metacognition – reflecting on their learning

HOW CAN GIFTED AND TALENTED STUDENTS BE CHALLENGED IN THEIR ASSESSMENTS?

The assignments I give my students tend to involve both classwork and homework, and have some element of differentiation in them. Let's pause for a minute and talk about differentiation, because I have learned a few things about using it in the classroom.

1. I have learned that it does not mean creating four different lessons for every class every day. I cannot sustain that.
2. I have learned to choose when whole class activities are appropriate and when students need to be grouped according to ability and skill. I do this a lot when I am helping students to consolidate essay writing skills. I teach the whole class how to write an essay and give them the same activities to strengthen their understanding. Once they have written their first or second essay, and their areas of strength and weakness are apparent, it is then that I will plan a differentiated lesson or two. In these lessons, students will work on strengthening their areas of weakness. Some may need to work on their

structure, others on their use of formal language, others on explaining more thoroughly. Others still may be ready to fly – they have got it straight away. So I will give them a more challenging essay question. I am selective with differentiation.

3. I have learned that differentiation is about more than skill building. It is also about offering students choice. Not all the time, but when I can, students can choose how they submit an assignment. So for the end of term reflection on our fertile question, for example, students can choose how it is presented – on tape, as a PowerPoint, as an interview, as an essay, as a poem. Students can also choose at times which questions they will answer in an assignment. They do not need to do them all.

This next section explores two assignments that I have my Year 10 students complete to model the types of strategies that can be used to stretch gifted students. The first is the novel comparison assignment I mentioned earlier. The assignment requires them to compare two texts – one which I assigned to them *October Sky* by American author Homer Hickam – more a memoir than a novel actually, and the second of their own choosing. I have a second text they can choose if they would like. This is a simple form of differentiation – giving students choice. They answer some fairly straightforward questions on *October Sky* to consolidate their understanding and ensure they do not forget it during the reading of their second text. Then when they've finished reading their second text they use the Williams Model of questioning to write and answer their own questions on their second text. This model gets students thinking deeply about their text. They have to consider paradoxes and ambiguities within their text. They have to consider discrepancies in the text, avenues for further research, and what can be learned from the failings in the text, to name a few. I ask that all their questions focus on structures in the text because eventually their ideas will end up in an essay on structures in their texts. Then they go on to answer a selection of their questions.

Now that they have done considerable thinking on both their texts I explain the comparison essay. The question itself is complex and requires a bit of unpacking: “Describe a variety of structures in your texts and explain the impact these structures have on the texts”. We break the question down by looking at the verbs “describe” and “explain” and discuss the different types of thinking required by each. When we look at those verbs in terms of the SOLO taxonomy, the students come to realise that “describe” is a multistructural task, and that “explain” is relational and extended abstract. Thus their answer to the essay question needs to be more weighted towards “explaining” because to do this is more challenging thinking, and where the higher marks will lie.

Once they have their heads around that, they use a compare / contrast template to start organising their thinking. This compare / contrast template becomes the basis for their essay. Once a draft is written, we use Socratic questioning or Blooms question cards to help clarify meaning. In pairs, they read each others’ drafts and ask each other 5-10 questions from the question cards. They also peer mark the draft using a peer marking sheet and make suggestions for improvements. Then a good copy is done.

The second assignment I want to mention is one that requires my Year 10 students to create a digital story using Movie Maker 2. Visual language and creating visuals is part of our English curriculum in NZ. We decided to give the students a challenge and have them make two minute movies on a written text of their choice. Some chose a poem such as Edgar Allen Poe’s *The Raven*, others chose a speech transcript, yet others chose song lyrics. They needed to then use images, transitions, video effects, speed, titles, colour, and other aspects of the software to create more than just a literal representation of their written text. There had to be

a clear mood established; images had to be used symbolically. This kind of thinking is demanding. It is extended abstract thinking – the kind of thinking gifted students need in order to feel challenged.

Students worked on this at school and at home for 3-4 weeks. Towards the end, they evaluated each others' draft movies using Ryan's Thinker's Key 'The BAR' – bigger, add, remove (i.e. what needs to be made bigger, used more; what needs to be added, what is missing; and what needs to be removed, what is there too much of, what should I do away with). They used this feedback to edit and improve their draft movie.

Once their movie was finished, they showed it to the class, and did a short speech in which they justified their choices and explained the ideas and mood they were trying to convey. We have to assess students' oral language in English, so why not combine assessments? This helps to unify the course and give their assessments more validity. They also answered questions from the class on the choices they'd made in their movie.

The final part of all this was our Oscar night. We've traditionally had film evenings when parents could come and view the top 8-10 movies from the two top classes but this year it went bigger. It became an event. And I think it is easy to forget that many gifted and talented students like to organise events. This was their night. The locus of control was again shifted off the teachers and onto the students. They organised the ordering of the Oscar trophies, the sourcing of sponsorship, the invitations, the technical aspects, the set up of our school hall, the food and drink. They ran with it. And it was a wonderful night. Their talent was on show – in the movies and in the organisation, and that does wonders for their self-worth, and also for raising the profile of the gifted and talented programmes at our school. It

also gave an opportunity for parents to be involved. We have several parent nights each year at Rutherford, nights where parents can learn more about the nature of gifted children, but this one was simply a night of celebration. And gifted students need to have their successes acknowledged.

HOW DO WE TEACH THE STRATEGIES THEMSELVES?

It's one thing for me as a teacher to use these strategies in my teaching, but for them to become truly effective, students need to transfer them to other areas as well. They need to notice that a science task requires comparison and learn when to use a compare / contrast map. They need to realise that an art assignment is asking them to evaluate, and learn how to use Ryan's BAR or de Bono's Thinking Hats.

A couple of years ago I tried to teach my students eight of the 16 Habits of Mind. I followed instructions I had received on how to do this – got them thinking about what the habits looked like, sounded like, felt like; had them create slogans for them and make posters that were displayed in the class. I felt like I had done it all right. But when we evaluated the year, it got “black hatted” over and over again. They did not like it. They had found it boring and unhelpful. A similar message came from my new Year 9s this year. When I mentioned thinking strategies, a collective groan went up. Something is going wrong.

I do not know all the answers. I have tried a couple of different approaches in the last year or so and they have been better received, but I still think they are only part of the answer. So here are a few ideas. Firstly, learning dispositions. I chose only four dispositions to discuss with my students. One was “striving for accuracy”. We pulled the disposition to pieces, they set goals around it and now they revisit it and the other three dispositions when they hand in

an assignment, because for each major assignment there is a coversheet that they fill in. It requires them to reflect on their thinking and the work habits they displayed while they completed their assignment. Because there are only four, and because we revisit them regularly, they seem less antagonistic towards them this time.

The other attempt is a thinking and reflection booklet that we have created for our students. This booklet is based on SOLO and helps students become more aware of the types of thinking that teachers and examinations are requiring of them. We teach them about SOLO. Then I write up a list of verbs that are used in assessments and they need to work out what level of thinking the verbs are asking of them. Verbs like *list*, *name*, and *identify*, are asking for uni or multistructural thinking, for example. Verbs like *compare* and *justify* and *analyse* are asking for relational thinking. Verbs like *predict*, *judge*, and *evaluate* require extended abstract thinking. Students feel empowered by this knowledge. They can look at a Science test which asks them to *name* a chemical and realise that it is a fairly straightforward task they are being required to do. They can look at an English assessment where I've asked them to *evaluate* a writer's choice to use a third person narrator, and realise that it is quite a demanding task.

The booklet has also been a good tool for reflective learning. As well as containing SOLO and a few specifically selected thinking tools (charts, maps, questioning models etc), there is also space for the students to record results and consider how to improve for future assessments. Students are required to engage themselves metacognitively in this section of the booklet.

IS IT POSSIBLE TO HAVE INDIVIDUALISED PROGRAMMES FOR GIFTED STUDENTS IN A HIGH SCHOOL CONTEXT?

The answer to that is a simple yes. However, to do this for all gifted students in your school is time consuming. See the paper by my colleague Vivienne Russell on the development of this amongst our senior students in Year 11,12,13. She has a brilliant individualised programme running for 30 of our gifted students.

My work has been in the junior school and with just a few. We selected six of our top students in Year 10 to have individualised programmes. I conducted interviews with the students and their parents to identify areas of strength and passion, and areas of weakness, and based on these interviews drew up a programme for the students. Three of them have been accelerated in an area of passion – for example science or music. Two now write regularly for school and national newspapers. Three of them are working together towards a technology award. One was sent to a film school in the September holidays. Two are assisting at the primary school next door in being the filmers and producers for the DVD of their school show. Part of my role is to find challenges for these students in their areas of passion and in their areas of weakness.

I meet with them as a group weekly and we catch up on their progress in their various areas of involvement. We reflect on goals set, we monitor workload, we join with the older students some weeks. It has been recognised that gifted students need to spend regular time in their area of passion, and this is what the individualised programming is attempting to do. Once they are in Y11, 12 and 13, their programmes will be extended and personalised further. But this is a start. It is our first year doing it with Year 10 students, and so far the students have been very positive about the programme.

FINAL COMMENTS

At the end of five years of working with gifted students, I feel like the puzzle is starting to take shape. It has been an exciting time and a frustrating time, but that's how I used to feel sitting with my grandmother doing a puzzle of springtime flowers or Big Ben, so I guess that is to be expected. I hope this paper has given you some ideas as you work on your own puzzle - as you reflect on your learning at this and other conferences, and seek to apply it to your planning, delivery and assessment of the gifted and talented students you teach in your corner of the world.