Welcome to teaching and learning at Straits International School. In this, our first issue of Straits Talking, you will find our reflections upon strategies that we have used to revisit prior learning. Prefaced with whole-school INSET, these strategies were devised and refined in collaborative planning in small groups of teachers. In our planning, a crucial consideration was how to ensure deep learning of precise skills and concepts defined in mastery criteria produced for each unit in every subject area. Our planning was informed by the work of Alan Baddeley’s and Daniel Willingham’s work on memory and cognitive structures and their conclusion that spaced revisiting of key concepts is an essential aspect of inculcating understanding. We also considered the work of Robert Bjork and his work on learning and forgetting. Bjork suggests that if learning is too easy, learners only learn superficially: he says that deep learning occurs when there is increasing difficulty, when learners are challenged to develop from prior learning, when there is fresh investigation of difficult concepts. This newsletter provides just some of the many strategies we tried at the school. We hope that you enjoy reading about pedagogy at the school. We certainly enjoyed trying new pedagogical methods with our learners.

Andrew Crompton
Head of Secondary.

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Developing vocabulary skills – Slow Writing and DIRT

During the first term of CPD research sessions at Straits International School, our group focused on how to improve vocabulary and grammar use with our second language learners. Within our team, we had all encountered problems relating to retention of vocabulary, grammar or language devices. In our CPD sessions, we discussed ways in which we could build learners’ memory of vocabulary, in English and Mandarin, using games and activities which would encourage metacognition and retention.

Slow Writing

This strategy was inspired by a blog by David Didau who is interested in making learners’ writing more varied and creative. He points out that expert writers have the metacognitive mindset to automatically write using varied structures, different sentence types and figurative language to create tension and suspense. Second Language learners often merely consider content rather than style. The Slow Writing technique provides a structured approach to compositional tasks, giving learners specific guidelines for each sentence. For example: Sentence 1 must contain a metaphor. Sentence 2 must start with an –ing verb. Sentence 3 must contain at least 3 higher level adjectives. This process encourages the learners to slow down and consider carefully how to use the techniques they have learned in order to write a higher level piece of work.

This strategy worked particularly well with Year 7 learners who were struggling to progress beyond simple sentences due to their errors in spelling, punctuation and grammar. With clear guidelines for each sentence, learners gained confidence and made fewer errors in their freer writing practices later on in the term.

DIRT - Dedicated Improvement and Reflection Time

The use of this strategy in Mandarin lessons was considered after reading a blog by Jackie Beere who emphasises how important the process of DIRT is in teaching and learning. This can be done through simple peer assessment or self-assessment where learners measure their progress against the learning objective and think about how they have learned. Put simply, learners spend time on improving their work, amending it and responding to feedback.

We used the technique to provide support for learners in their composition of clear, purposeful sentences. As the writing skill is developed, the support from the teacher is gradually removed, allowing tasks to be completed with less assistance. This scaffolding could be in a form of mixed ability grouping and peer assessment.

Another aspect of DIRT includes target-directed feedback. This allows learners to respond to the feedback given. It is essential to allow time to review feedback within the classroom as it will help focus minds on improvement. The teacher needs to manage the time, using DIRT to increase challenge and ensuring that feedback is an essential part of the process of review and reflection.
In teaching sentence building, the year 10 learners’ sentences were marked in-situ so that learners received instant feedback that learners could respond to verbally or in writing.

You can refer to a few websites which will help you to develop your vocabulary lesson for your learners. They are as follows:

Learning vocabulary can be fun: [http://www.vocabulary.co.il](http://www.vocabulary.co.il)


Michael Hayes; Soon Saw Imm.

An area we wished to develop was the use of keywords throughout our lessons. This was partly because we had found some learners to be reluctant to use subject specific vocabulary due to perceived consequences of getting it wrong. We also wanted engaged and purposeful starts to our lessons where all learners felt compelled to join in (also see No Opt Out from *Teach Like a Champion* by Doug Lemov for his advice on this).

Post-its are colourful and moveable: useful as a way of learners to adjust their thinking.
We considered different ways of using post-its: to demonstrate progress; to identify gaps in learning; to summarise key points; to revisit learning.

For a primary science lesson, Ms Nellie used sticky paper rather than post-its which resulted in longer answers being provided. Through ‘What am I?’ starter activities Ms Nellie developed learners’ questioning skills. Child A was to investigate their keyword (on the crown) by using the additional keywords supplied by their classmates. Child A could also ask supplementary questions as needed.

In order to revisit exam content, the Year 11 IGCSE Music class played a similar game, except further information could only come via the person opposite through closed-questioning i.e. yes or no answers. In this case, Year 11 selected their partner’s keyword – although the keyword could be teacher-generated in order to focus on a particular area of weakness for both the child and the class in a broader sense.

Overall, we felt that the post-its had a positive and encouraging effect on our learners, across different key stages. It was particularly notable that the learners talked to each other more and they were willing to try out answers, without the fear of getting it wrong. The strategy proves useful for creating links between topics and can act as a bridge between different areas of the curriculum as inspired by SOLO Taxonomy (Biggs and Collins) (http://pamhook.com/solo-taxonomy/).

Ellie Saunders; Nellie Wong.
**Making it Stick in English lessons**

A priority for the school has been revisiting prior learning. A fundamental characteristic of the mastery model is to ensure that learners are revisiting and affirming prior learning. As a result, we have tried to ensure that we are developing strategies to embed skills and concepts deeply.

*Making it Stick*, written by Peter C Brown, Henry L Roediger and Mark McDaniel, argues that by implementing spaced retrieval in learning, there is a greater chance that knowledge will be achieved more readily, so it is vital that we are using strategies which revise content at timed intervals. To ensure high levels of motivation, we implemented games, to enable the learners to return to prior skills and content.

In Year 9 English lessons, we have been studying persuasive writing. To revise the persuasive features, learners completed a bingo sheet with persuasive writing devices. A clue was then read out, and the learners crossed off the persuasive device within that clue. This took place two weeks after the learners originally learnt about the persuasive devices, meaning that there was an important gap between the learners originally studying the devices, and then recalling them.

*Making it Stick* also promotes the idea that there is a need for learners to develop determination in their learning, to ensure long term retention. We have utilised this method in the classroom by asking the learners to look at a written piece of work and, using their knowledge of the assessment criteria, rewrite and improve this piece of work. This allows the learners to refine their knowledge of the assessment criteria and it challenges them, as the improvements required are often minimal and difficult to identify.

**Emily Cosnett.**

**Revisiting learning through questioning, quizzing and memory games at Primary level**

We explored the use of questioning quizzing and memory games and found that they had a decisive impact on learners’ recall of information and upon their subsequent understanding. Why not try some?

**Little and often – online quizzing**

Online quizzes are a useful tool. Roberts, et al, (2011) stated that video games increase attention in children; but Williams argued (2006) they were a distraction so online quizzes are the best of both points of view in our opinion. Learners answer questions related to topics that were taught previously. The questions should be repetitive and can be in quiz form, or labelling or completing a chart. Visual aids such as images can be used as a memory aid. Using quizzes, topics can be distributed throughout the year and revisited. However, if there is too large a gap in recapping, retention will decline (Pahler, Roher and Capeda, 2006).
Starter activity quizzing

According to Halpem and Hakel in their research into the effects of active learning, immersive participation in tasks enhanced learners’ long-term retention of knowledge. In our lessons, we are finding that fast, engaging starter quizzes supports this theory. Using a list of key words from your curriculum unit, paste the matching definitions around the classroom on display. The game expects learners to match find the definitions and record it on their word list. As the learners are moving around the classroom in a limited amount of time, they will be engaged and active. A short quick session is most effective.

Improving higher order thinking through questioning games

Memory games at the beginning of lessons that test attainment through questions are aimed to guide and instruct. Questions used should be based on Blooms Taxonomy. The questions will test synthesis, comprehension, application and analysis. Include wording and questioning designed to create critical thinkers who can evaluate and design answers independently. Regular assessment teaches the learners they will be frequently tested and this prompts autonomous learning and an increase in retention.

Building vocabulary skills through memory games

Some research has been done into the effects of playing games in developing memory functions (for example, Clark 2010). Of the games we have tried, we found Word Tennis and the Recall Line game the most effective.

Word Tennis is a highly engaging learning tool and is one all learners will enjoy. Learners form ability pairs and each has a turn saying technical vocabulary linked to the unit of work. The game ends when one partner cannot respond. Invariably, learners are competitive and want to recall information. Sometimes it is hard for the observer to pick out learners who are struggling, so it is useful to match the learners in ability partners.

In the Recall Line game, learners are required to list hard to memorise facts by building on another person from their group’s answer (for example spelling a word where each student adds another letter, such as “b”, then “b-e”, then “b-e-n” to spell benefit). This also works well for subjects such as Maths, specifically times tables. Remember to mix up the order of questions so they know not to rote learn the facts.

We hope that you have as much success and impact on learning as we had!

Useful links:

Karlie Walsh; Daniella Diovisalvi, Richard Power; Pavithra Sinnanan.
Visualisation, verbalisation and quizzing to revisit and embed learning

Our Action Research trio comprised teachers of Art, Mandarin and Global Perspectives. In our initial discussions, we explored ways in which we could use images in the classroom to review prior learning and to consolidate learning. At the beginning of our CPD cycle, during wider discussion amongst the secondary team, we had shared our knowledge and understanding of tried-and-tested image-related memory techniques that are useful in embedding knowledge. We were now keen to investigate the ways in which images could be used to develop conceptual understanding and retrieve information. In doing so, we considered the work of Brenda Kirchhoff at Washington University. In her study of the use of imaging as a function of memorisation, she found that when images were used as stimuli for retrieval of information, retrieval was strongest compared to participants who were not given images. In addition, the practice of close inspection of images as a preface to verbalisation assisted the deepening of memory and retrieval of information.

The practical application of this understanding in Mandarin lessons was through picture quizzing where learners inspected images and talked through their thinking with partners. Learners found the activity to be a highly engaging and effective way of learning new vocabulary. Tellingly, as vocabulary were revisited in later lessons, learners referred to the images used in the initial lesson as a way of remembering.

In Art lessons, the close study of an image was used as part of a process to develop learners’ observational skills and a consequent refinement of their drawing skills. Discussion between learners was an essential aspect of developing learners’ attention to detail in the images. Through a structured approach to presenting images, layers of detail were added to drawings, creating more sophisticated artwork than previously. In addition, learners were more able to recall and recreate details in the images by progressively remembering the layers of visual information added. The hope is that this will assist their confidence and independence in drawing.

In Global Perspectives, a ‘mapping from memory’ activity was used to introduce a newspaper article relating to the topic of poverty. Key information was distilled from the text into a single page of essential words and images. Learners were organised into groups. Representatives from groups then took turns to memorise information from the text for one minute each before competing against other groups to recreate the text as accurately as possible. The
activity prepared for speculative discussion and exploration of possible meanings in the texts before presentation of the text as a whole. Later, when writing about information in the text, learners were able to accurately recall details in the text and used the details to develop their interpretations.

In each of our three subjects, the concept of ‘spiral progression’ was important: image-related activities were used to revisit prior learning as a preface to increasing challenge. We had considered Robert Bjork’s work on learning and forgetting and his thesis that learning is more deeply embedded in long-term memory when topics are revisited with increasing challenge. As we progress through the teaching year with our classes, we are learning too: deepening our understanding of how and when to recapture learning and develop it further.

Andy Crompton; Pang Sook Yee; Mohd Shahrul Hasfis bin Mohd Zainuddin.

Using classroom dialogue to develop language skills at Key Stage One

Key Stage One teachers investigated memory recall in the classroom and trialled a range of activities to improve memory. These strategies were trialled among Year One and Two learners.

Peer tutoring

Peer tutoring is a common teaching tool used to help student retention and understanding. There are a number of ways that peer tutoring can take place in the classroom such as within collaborative groups or to increase challenge for higher ability learners or as reciprocal peer tutoring.

This teaching method involves one student who is an expert on a topic teaching another student who is new to the topic or still working to understand it. The act of teaching a peer or being taught by a peer can benefit student learning in a number of ways.

The cognitive process of explaining solutions, and dealing with questions and misunderstandings will help to embed knowledge further into memory and enhance understanding of the subject. Hearing another viewpoint or understanding of the same material can allow those who have previously not grasped the content another opportunity to gain understanding. In addition to this, peer tutoring encourages learners to be active learners and to talk through concepts in their own words. It is important to note that peer tutoring needs to be modelled frequently so learners are clear of their role in these activities.

Active learning of vocabulary

‘Stop the Bus’ is one activity that needs no preparation and is great for revising vocabulary and spelling – particularly for EAL learners. This activity places great importance on using one’s senses.

The teacher or student chooses a word and without
telling the class, starts spelling it from the last letter. The class may interrupt at any time by calling out “STOP THE BUS!”

Learners achieve points according to how soon they interrupt. More points are awarded for earlier guesses, fewer points for late guesses. To discourage some learners from constantly jumping the gun, a rule could be that each student is allowed one chance and they’re out for that word if it’s incorrect.

The words may be adjusted using varying levels of difficulty – for example, spelling in the normal order rather than backwards for EAL learners. Spelling patterns or vocabulary from particular subjects or units could be featured. Or, to make it really challenging, words from previous lessons could be combined.

A non-verbal version of this is where one silently spells the letters: this encourages learners to focus on mouth and tongue formations. As one current student is audio impaired, it gave the rest of his peers an idea of how challenging it could be to rely on lip reading and how important using and pronouncing sounds correctly is to language acquisition. EAL learners rely heavily on body language, gesturing as well as visuals in the early stages and it is vital that teachers are aware of this and incorporate as much as possible.

**Pacman Activity**

Another active task is the ‘Pacman’ quiz which focuses on a variety of topics ranging from learning vocabulary, mental maths and phonics. The game uses all four corners of the classroom where a student stands in each corner. These learners are asked questions and the first to respond would win, open their arms like a “pacman” and proceed to “eat” the student to their right, demonstrating active learning.

The remaining learners participate as “questioners” sitting in the centre and questioning their peers on the chosen topic. This enables learners to use their English language skills building questions and clear sentences. This strategy is supported by Vygotsky’s theory which suggests that by using language, knowledge is obtained, consequently demonstrating that people have collective connotations and understandings through conversation, (Jordan et al, 2008:59). In some instances, questions enable learners to practise their reading skills. Social Constructivists view learning as a collaborative process where learners can progress when peers or adults ‘scaffold’ their learning (Arthur and Cremen, 2006:50). Supporting this, throughout the activity the teacher merely facilitates by either differentiating questions for the learners or challenging them to work together to create their own questions which improves their speaking and listening skills. This collaborative learning progresses their speaking and listening skills. This also demonstrates an opportunity to make meaning from social situations and improve speaking and listening skills, (Arthur and Cremen, 2006:50).

In conclusion, the range of strategies improved memory recall as the activities were not only creative but also a form of active learning. Where learners were able to physically move and work together, it engaged them in the tasks at hand.

Harriet Spearman; Emily Lans; Linh Dang; Sharleni Madesudadas
Odd One Out? Mandarin, Humanities, PE: using active methods to revisit learning

As part of the CPD programme, staff were asked to consider and share some successful pedagogical teaching approaches used in lessons to revisit prior learning. Our group was comprised of teachers of Mandarin, PE and Humanities - but the strategies we used could be used across many different curriculum and subject areas. In our research in the classroom, we enhanced our understanding of how to provide diverse and interesting teaching approaches; the following are a small sample of strategies we have used recently to recap learning.

An active approach to immersing learners in their learning was also used in Mandarin lessons – with music. Music was used in Mandarin lessons to engage learners and to use repetitive rhythms to inculcate vocabulary. In addition, there were other advantages:

- Children were motivated and enthused by the catchy rhythm of the songs;
- Through repetition of the songs the children gained confidence and were able to learn 5-7 new characters in each lesson;
- The songs were very flexible - teachers can change the words but keep the same rhythm to further develop the children’s vocabulary range;
- Actions were also used to accompany the music – for example, for learning parts of the body. This helped to further embed the subject knowledge;
- The strategy was adapted across the range of age and ability.

We found that music is an effective accompaniment to whole-class activities but the music-related activities require close supervision so that all learners contribute and remain focused.

In Humanities, Odd One Out? questions were used as probing starter tasks to engage learners in the thinking process and to bridge the gap between previous and future learning. This involved giving the children three options and asking for the ‘odd one out’ with further reasoning. For example, filtration, perspiration, chlorination. All related to our water topic and several plausible, well-reasoned responses were given – for example, only perspiration is not a process in water treatment. The strategy helped to reinforce relevant, technical vocabulary from the unit. They had to remember the meanings of the words and discuss the vocabulary with their peers. It was a form of formative assessment, which allowed the teacher to re-teach key words if necessary. Furthermore, it is a flexible strategy: instead of words, you could also use numbers or pictures; you could use more items; you could make the ‘odd one’ more open to interpretation to increase the discussion between older children.

Similarly in PE, Odd One Out? was used to teach Year 4 learners how to bat a ball. Two wrong examples and one correct example were used in a brief starter activity to recap learning after previous instruction. It was also a good use of formative assessment and it enabled the children to discuss with each other using correct sports vocabulary.

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Stephen Willoughby; Dennis Lee;
Chia Hui Poh; Joseph Edge.
In the next issue of Straits Talking:

Issue 2 of *Straits Talking* will be available in April and will be devoted to questioning techniques. Recently, in whole-school INSET and in collaborative CPD groups we have explored the ways in which questioning and questioning activities can be used to enable active, investigative approaches to learning and to develop higher order thinking skills in the classroom. Articles in the next issue will tell you what we have learnt!