

Primary Teacher Sabbatical Report



To investigate how I can enhance my own learning and understanding of SOLO taxonomy to become a more effective teaching practitioner.

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Rangiora Borough School

Term 2, 2012

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Acknowledgements

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- Northcross Intermediate – Jonathon Tredray and his amazing staff for welcoming me into their school for the day and showing me a range of uses for SOLO at the senior level.
- Newmarket Primary School – Virginia Kung for organising my visit so that I could see SOLO in action and for the time given up to speak on SOLO at Newmarket School.

To each and every school I visited, I fully appreciate the time and effort that went into hosting me in your school. Thanks to all the amazing teachers that I got to meet along the way and the opportunity I was given to visit your classrooms. Many of you shared valuable resources and time, which will not go to waste, so thanks and keep up the great work of educating our children.

Purpose

To investigate how I can enhance my own learning, and understanding of SOLO taxonomy to become a more effective teaching practitioner.

Investigate the implementation of SOLO taxonomy across all levels and areas of the school curriculum. To raise my own awareness and that of our staff, on how to effectively implement SOLO taxonomy into all planning, classroom practices and it's effectiveness in enhancing the learning outcomes for the students.

Background and Rationale

I had the opportunity to attend a two-day conference in Christchurch in 2009 where I first met Pam Hook and I was 'HOOKED' on the benefits of SOLO taxonomy as a teaching and learning tool. What a great way for a child to easily articulate learning and focus on their next steps.

I spent the next two years attempting to implement SOLO taxonomy more effectively into my classroom and tried to introduce it to colleagues. I would have to admit that I met with some resistance to change and was asked questions about why wasn't Bloom's good enough etc. However some of our staff did some more research of their own and were soon successfully using SOLO in their classroom planning and assessment.

Recent PD with Pam in our school has lit the fuse and now even more staff are boarding the bus and coming along for the ride.

My aim is that we can present SOLO as a pedagogical rather than a toolbox approach. So I am very interested in how other schools have moved past this point.

What is SOLO taxonomy?

SOLO stands for Structure of the Observed Learning Outcome. The taxonomy is a useful way to characterize different levels of questions in assessments and the corresponding responses expected from students. It originates from Biggs, J.B. and Collis, K.F. (1982). *Evaluating the Quality of Learning-the SOLO Taxonomy*. (1st ed). New York: Academic Press.

The five levels of the SOLO taxonomy are:

- | | |
|--------------------------|---|
| Pre-structural: | <ul style="list-style-type: none">• students are acquiring pieces of unconnected information• no overall sense• no organisation |
| Unistructural: | <ul style="list-style-type: none">• students make simple and obvious connections• the significance of the connections is not demonstrated |
| Multistructural: | <ul style="list-style-type: none">• students make a number of connections• the significance of the relationship between connections is not demonstrated |
| Relational level: | <ul style="list-style-type: none">• students demonstrate the relationship between connections• students demonstrate the relationship between connections and the whole |
| Extended abstract level: | <ul style="list-style-type: none">• students make connections beyond the immediate subject area• students generalise and transfer the principles from the specific to the abstract |

Teaching and learning consultant Pam Hook says, “Students of all ages need to be able to answer the following questions with respect to their learning goals: What am I doing? How am I going? What should I do next?”

According to John Hattie we rely too much on surface information and teaching our children surface information. He also feels that we assume that the goal in education is simply for deeper understanding or the development of thinking skills when really we should be aiming for a balance of surface and deeper learning to lead students to a more conceptual understanding.

He goes on to outline that these three types of understanding – *surface, deep, and constructed or conceptual understanding* – are built on the Biggs and Collis SOLO model. It is important to note that the SOLO model is valuable, in developing teaching models and learning outcomes, as well as being successful in helping us to assess students learning.

So with this knowledge that SOLO is both a teaching and learning tool as well as an assessment tool it was necessary to focus on these areas to find how it was being effectively implemented in other schools in New Zealand. Also I was interested to see how it was used in appraisal systems and the assessment of not just the students but the people administering SOLO within their classroom practice.

Methodology

The sabbatical leave allowed me the opportunity to visit other schools in New Zealand that were using SOLO taxonomy. Some of these schools were at the beginning of their journey while others had been implementing SOLO into their programmes for quite some time. Pam Hook had armed me with a list of schools to approach that would give me varied examples of how to use SOLO taxonomy effectively.

The observations made in these schools, outlined in the following report, adopt a case study approach. All examples used are of best practice observed in each school. Case studies draw together evidence about what works best to improve student learning outcomes and what can make the biggest difference in the teaching and learning of children.

My focus is on best practice in the classroom but also how each school implements SOLO into their everyday planning and the beginning steps that they took to achieve implementation by all teaching staff. How they carried out their professional development and any tips that have on following up with teachers on their progress etc. This is as much about the learner as it is about the person leading the learning.

1. Example of work across all areas of the curriculum
2. Ideas on how to run effective PD for all staff
3. Ongoing follow-up with staff
4. Reporting to parents
5. Implementation of SOLO into planning and overall pedagogy.

Each school that I visited was able to show me something different and helpful. Every school was at a different stage of the journey and as stated earlier my critique was to look at best practice. So what follows is just some of what I observed and I am grateful to all of the schools for any chance they gave me to observe and converse with staff.

Findings

Hutt Central School

Martyn Dowman – Principal
6 Railway Avenue, Alicetown, Lower Hutt.

School Roll: 300

Decile: 8

Years 1-6

Hutt Central had only been using SOLO for about 10 months and they were still finding their way. Their decision to use SOLO stemmed from their ERO review, which intimated that children knew what quality learning looked like but didn't know what it felt like -that children, were as such, unaware of their next steps.

They had a very clear action plan which was ever evolving, but it was a great starting point for the school in terms of their expectations on implementation etc. Each class had visible signs of SOLO to refer to and teachers were trialing SOLO in their inquiry – this all fitted in the schools action plan which had clear pathways. However Martyn could see the need for another boost of PD and Pam Hook was revisiting for 2 days sometime in the next month.

Martyn could see the need to keep up with PD as an important step to getting staff to better understand and focus on the importance of using SOLO in their school. One of the great ideas of keeping it out there for children was to have a weekly social skills assembly with role-plays from different classes each week showcasing what a particular social skill looked like at the different levels of SOLO taxonomy.

As this is a contributing school I wondered whether there was a need to look at the flow on effect as children moved onto local intermediates. However most schools felt that if the teaching across the school were consistent then children would continue to use the skills they had learnt.



SOCIAL SKILL!

To make our school a happy and safe place we need to remember our school values this term we are focusing on "TEAMWORK"
We will be using solo taxonomy to help us understand how well we are doing at each week's social skill!

Taking Care of Our Belongings

Extended Abstract



I always look after my own belongings and always take care of other equipment in the school and make sure it is in the correct place.

Relational



I always look after my belongings and sometimes remind others to take care of their belongings.

Multistructural



I usually look after my belongings and if reminded will put my belongings away.

Unistructural



I sometimes look after my belongings.

Prestructural



I do not look after my belongings.

Keeping our cloak bays tidy.

Extended Abstract



I always put my things in the right place and I can help others. I can create something to help others remember to keep our cloak bays tidy.

Relational



I can help other people remember to hang their bags up and put their things away and I can do it myself.

Multistructural



I can remember to hang my bag up and put my things away most of the time.

Unistructural



Sometimes I remember to hang up my bag but I forget to put my things away.

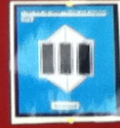
Prestructural



I need help to remember to hang my bag up and to put my things away in my bag.



SOLO TAXONOMY



Ngongotaha School

Dean Henderson - Deputy Principal
Ngongotaha, Rotorua

School Roll: 320
Decile: 3
Years 1-6

Ngongotaha was also a contributing school with many other schools around them also using SOLO. They have been using SOLO in their teaching and learning for three years. Their professional development consisted of 1 day with all staff at a twelve-school cluster share with Pam Hook and Julie Mills, 1 day at their own school with all staff with follow-up session for each syndicate, which they found really useful as it was more relevant and targeted that level. This was then followed up with 1 team from across the school consisting of 2 people from each syndicate to align SOLO across the curriculum.

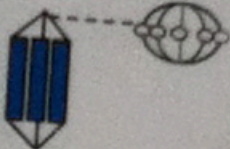









The school had structured sharing time at staff meetings, a class walk through, and feedback to each other. SOLO was also included in their appraisal document with the expectation of it being used in all classes. First year teachers and new staff to the school were given 2 days PD with Pam Hook to get them up to speed and understanding the purpose for using SOLO. *(Interesting to note that this helped them to make connections to what they were already familiar with such as The Thinker's Keys or Six Hats etc. Also just knowing where the Keys or the Hats fit into the SOLO hierarchy).*

Ngongotaha at the junior level saw their role as exposing the children to the language of SOLO and using whole class teaching when introducing SOLO HOT maps and excellent rubrics with lots of very visual cues for early readers. They had very good links to reading and writing strategies at this level. Also to use of SOLO with the key competencies was very evident.

Further through the school was more evidence of maps being well used in reading, writing and inquiry work. The school put together a comprehensive yearly plan which can be viewed on their school website.

SOLO TAXONOMY

RESPECT rubric

<p>I can show respect to others explain how I show respect and make a generalisation: "I think showing respect means ... because ... because ..."</p>	<p>I can apply what I know to something</p>  <p>Extended Abstract</p>	
<p>I can show respect to others and explain how I show respect.</p>	<p>I can connect my ideas.</p>  <p>Relational</p>	
<p>I always show respect to others.</p>	<p>I have more than one idea.</p>  <p>Multistructural</p>	
<p>I sometimes show respect to others.</p>	<p>I have one idea.</p>  <p>Unistructural</p>	
<p>I need help to show respect to others.</p>	<p>I need help to think of an idea.</p>  <p>Prestructural</p>	

Earthquake

Cause: the ground moves (earth)

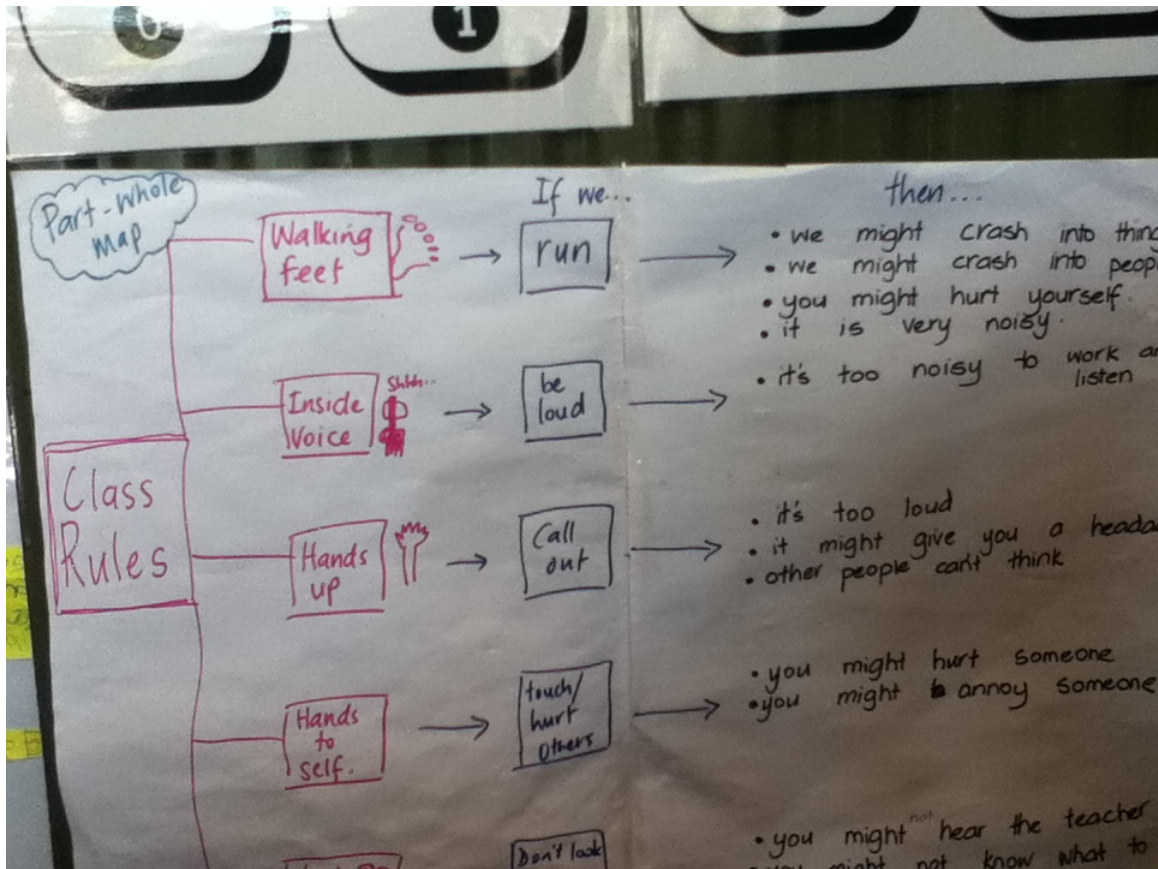


Effect: buildings fall down.
Cars get damaged and crushed.
people get hurt and some die
Stuck in buildings.
people get rescued.
no school
no water
broken dirty water pipes

no power






- cracks in roads
- sand + water on roads.

An example of a cause and effect map used in a junior class last year, 2011, looking at the effect of earthquakes.



In the same class an example of a part-whole map to break down the class rules. These were great to see as it bought in the use of maps other than describe, define or sequence which were being used a lot in junior classes.

Interestingly these three examples above were all from a New Entrant and Year 1 class where there was lots of modeling by the teacher, lots of visuals and their exposure to SOLO set them up well for future classes.

Joyden Tama		ROOM 3'S ANZAC CHALLENGE	
		Anzac Poster	Oral presentation
	EXTENDED ABSTRACT	<ul style="list-style-type: none"> - We can identify all information about the ANZAC questions/statements correctly - We can retell this information to others to help them learn about ANZAC 	<ul style="list-style-type: none"> - We can present all of our information clearly, while also adding any extra information - We are role models for the rest of the class as our oral presentations were clear, factual and presented appropriately
	RELATIONAL	<ul style="list-style-type: none"> - We have identified all information to answer the ANZAC questions/statements correctly - We have related all of these questions/statements to the overarching theme of ANZAC 	<ul style="list-style-type: none"> - We can present all of our information clearly, including why ANZAC is important
	MULTISTRUCTURAL	<ul style="list-style-type: none"> - We have identified most of the information to answer the ANZAC questions/statements correctly 	<ul style="list-style-type: none"> - We can present most of our information clearly
	UNISTRUCTURAL	<ul style="list-style-type: none"> - We have identified a piece of information to answer an ANZAC question/statement correctly 	<ul style="list-style-type: none"> - We can present one of our pieces of information clearly
	PRESTRUCTURAL	<ul style="list-style-type: none"> - We have identified none of the information to answer the ANZAC questions/statements correctly 	<ul style="list-style-type: none"> - We can present none of our information clearly
My next Learning steps		My next Learning step is <u>extended</u> <u>Abstract</u> To get here I need to: <u>have more</u> <u>prshin tashan</u>	My next Learning step is <u>extended</u> <u>Abstract</u> To get here I need to: <u>more</u> <u>info</u>

This rubric was attached to an Anzac poster. These two boys had a clear idea of what they needed to do next to improve their outcomes and were very honest about it.

This was a young teacher who was fairly new to the school and to teaching as a profession. She had no idea about SOLO until coming to this school and had been given PD with Pam which she found invaluable in improving her understanding of how to use it in her classroom and more importantly why. There was a lot of evidence in the classroom of using SOLO taxonomy and the children were well focused.

Waikowhai Primary

Deputy Principal – Sarah Allen
Waikowhai, Auckland

School Roll: 215
Decile: 3
Years 1-6

Waikowhai had just appointed a new principal who had been in the role for only two weeks so I was very appreciative of the time they gave me. The school had been using SOLO for about 7 years. Initially their appraisal system focused on the use of SOLO in the classroom to ensure ongoing implementation but more recently they let teachers set their own goals for appraisal.

The school had picked up SOLO early on when they went through the ICT contract. It was felt this wasn't the best outcome due to information overload. They see the importance of ongoing PD to re-focus/reflect and check on the quality of understanding amongst the staff.

Waikowhai shared a similar ethos to Ngongotaha with exposure at the junior level to the language and whole class use of HOT maps. They had folders for all staff members with relevant information to SOLO and the Inquiry Process, and could see the need for more PD for first year teacher and any new teachers to the school. Their local ICT Cluster were all focused on SOLO and children from Waikowhai would be going to a local intermediate which was also part of this cluster so ongoing support and use at the next level. Although again staff felt that children would maintain the skills they had learnt and continue to use them autonomously.

Junior classes had a great example of collecting and displaying the work of their students in a simple clearfile. The work was kept neat and tidy and was easy for children, teachers and parents to view.

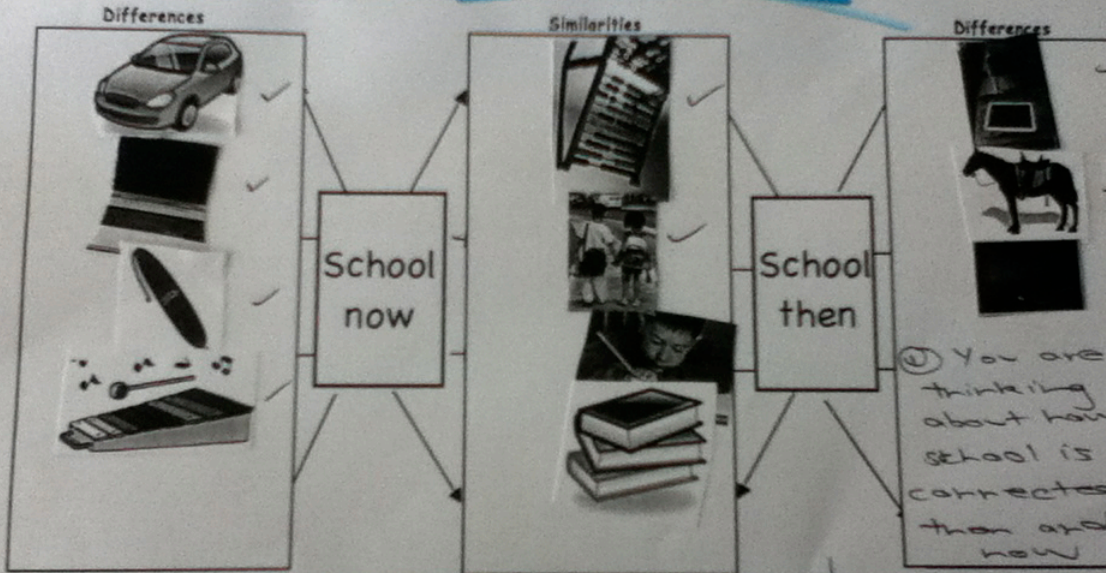
Also observed a very skilled year 5/6 teacher who used lots of SOLO language in her discussion with children and knew all the right questions to ask to elicit more '*conceptual*' thinking from her students. Great to see SOLO in action in the classroom and the ideas that people shared.

As with previous schools, Waikowhai was developing their own personalised HOT maps.

Compare and Contrast Map



WALT compare information from past and present.

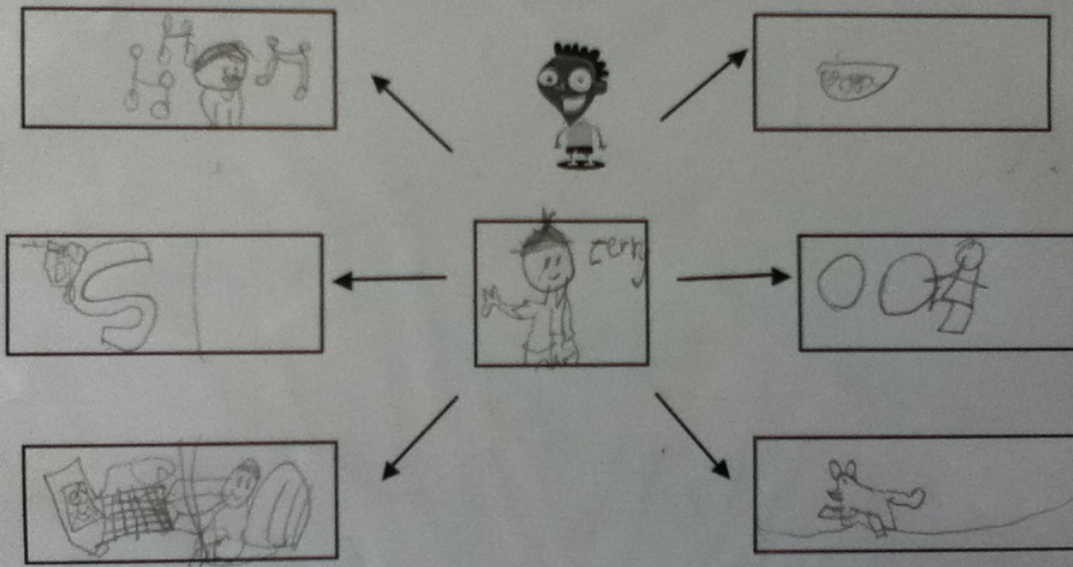


My Statement:

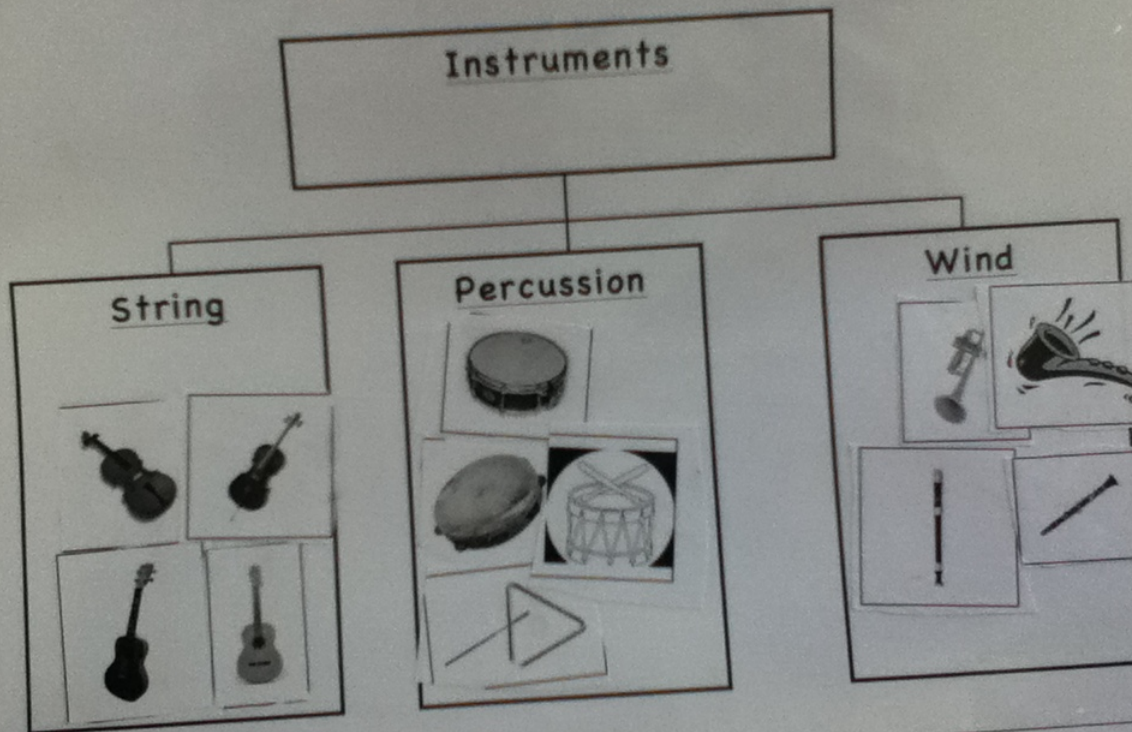
School is connected then and now
It is a place where children learn

Describe Map

WALT: describe our friend



WALT classify types of instruments

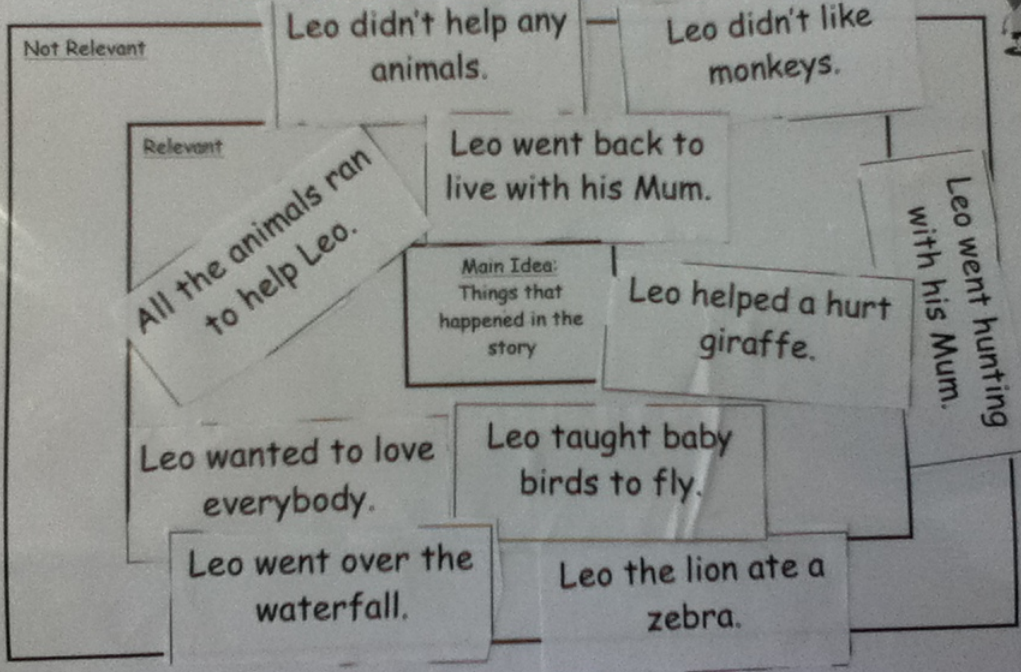


ment:

hooked

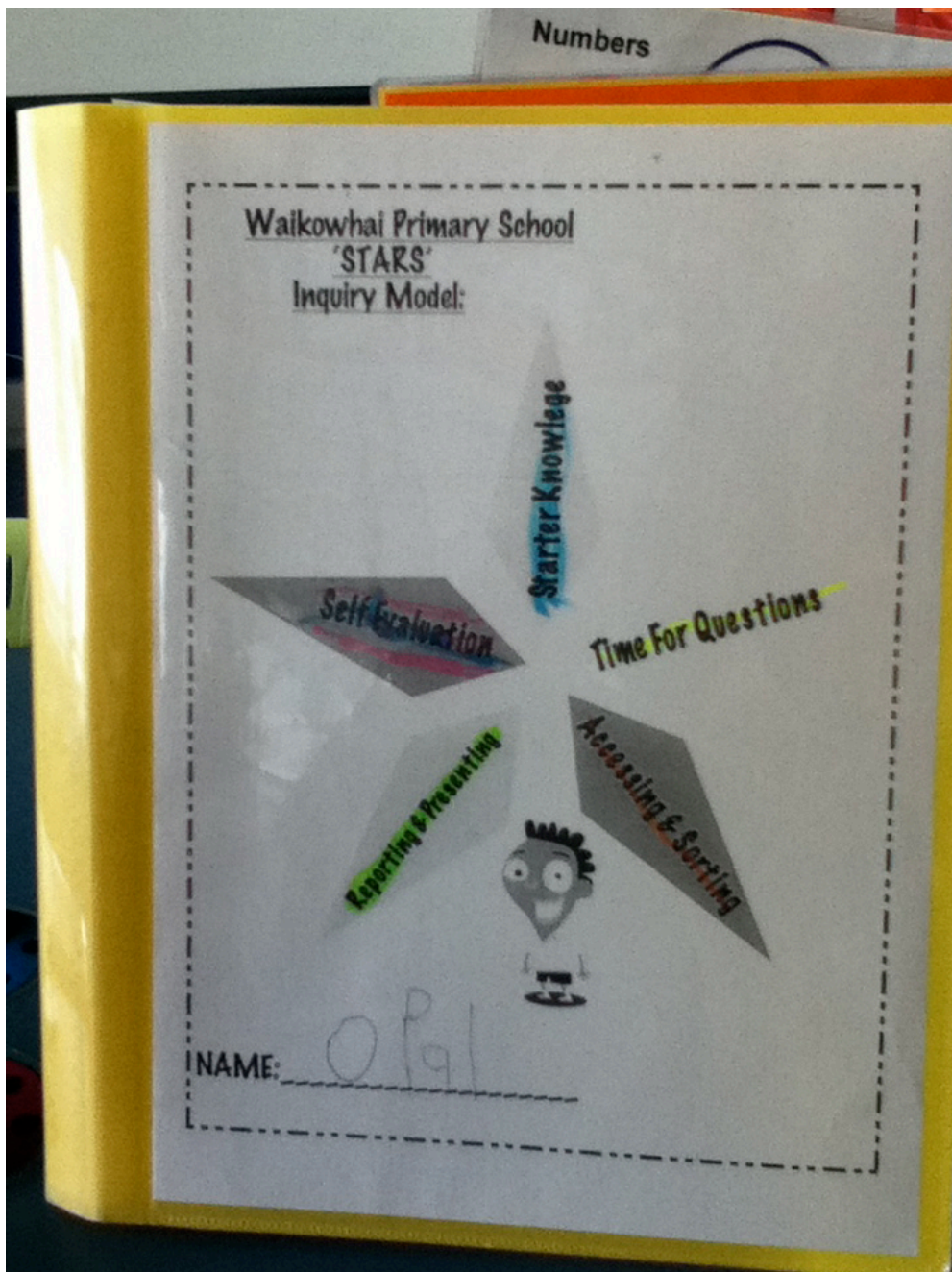
Define Map

WALT access true information from a text



The previous maps are put into clear file folders for the children to view and revisit. A great way to get them using the maps more independently at this level but still with lots of teacher modeling etc.

Many of the schools also adapted their rubrics to suit their own style.



What I think and write about things we don't know about.

My Ignorance Log

What do I know I don't know...

I'm confused

Keep your investigation on your family or it will be too

Here is an example: I know the planet earth rotates but I don't know why or how.

TOPIC Sainthelena

- I know that Sainthelena is small but I don't know how small ✓
- I know that most of Sainthelena is my family but I don't know how my family is from Sainthelena. ✓
- I know that Sainthelena is surrounded by water but I don't know if they do swimming. ✓
- I know that it's a country but I don't know if it has towns. ✓ *I don't know when my family left St Helena or if some still live there who are they.*
- I know that sardines are common but I don't know if they have other nice food. ✓

Adapted from Marilyn Wright University of Arizona, Ignorance Logging

Walsworth Primary School

"What do I know I don't know..." was an excellent way to get children to think about the questions they had relating to their topic. These questions were then put onto a SOLO rubric.

Have read questions about your family connections

QUESTIONS USING SOLO

Topic Sainthelena

Unistructural Questioning (Answers are one idea or word)	Multistructural Questioning (Answers are a list of ideas or parts and NOT really linked)	Relational Questioning (Answers come from linking different parts or ideas together)	Extended - Abstract Questioning (Answers are assessments, new links or ideas, new questions being asked, responses)
1. How small is Sainthelena? ✓	1. How is my family originated from Sainthelena? <i>links to how?</i>	1. Do they have towns and why/why not? ✓	1. What might happen after will happen ✓
2. Does Sainthelena do swimming lessons? ✓	2. What sort of food do they have? ✓	2. Why did my family leave St Helena? ✓	2. Or if we don't carry on being Sainthelena why is Sainthelena a island? ✓
3. What? ✓	3. How many times does the ship leave and when? ✓	3. How has Sainthelena relevant to my life? ✓	3. When was Sainthelena discovered and did my family move there when it was discovered? ✓
4.	4. Who in my family started us living in Sainthelena and why? ✓		

Main Question:

Sunnybrae School

Jennie Stewart – Principal
Karen Rodger – Inquiry Learning Leader
Auckland

School Roll: 360
Decile: 6
Years 1-6

Sunnybrae School first started SOLO by visiting other schools, they began to use HOT maps and had 1 day PD with Pam Hook and Julie Mills in 2010. They continue to liaise with Pam when needed. Their approach is more school based with Karen as their Inquiry Learning Leader and Lead Teacher for SOLO. Karen was initially released 1 day a week to observe/model/ or work alongside other teachers in the school. Teachers were encouraged to share something they had done in class and talk about how they were using HOT maps.

For the school this approach has worked very well, teachers had a great understanding of SOLO and its benefits and were all actively using it in all areas of their classroom programme. This school had really taken ownership of the learning process and were constantly focusing on next steps learning and learning intentions. Excellent learning leadership and a rigorous appraisal system went a long way towards these outcomes as well as the expectation from leaders that this was the way forward.

At Sunnybrae I had the opportunity to visit classrooms across the levels and curriculum areas, and was privileged to watch some very good practitioners in action. One question I had at this stage was about the frequency of use of HOT maps etc. The answer varied and simply came down to what you most felt comfortable with.

Again this school had also tweaked the HOT maps to suit their school and it would not be until I was back in my own classroom that I fully understood why this was necessary. They had also developed an excellent example of key competency assessment which I have gone on to share with colleagues and use in my class and share at goal setting interviews.

DESCRIBE Map

We are learning to describe war.

Is... really hard to forget about the horrible scenes that happened at war

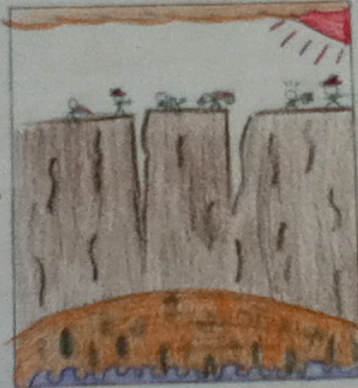
Can... come back wounded or shell shocked

Sometimes you survive and get to go home but some don't make it

Does not feel like he made the right choice for his family and himself

Looks like... a fictional drawing

Usually the men want to run back home away from the war



SUNNYBRAE NORMAL SCHOOL

hooked on thinking
www.hooked-on-thinking.com

Ellisha 26.3.12.

COMPARE and CONTRAST Map

differences

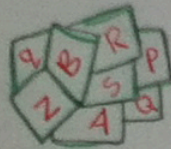
Our game involves words and thinking skills

similarities

Our games both involve RICE

differences

Their game is easy to play and you don't need to explain much



object/idea

Ellisha and Christina

object/idea

Jude and Juwon

takes a bit of time to read the rules a couple of times

they both are enjoyable and fun to play

its colour -ful and Little kid will ~~know~~ be able to play easily



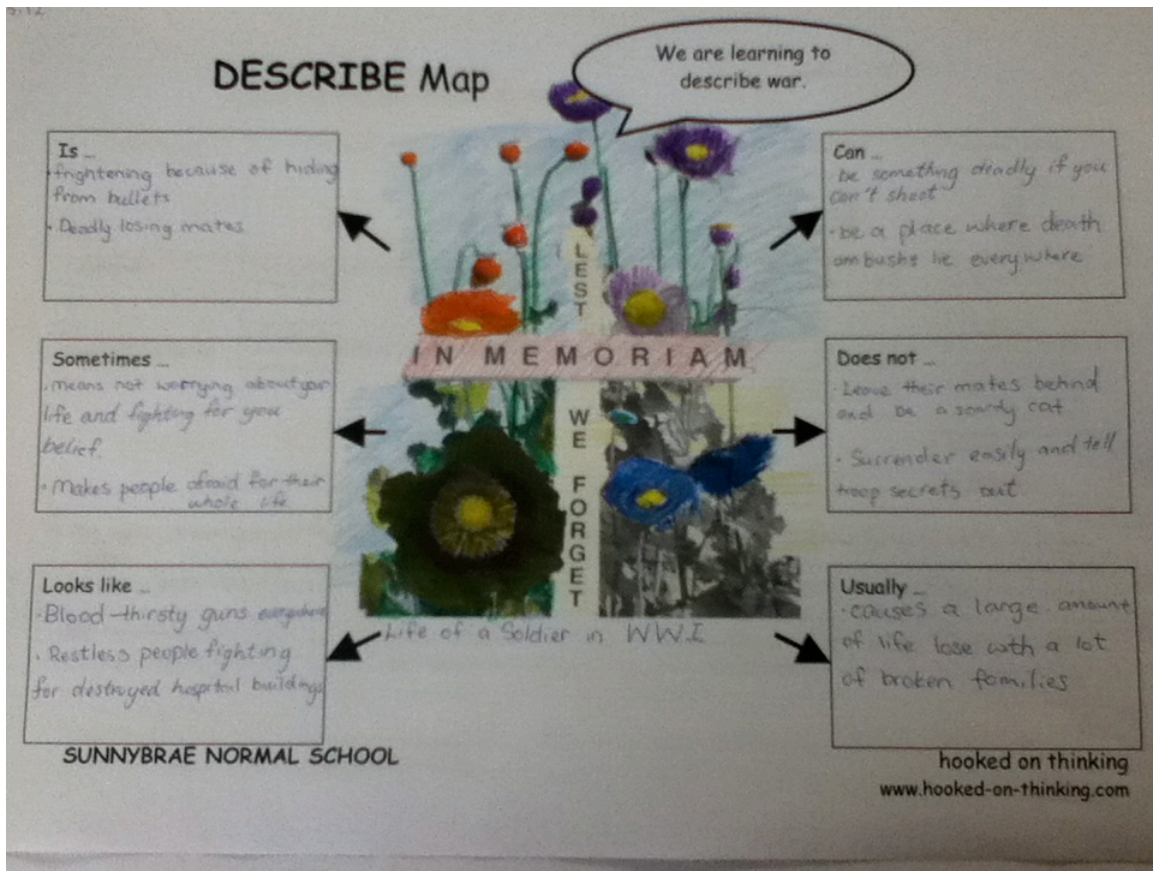
Our game is tricky and our cards are tricky

they are both big and colourful

it involves different equipment

SUNNYBRAE NORMAL SCHOOL

hooked on thinking
www.hooked-on-thinking.com



These maps were completed by a group of Year 5/6 children. They were able to articulate what they felt about SOLO and why it worked so well for them.

"It helps me to evaluate my work, can I do better and how can I improve?"

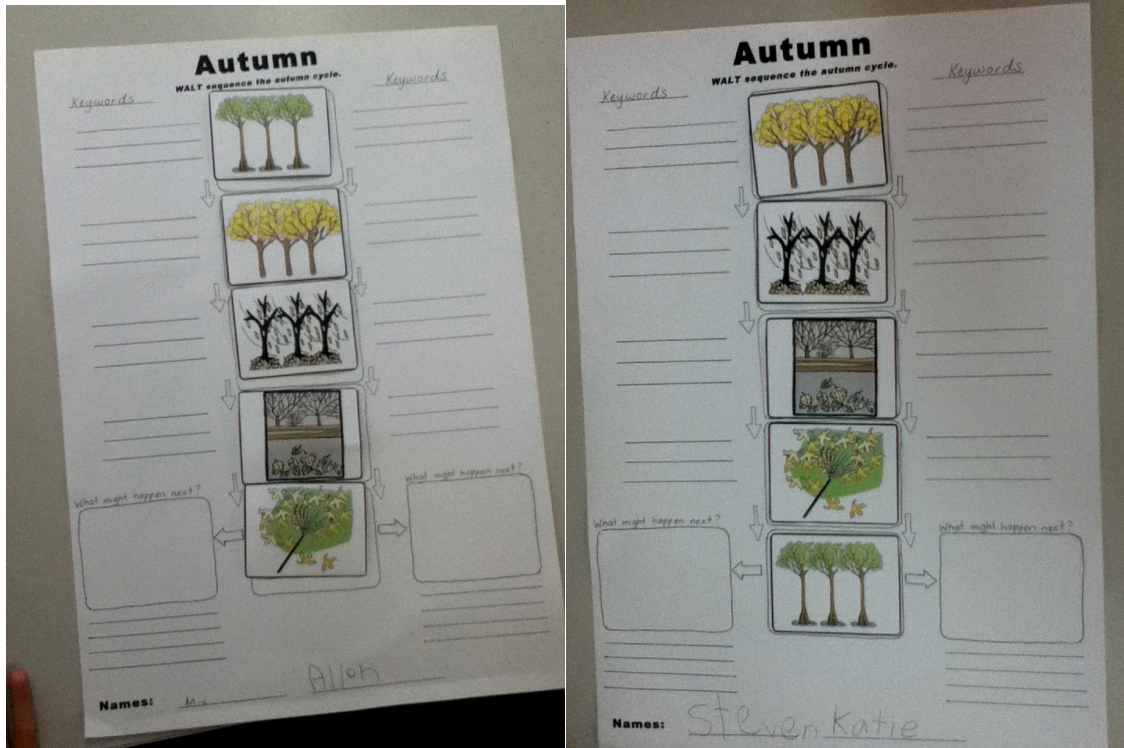
"I can see my next steps."

"It makes my thinking clearer, and it makes me think about my thinking."

The children had been exposed to SOLO for about two years but already had a clear understanding of the benefits to their learning and their thinking. I had no doubt that the previous schools were right in their assumption that children who were taught using SOLO taxonomy skills and HOT maps would continue to use this throughout their schooling.

Each level had their own way of using HOT maps and their own timeframe or regulatory of use. Some used 1 or 2 per term on their inquiry and 2-3 maps per term in shared reading. Others may use one HOT map each week in each subject. It really is for the teacher to decide but all agreed that exposure to HOT maps at all levels and in as many areas of the curriculum was important.

The sequence map on the next page was a great visual way for a junior class to show their understanding of the processes of autumn. The children were asked to sequence the autumn cycle in pairs by attaching pictures to the map. Later the teacher would work on key words within small groups and the children were asked to extend themselves by drawing or writing what might happen next (make a prediction).



While the two sequences above start at a different place they still follow the autumn cycle. Most pairs completed their sequence as the one on the left, but Steven and Katie began their cycle in autumn and were able to justify their choice. The language from these five-year olds was lovely to hear.

Northcross Intermediate

Jonathon Tredray – Principal
Auckland

School Roll: 1100 (38 classes)
Decile: 10
Years 7/8

Spent the whole day at Northcross and observed a number of classroom teachers across the curriculum incorporating SOLO into their daily programme. Here was a school that was living and breathing SOLO taxonomy in all areas of the curriculum. When asked who would like to have me observe in their class several teachers approached me willingly and allowed me to come and see SOLO in action. Northcross was very lucky to also have Julie Mills on their staff part-time and helping to drive the use of SOLO in their school along with some very skilled and enthusiastic teaching staff throughout the school.

Here I had the opportunity to view SOLO in use in many areas, writing, science, social studies, reading and technology. SOLO was embedded into classroom planning and in their appraisal system it came under the criteria of '*was it being used?*'

New staff members had the benefit of another skilled teacher being released to guide them in implementing SOLO into their classroom programme. Excellent sharing within teams was evident and a whole team approach to teaching learning and assessment using SOLO taxonomy was used.

WHAT AM I LEARNING? HOW IS IT GOING? WHAT DO I DO NEXT?

Children had clear examples in their classrooms to view and were always being asked to think about their thinking.

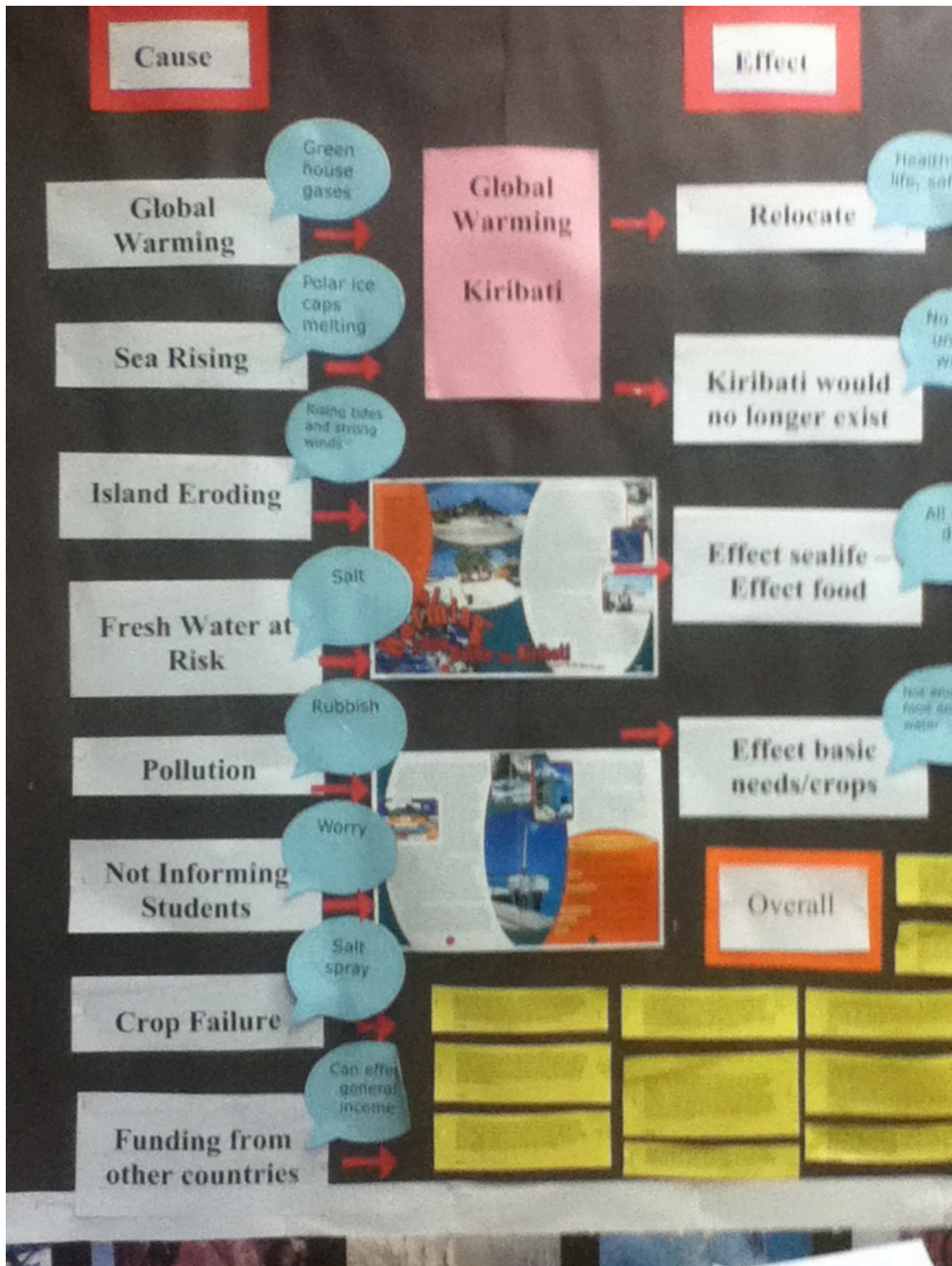
Where will I go with my learning next?

Why am I learning this?

What am I learning?

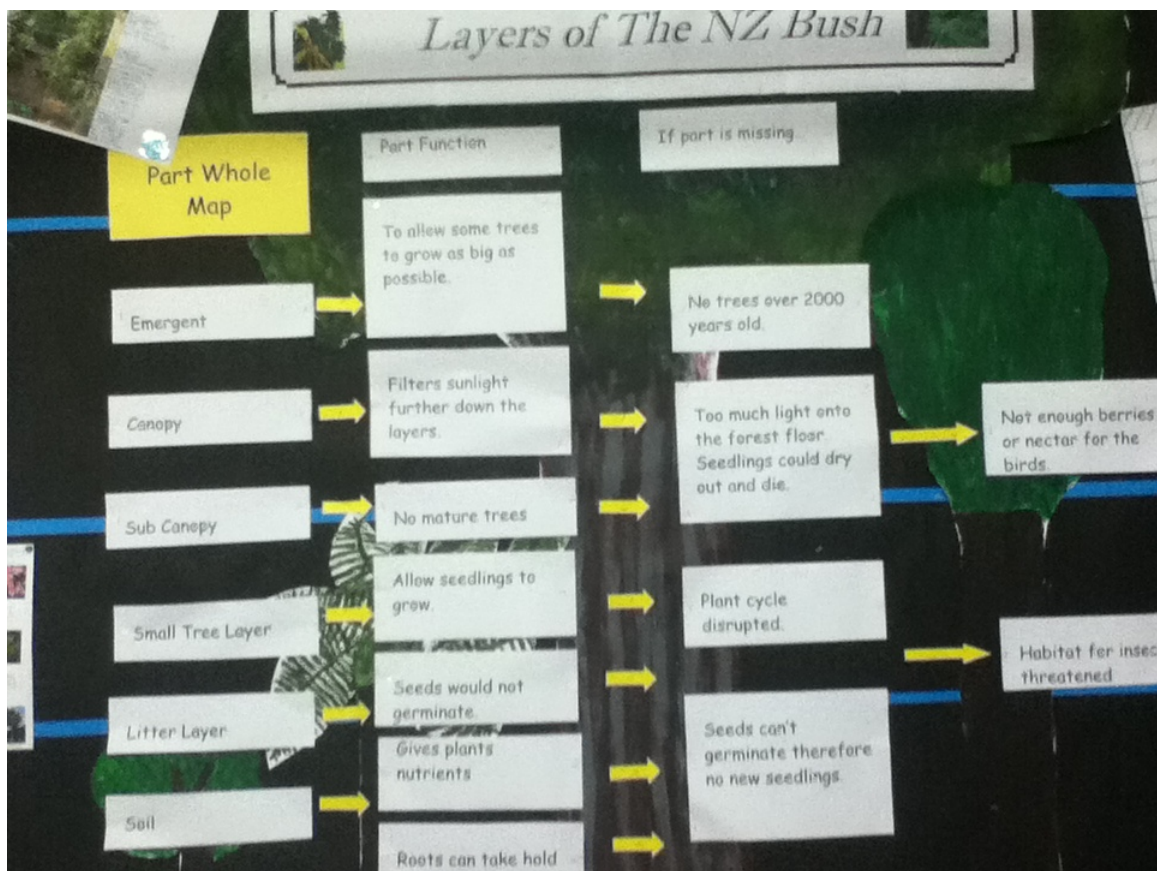
How do I know when I have been successful in my learning?

As part of their appraisal system Northcross focus on whether teachers classroom program reflects planning, implementation and assessment using SOLO taxonomy.



Cause and Effect Map

Very visual classroom displays of HOT maps, lots of independent and pair share before this went up on the wall to display the best evidence of their learning and understanding.



Part-Whole Map adapted to suit the class and teacher. Again a very visual display and worked on independently and in pairs before presenting final large wall display.

Check Out Solo Thinking in Technology

Are you?

Prestructural: *Is your thinking Irrelevant, Do you have Poor recall, Is your Product not complete?*

I **Unistructural:** *Can you Define what you are doing? Identify what you need to have/ or to do? Have you Completed a basic or trial version of your product?*

IIII **Multistructural:** *Can you Describe what you are making? Can you List the materials/ equipment you will need? Can you Verbally describe your solution and your process? Have you Completed your product?*

IIII **Relational:** *Can you Analyse what you are doing? Can you Sequence the process you need to follow? Can you work out the Cause and effect of your actions?, Is your Product complete and explained?*

IIII **Extended Abstract:** *Can you Predict and theorise outcomes? Can you show evidence of your thinking? Can you link ideas? Give justification for your decisions? Is your thinking/product Innovative and Imaginative?*

SOLO thinking in technology, a great way to get children to think about their output and their learning outcomes in terms of effort, thinking and general expertise in technological subjects.

Newmarket Primary

Assistant Principal – Virginia Kung
Auckland

School Roll: 249
Decile: 8
Years 1-6

Thanks to Virginia who got to answer all the questions I had neglected to ask so far.

Newmarket had been using SOLO for 4 years within their ICT cluster. Their aim was to sustain and maintain SOLO throughout their school program. They had follow-up days with Pam Hook and developed a lead group of teachers to move forward. Folders were implemented for teaching staff and KC displayed for all on school website, as developed with and by Pam Hook and Julie Mills.

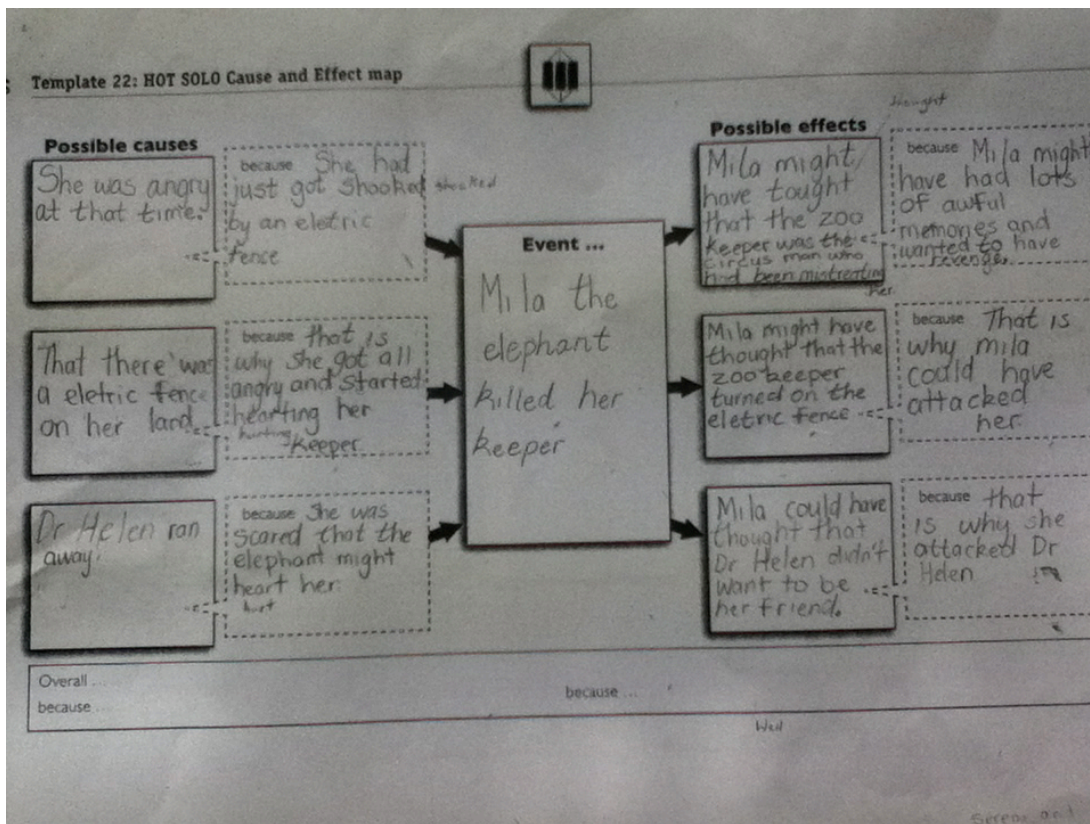
SOLO taxonomy was very much a surface approach to start with to get teachers and children familiar with the use of HOT maps etc. A planning overview was implemented with integrated planning deciding which map to use.

At the junior level it was much the same as other schools with exposure to the language and maps, co-construction of rubrics further up the school and older students attempting to construct their own rubrics.

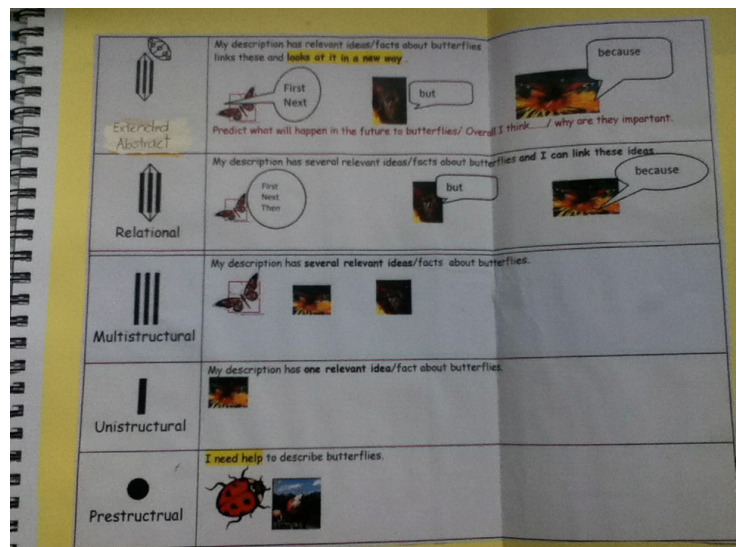
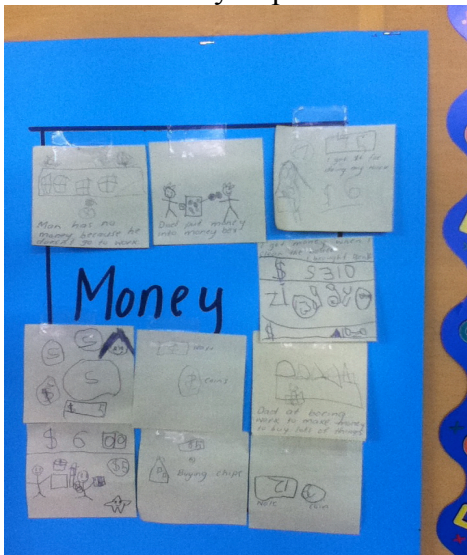
The appraisal document included a SOLO goal, which they choose to use an inquiry focus to start with, and evidence of use within the classroom. So in year 1 they might be looking for a define map, in year 2 looking for two or more maps, learning outcomes and so on as moving through the school.

I saw evidence of their improved writing outcomes after using a cause and effect map. The children showed a better understanding of their next steps and felt more confident about where to next in their learning. Children stated themselves that they had a better understanding of what they needed to do next to improve their writing.

The school saw the need for ongoing professional development and focus to keep SOLO out in the school. Staff changeovers were a problem in all the schools visited when trying to continue all the good work set up beforehand. Newmarket was lucky that they had enough teachers who had done PD to carry on using SOLO effectively in their school as well as great leadership from Wendy and Virginia to drive some wonderful initiatives within the school.



Cause and effect maps used to aid in the planning of a piece of factual writing. This teacher found that the children had more focus in their writing and after initial analyse of their writing they produced far better work when using the SOLO map and associated rubric. I was very impressed with the work that these year 6 children were producing.



Good use of a define map in Maths in a junior class. Great use of visual rubrics in a junior class to give children ideas of what stage the are at and what they need to do to move on.

IMPLICATIONS

The implications of my 'research' to my own teaching have not seen a major shift in my enthusiasm for SOLO taxonomy but a huge increase in my willingness to use it in the classroom more proactively.

Having the opportunity to see teachers using it so effectively in their own classes has been extremely rewarding and beneficial. However more importantly the opportunities I was allowed to speak to the children were most informative and invaluable. These young people showed an enthusiasm for learning and the ability to succinctly articulate what their learning was all about, and how SOLO made a difference to them.

BENEFITS

The benefits to the children that I teach and to my colleagues, has also been worthwhile outcome from my sabbatical study.

Firstly within my class in term 3, I have had the opportunity, motivation and confidence to more effectively use SOLO hot maps and rubrics within a greater range of learning areas than I had thought possible. As a class the children are becoming quite adept at using SOLO and many of them are now asking themselves the questions and checking the rubrics to see what they can do to improve their output.

The major shift for many of the children is making sure that they answer why they have chosen a particular answer or why a character behaves in a certain way etc. and they are beginning to think at a deeper level. They are assessing each other's work and using SOLO as their guide. In a short time they have become very good practitioners themselves in the use of SOLO and how it can help them in their learning and thinking as well as aid them to make accurate assessment of the quality of their work and that of others.

Finally for my colleagues, I know that many of them are doing great things with SOLO in their rooms and they are beginning to share more ideas in the staffroom. I have run, so far, one staff meeting around my sabbatical and my findings. We as a group have shared some of the hot maps we are using and I have started a folder of adapted hot maps for all staff to use and add to as they become more confident. Photos and anecdotal evidence have been shared with staff and I have an open door for any questions that I may be able to help people with. As staff becomes more experienced they become more confident in their use of SOLO as a teaching and learning tool.

Put simply *'what do I know? What can I do to improve my knowledge or output? What do I do next?'*

CONCLUSIONS

I would have to start with asking why one wouldn't use SOLO taxonomy in their teaching and learning as a teaching tool, as an assessment tool and as a tool which children can use for themselves in establishing where they are, where to next, and how to get there.

In my findings I have looked also at the appraisal process and found that the more robust this is in schools in terms of SOLO with clear outcomes for the teaching staff then the more robust and enduring is the implementation of SOLO throughout the school. Schools all definitely need a plan to follow to keep them on track.

All schools had similar problems with how to up skill and enthuse new staff, and each school had a different approach, whether it is more PD with Pam or in house PD with skilled practitioners in the school. Each school approached this differently but all acknowledged that it was an ongoing issue each year with staff turnover. In conclusion it would be great to see SOLO brought in at the training level for all our newly trained teachers.

My plan was to look at five areas relating to SOLO:

1. Example of work across all areas of the curriculum

I got to view many examples of work in my visits and noted each school and teacher added their own 'flavour' to how they used SOLO. Many schools adapted their hot maps to suit themselves or their schools and until I returned to my own class I could not see this reason for reinventing the wheel. However upon returning to the classroom it became evident that minor tweaking of the hot maps actually personalised them and at times made them more user friendly for the students and me. I was able to share some wonderful examples of work with colleagues, which has also helped them to go on and use these samples.

2. Ideas on how to run effective PD for all staff

Each school was very different and depending on the driving force within, the skill or the confidence of staff, experience etc. each school had to use a different approach. Schools have to decide what best suits them. However an overriding area where schools were doing well was in sharing ideas, setting up working groups and SOLO leaders as well as having it entrenched within their appraisal system to make it an integral part of their everyday teaching and learning.

3. Ongoing follow-up with staff

The most effective schools had lots of ongoing follow-up with their staff and used their most able practitioners to help others in the school. Class walk throughs were encouraged, modeled lessons for those who were unsure or needed more ideas or clarification on how to implement SOLO more effectively etc.

4. Reporting to parents

This is an area that needs further development and I hope is something that we will look closely at for our own school next year. Assessment using SOLO is so clear for children to understand and therefore easy for their parents to also understand if explained properly. It is able to show a child's level of thinking but more importantly what their next steps are to improving their outcomes for them as an individual and not set against the background of National Standards.

Where will I go with my learning next?

Why am I learning this?

What am I learning?

How do I know when I have been successful in my learning?

5. Implementation of SOLO into planning and overall pedagogy.

SOLO now needs to become an important and integral part of our school's planning for us to make sure we understand the implications for our children's learning and how good planning using SOLO can make a difference. There are excellent examples of planning using SOLO, which are available on the web or from Pam Hook. Schools need to tap into these resources and use them to help them initially with their planning before gaining the confidence to plan for themselves, just as the children in my class are gaining the confidence to write their own SOLO rubrics to accompany their hot maps.

Solo taxonomy most importantly allows children to take greater control of their learning and be honest about their outcomes. The rubrics help them to pinpoint their next steps and give them a pathway to their future learning.

Finally John Biggs explanation of SOLO and his further questions.

“SOLO can be used not only in assessment, but in designing the curriculum in terms of the learning outcomes intended, which is helpful in implementing [constructive alignment](#). SOLO can also explain why those who use low complexity arguments in political or marital disputes usually win – in the short term. But in politics that's all you need. “

Questions in Biggs's summary for further research.

- 1. What levels of SOLO may be expected at various age/grade levels in different subject areas; what are reasonable instructional objectives at various levels on the basis of such data?*
- 2. What process variables, involving teaching method, study technique, etc., reliably raise response levels?*
- 3. What are the generic codes critical to optimal responding in various subject areas: That is, what does a high school student have to know in order to produce extended abstract responses in each subject.*

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