



REVIEW

Vol. 16 Dec 2010/Jan 2011 MICA(P) No. 168/10/2010

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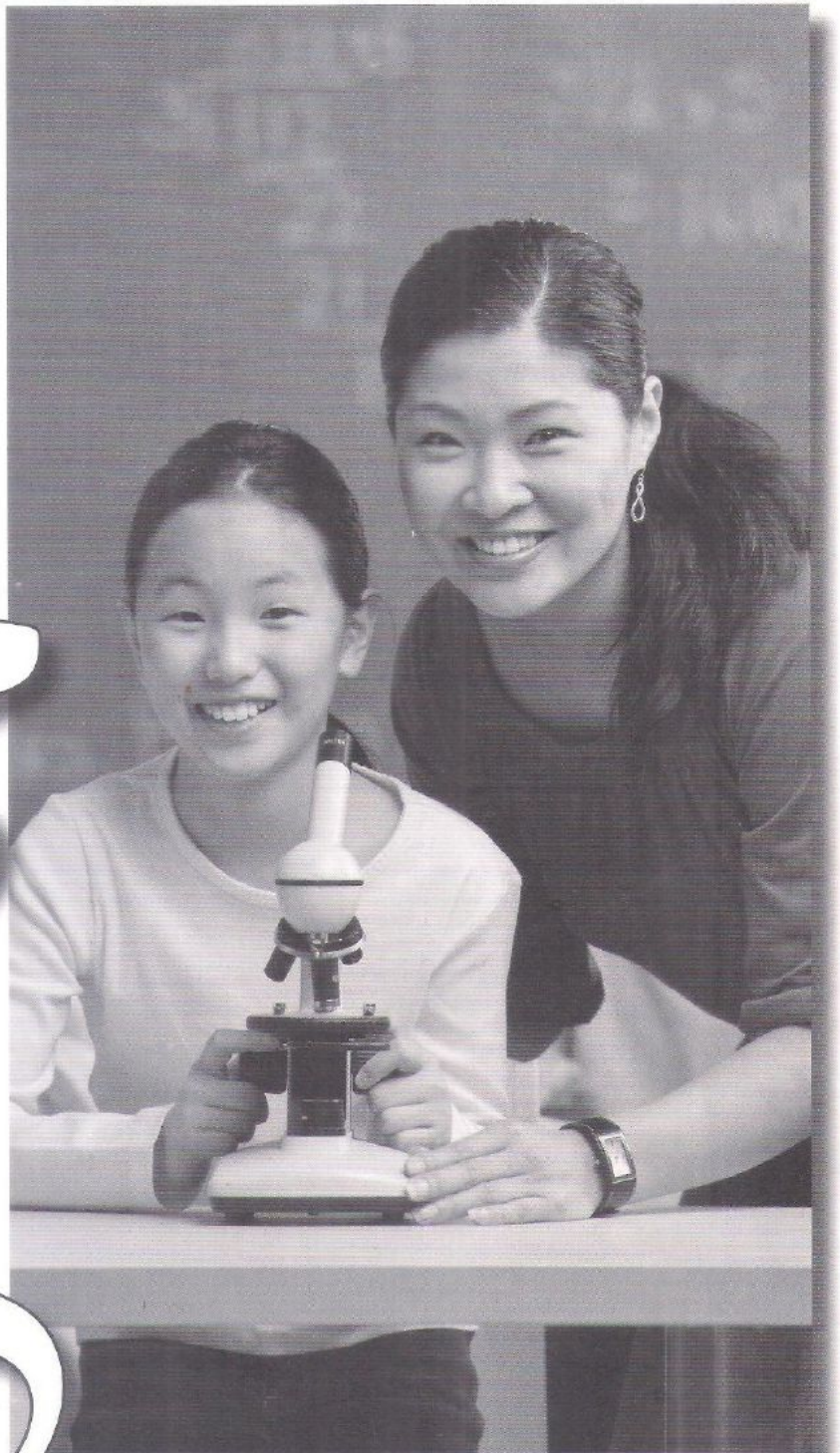
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ASSOCIATION FOR SUPERVISION
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***Outstanding
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Outstanding Teachers / Assessment

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Editorial

This issue is a very special one with a dual focus on teachers and assessment. All of us have been through school. Those of us who teach, have actually gone back to school for more experiences in that environment! Why teach? – friends and family may ask. Teaching is the profession that makes all other professions possible. We instinctively know what is good teaching. Good teachers make the subject come alive. They seek to improve, to develop professionally. They really care for their pupils. They teach with a sparkle in their eyes. We hope that the pupils of such teachers continue to be inspired, to find learning fun and meaningful, so that one day, they too will return to teach.

We invited some very special teachers from the UK, USA, Australia and India to share their experiences and their good work. These are award winning teachers in their own countries. We have also invited our very own Outstanding Young Educators for 2010 to share their experiences as teachers. What is apparent, as you read what they have shared in their articles, is their passion for teaching their subject areas and for their pupils.

We have some articles that touch on the topic of assessment. While standardised tests and national exams may be the practical benchmark of academic success, teachers have never lost sight of the importance of formative assessment. How do we know our pupils understand and can do? How can we structure our lessons so that we know? What tools can we use to help us conduct meaningful and accurate evaluations of our pupils' learning? What informs our planning and teaching? Our limited number of pages does not allow us to explore these topics at great length. However, we hope these articles serve to spark off conversations and discussions among educators on what is important for our children and the future.

We hope to see more of you writing in for our issue on teaching for the future.

Soo Kim Bee



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A Global Professional Learning Community

James Han Choon Boon (2010 ASCD Annual Conference Scholars Programme)

Imagine yourself being part of a global professional learning community (PLC), what would that look like? A PLC can be defined as a gathering of committed professionals to learn together by engaging in meaningful activities as a community. A global PLC would probably look like a gathering of educators from around the world learning and sharing from one another. In Singapore, the notion of a PLC is not new and as teachers, we have all been part of PLCs at some point in time. What I would like to share is my experience in a global PLC, the ASCD Annual Conference Scholars Programme. The ASCD Conference Scholars' community is a global PLC, formed with twenty educators coming from America, Canada, Argentina and Singapore. I was fortunate to have been selected to be part of this PLC in 2009, and the activities I have participated in have improved my global perspective as an educator. Through this programme, I have participated in activities that have helped me acquire both a bird's eye view and a worm's eye view of current educational initiatives and issues. I have also benefited from the use of technologies for the use of discussions, be it online or in real-time, such as blogging, twittering and conference calling.



Being part of a global PLC

My experience began in May 2009 when I submitted two abstract proposals to the 2010 ASCD Conference in San Antonio. I was fortunate to have both proposals accepted and made the preparations for the presentations. In late August, I received an invite from the ASCD conference committee to participate in the inaugural ASCD scholarship programme. The 20 scholars for the programme were chosen from

among the conference presenters, who hailed from various regions and countries. Feeling honoured by the invitation, I agreed without hesitation. As a group, there were a few activities that we had to participate in.

Firstly, we had to comment on blog posts on the ASCD In-service webpage. The blog posts were started by the two facilitators, Tom Hoerr and Jennifer Morrison, and the scholars were expected to make comments. In addition to the blog posts, we had to participate in a conference call – that was a memorable incident for me. I remembered having the conference call in the hospital room, with my wife and newborn son! My laptop was tethered to the internet by my mobile phone so that I could view the chat transcript. I participated in the discussion verbally using another mobile phone in hand. Due to the wonders of technology, I was able to share with these educators some of my thoughts on the educational issues discussed during the conference call and learn from them as well, from anywhere in the world!



Presenting a TLLM Ignite2! Project at the 2010 ASCD Annual Conference

During the conference itself, I had two presentations to present. These two presentations were based on my school's curriculum innovation for the Teach Less Learn More (TLLM) Ignite2! Project. The presentations were well-received and for my first presentation, the room was full 15 minutes before it started and I had to start earlier. Being a first-time presenter, I had some initial jitters. However, I was proud that I was able to represent Singapore at the largest educational conference in the world, in a room filled with passionate educators.

Besides presenting, I attended a welcome lunch for the scholars, a networking dinner in which we met some of the keynote speakers and a farewell tea where we shared on our experiences as conference scholars. During these meals, we learnt about how to use Twitter, ASCD Edge and shared on more thoughts on current educational issues. The conversations that I have had with the other scholars and meal companions reaffirmed for me that the Singapore education system is world-class. Many questions were asked of me regarding the



Leading a team of teachers to visit schools in San Antonio

retention of students, maintaining our academic excellence and teacher development. Throughout the conference, the scholars were also expected to put into practice what we have learnt. So I twittered some thoughts as I was listening to the keynote speeches. The tweets were then posted onto my scholar webpage, which was found in our online yearbook, for the conference participants to follow. Being a first-time user, I was surprised to find that I had some followers who responded to my tweets about the conference. Although this has not made me a twitter fan yet, the exposure did help me learn more about it.

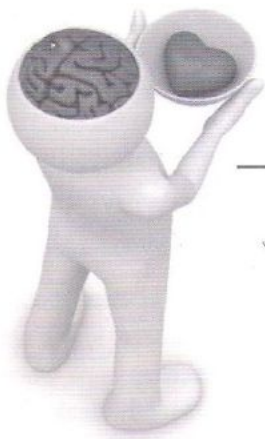
After the conference ended, I was invited to be part of the scholars' alumni and participated in various

ASCD initiatives. I led a team of teachers to visit four schools in two different districts, learned more about their best practices while sharing some of ours. Being an ASCD scholar created many opportunities for me professionally. Recently, I contributed a question stem for an Educational Leadership column, Among Colleagues, which invites readers to respond to current educational issues raised by the scholars. I was also invited to review manuscripts for ASCD, which would teach me more about the publishing process. I will also be joining the scholars' group on ASCD Edge, the social networking platform for educators and will participate in the virtual discussions for the 2011 ASCD conference scholars. Being an ASCD scholar has indeed taught me a lot as an educator and has opened many doors for me to learn from committed and passionate educators.

The screenshot shows a personal webpage for James Han. On the left is a navigation menu with categories like Publications, Professional Development, and Conferences. The main content area includes a 'Meet Conference Scholar' section with a photo of James Han, a 'Biography' section stating he is a research activist and teacher at St. Anthony's Primary School in Singapore, and a section titled 'In His Own Words: A Leadership Reflection' with the sub-heading 'What has led to your development as a leader?'. The reflection text discusses his leadership development through conversations with peers and his role as a research activist. To the right of the main content is a 'Follow James on Twitter' section with a list of tweets and a 'Sign In' button.

Having a personal webpage with Twitter updates

James is a Research Activist and the Level Head of Science (Internal) for St Anthony's Primary School. He is still actively involved in ASCD as part of the scholar alumni programme. His educational interests include curriculum design and implementation, as well as skilful teaching.



Teaching Hearts and Minds

Muhammed Fadylla (2010 OYEA, Singapore)

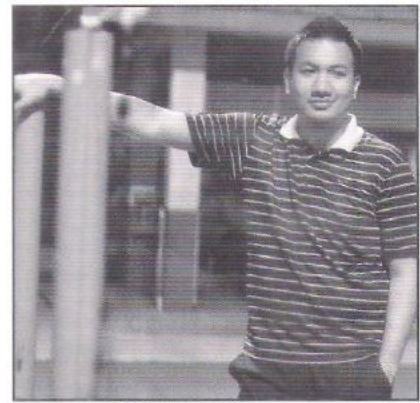
My mother once told me that she knew, deep in her heart, I would teach one day. I never did take her words seriously till I was reminded of it earlier this year. Curious as I was, I asked her what made her so sure of such an outcome. She pointed out that when I was in secondary school, I had chosen to tutor our neighbour's child despite the fact that I could have indulged in my favourite activities like playing soccer or surfing the internet. That really struck me because I do not remember the actual reason why I had preferred to teach back then. Why would a 14-year old boy spend all his available 'play' time tutoring his 10-year old neighbour?

In retrospect, I had unconsciously given in to my 'natural instincts', if you could call it that. No one had forced me to teach but I realised, much later, that being selfless is one of the many traits of an effective teacher. A teacher aims to not only impart knowledge but more importantly, to model the desired values in the hope that his pupils would come to appreciate and live those values themselves.

I carried on tutoring younger students until I was enlisted into National Service. It never occurred to me then that I could have gotten

paid for my teaching 'services'. The joy really was in what I felt empowered to do. Knowing that the student was learning gave me great personal satisfaction. As I grew into adulthood, you can imagine my delight when I found out that one does get decently paid to teach!

Our ideals and beliefs are sometimes shaped by our upbringing. The values taught by our family members when we were young, the experiences we went through and the lessons that we learnt, all contribute to our ability to appreciate multiple perspectives as we grow. I feel blessed to have been brought up in a culture where respect and humility are daily traits modelled by family members and



friends. I am equally fortunate to have been taught by passionate and dedicated teachers who shaped my beliefs in many ways and inspired me to do good things. As cliché as it sounds, I would not have been who I am now if not for them.

Teaching at my alma-mater has given me an opportunity to reflect on my past as well as understand the needs of the future. Having been a student of the school, I am more attuned to the experiences of these students. I remember the need for social support where friends were more than just physical company. The pressure to perform well in both academic and non-academic pursuits added to the rigour of school. For most students, school was their second home. For some, school was their only home.





The lack of parental support and other family-related problems would have a huge impact on any primary school-going child. The situation is made worse by the fact that often, such problems are beyond the school's locus of control. The bane of being a teacher is when you are unable to help a student when he or she needed you most. I now believe that teaching values, especially to the students who are most affected by such problems, will stand them in good stead. It would help them learn how to overcome obstacles in life. Children need to understand the current reality before they can accept any change in their mindset. Ultimately, they need that self-belief in order to make better decisions and to be less affected by negative experiences at home or in school.

It is a challenge for any teacher to try to get to know every single student in class at a personal level – what their likes/dislikes are, what motivates them, their passion. However, I strongly believe that such interactions go a long way towards building trust and rapport, making it easier for the students to share and imbue value systems. It makes me smile when those students, who are usually quiet, break out of their 'shells' to share on things that mean a lot to them. As I listen attentively to them, I know that all they need next is positive affirmation to boost their self-worth. In situations like these, the relationships between teacher



and students are forged. If students are continually given other possible platforms to imbue positive values, they would surely benefit in terms of their personal growth.

In school, I realised that by giving students opportunities to experience success, they gained self-confidence. A student who previously had poor self-perception due to constant negative remarks made by his peers, grew in confidence when he was cheered on by his team mates while attempting an obstacle course. As professional adults, we would have our own measures of success, be it in achieving tangible awards or in meeting key organisational objectives. To a child however, success can be as simple as winning a hop-scotch game during recess or participating in his or her favourite sport. Without that opportunity to participate, the child would have inadvertently been deprived of possible opportunities to experience success. Schools and teachers should then ensure that such opportunities are available, keeping in mind that self-confidence is a trait that could make one more resilient.

In my seemingly short stint in teaching, I have learnt as much, if not more, from my students than what I have taught them. It never crossed my mind that teaching students could impact my own learning, not only as an educator, but more importantly as a human being. I have learnt to adapt my pedagogy to keep students actively engaged, modified my



classroom management strategies to deal with 'at-risk' students and most importantly, not given up hope when everything else seemed bleak. To have constant belief in one's students is challenging, especially when one is faced with disappointments. The power of positive thinking coupled with patience are what every teacher needs in abundance.

As I revisit the Teacher's Pledge, I am reminded of what I aspire to achieve like bringing out the best in my students while passing the love of learning to them. In truth this journey of mine, as a teacher, has barely begun but I look forward to many happy experiences as I strive to make a positive difference in my students' lives.

Muhammed Fadylla teaches Physical Education, Mathematics and Science, to Primary 6 pupils in Boon Lay Garden Primary School. He is the Subject Head for Science and the Assistant Discipline Master. A sports enthusiast, Fadylla plays sepak takraw for the MOE Staff Team as well as coaches the Singapore Combined School sepak takraw team. He cycles during his free time and aspires to tackle mountainous terrains on his bicycle. Fadylla also loves to read books on human motivation and relationship management as it helps him in his daily interactions with the pupils and with colleagues.

The Form Teacher

Samuel Lim Kok Boon (2010 OYEA, Singapore)

Among the many 'hats' that a teacher wears, one of the most meaningful is that of the Form Teacher. I honestly do not know the origins of the term 'Form Teacher'. Perhaps, it came from the countless forms and administrative duties that we perform! What I do know is that as Form Teachers, we have the ability to form the hearts and minds of our students.

I spent three years of my primary school education in the US where

my father was studying at the Golden Gate Seminary in San Francisco. My sister and I attended Enslin Elementary School, a typical public school in the small town of Modesto, California. As a poor Asian child, from a family on a shoestring budget, who was a good head shorter than most of the other children, you would imagine that those years could have been rather traumatic. On the contrary, I remember those years fondly. I was blessed with great teachers. Mrs. Morgan in Third Grade had a hug for

every child. Mrs. Reich, in Fourth Grade, taught us a bit of history and how to sing 'Oh Christmas Tree' in German, and finally, Mr. Skavdahl in Fifth Grade, who gave me a love for reading. There were also many good friends from church and school, and a few bullies, of course. The things I remember most about school were the teachers who really loved us. Looking back, I am sure my teachers took special effort to make me feel at home in a new country, culture and classroom. I loved going to school.

So then, what kind of a classroom does every student want to walk into? It saddens me to hear about students who hate school, or students who would cry and throw a tantrum over going to school. As a student, I can of course remember days when there were a million other things that I would rather do than attend lessons in class. However, I always felt that



the classroom should be a place where students enjoyed themselves; a place where they enjoyed learning and where they felt safe and loved. My Principal once asked us, “Who learns better, a happy child, or a serious adult?”

Apart from the many theoretical models out there, I have, on hindsight, found a simple progression of relationships that have guided me. First of all, the Form Teacher needs to be an *effective disciplinarian*. Being able to manage one’s classroom is a critical foundation. Second, *build a positive culture* in the classroom. Just as every infringement of rules comes with a firm and fair consequence, so should every good deed come with affirmation. Every good attempt, successful or not, should come with encouragement. With the two elements of *discipline* and a *positive culture*, one can then start to *build trust* in interactions with students. It is no secret that trust is crucial in effecting any positive change. If there were something about me

that needed correction or rebuke, I would certainly take it much better from a friend that I trusted simply because I would know that he or she would want what was best for me. Students are no different. They respond to teachers who genuinely care for them. This is where we begin to nurture the whole child. At the same time, we need to keep in mind that the classroom is part of a *larger community*. Other students, subject teachers and parents can all contribute significantly. Lastly, we need to believe in every single one of our students and *demand excellence* from them because we know they are capable of it.

It was with these things in mind that I requested for my first Form class, a Secondary 1 Normal (Technical) class. I had intended to follow through with them for the next 4 years until they graduated from the school. It has been almost 3 years now and I would like to take this opportunity to share my personal journey with my class – the lessons I have learnt and am

still learning. I hope my story will help to guide new Form Teachers as well as encourage them on their journeys, just as I had been similarly encouraged by other teachers.

The Disciplinarian

This is arguably the first and most important role a teacher plays. The success of everything that you might want to do with your students, or be to them, rises and falls on this ability to provide structure. Many students do not come to you from a background that has provided consistent discipline and structure. While they may take time to adjust to it, they actually appreciate a teacher who can control a rowdy class and engage them in the subject so that effective learning takes place. For instance, I would occasionally walk past the class at random periods to conduct spot checks. If there was excessive noise, or if there were students who were not paying attention, the whole class would stay back after school for ‘self-study’. Gradually, the class was more focused during lessons and their results showed improvement. The innocent ones who had ‘suffered’ punishment unjustly were glad that they had a better learning environment and even the guilty ones could not help but be pleased with their improved results!

Engaging students in coming up with the class rules is effective as they develop ownership of the rules they have set. Making sure that they understand the reason for the rules it is also important and it is an opportunity to help them think critically about issues like social responsibility. For example, students need to know why they



should not make noise in class. Besides showing respect for the teacher and for learning, they can see that it also affects other classmates and even those in the classes next to them. Questions like, "What kind of environment would you like to be in when you are trying to study or taking a test?" instead of, "Sit down and keep quiet!" help them to realize the effect of their actions on others.

But no matter how much ownership and understanding there is of the rules, it is inevitable that some will breach those rules. How you respond to these is even more important than the rules themselves. In crafting the rules, students can also think of relevant and reasonable consequences for infringements.

{ Each child is unique and precious. They come from different backgrounds and have different struggles; they also have different strengths and giftings, some more hidden than others. }

These must be carried out firmly and fairly. Morning assembly starts at 7.20 a.m. and I have insisted that by 7.15 a.m., the class must be lined up and ready, failing which they would stay back after school for "self-study". This also meant that I had to spend the extra time with them after school hours. Almost three years on, the class has a very low tardiness and absentee rate by most standards.

In the early stages, insist on compliance to every rule set whether in or out of the classroom. This sets the tone for the future and although incredibly tiring and time consuming initially, you will

find that there are gradually fewer discipline issues for you to handle and you can focus on other areas like academic excellence or other enrichment activities.

However, none of this needs to happen through your action alone. When I first started out with my form class, I realized very quickly that I could not be everywhere at the same time. Students being students, learn things very quickly; this applies (thankfully) to both the good and the bad things. So, two things must happen simultaneously, the removal of negative peer influences and the presence of positive role models. To this end, I enlisted the help of a few senior student volunteers (Sec 2-4) who were good student leaders and

active in some of the CCAs that my class students were in. I asked if they were willing to spend one recess a week sitting with my class and getting to know them, and two 1-hour sessions after school to help certain students with their homework. I told them that I could promise them no incentives except that I would write a paragraph in their testimonials. To my surprise, this group of volunteers grew from 5 to 18. They brought along friends who wanted to be part of this informal mentoring programme. I have a sneaky suspicion that one of the attractions was the fact that they had nothing tangible to gain from it. For all the criticism that



we level at the youth of today, I think that at the core, there are many of them who are drawn to worthy causes.

I also made it a point to be in the classroom before 7.00 a.m. every morning for the first semester (Assembly was at 7.20 a.m.). The more notorious seniors hovered around the classroom, saw me inside, and realized that I was not going anywhere. They turned around and walked away. It also gave me the opportunity to get to know the students and to help them with their work. For my students, they made new 'good' friends whom I trusted to provide positive influence, bring them into the respective CCAs and to give academic guidance. I also got to spend time grooming the student volunteers who not surprisingly went on to take up top leadership positions in the school and in their CCAs.

The Cheerleader and Encourager

In today's busy society with still largely Asian conservative values, a genuine compliment or timely pat on the back is sorely lacking. While in many aspects we have caught up with more liberal attitudes (such as sex and the media), we still trail in expressing ourselves and affirming others. Let's be honest, all of us would appreciate it if our bosses,

colleagues or parents praised us for the work that we do. How much more do our students need us to praise and encourage them?

Most of our students do not come to us with a string of successes behind them and oozing with confidence. I wanted to affirm their efforts and encourage them. After every semester's exams, my co-Form Teacher and I printed certificates and gave Popular Bookstore vouchers to the top students in each subject. The top 3 students in the class got an additional movie ticket. When they won prizes at Sports Day, we took photos and put them on the class notice board. At their first Speech Day in 2009, parents were not invited due to H1N1. We took photographs of the ceremony and framed them for the students to bring home to their parents. This year, the Student Development Committee presented Blue Ribbons to students who had "Excellent" conduct grades. We took it a step further and got the awardees' best friends to record a 1-minute speech as a testimonial, which we posted on the class Facebook page.

Much of their success as a class had to do with discipline and management. A well-managed and warm classroom invites praise simply because the students want to learn and are not afraid to speak up or ask questions. On various

occasions, other teachers, external vendors and even the school leaders have told me that the class did well in this or that. My response is always, "That's great! Would you come and tell them that personally?" Very quickly, the students developed a sense of pride in themselves, and in the class as a whole.

The Larger Community

In the early years of a teacher's career, dealing with parents can be a pain or a pleasure. As teachers, we sometimes find it difficult to handle certain students. I can only imagine that at times, parents feel the same. It does not help that a teenager's time is largely divided into three parts, much of it in school, with their family and with friends. To understand a teenager in only one of these three spheres, leaves many questions unanswered.

Building Trust, Believing in Them and Demanding Excellence.

Conclusion

Take a break. Go to a quiet beach or café with a journal and ask yourself these questions, "What do I really think of my students?" and "How have my actions revealed this inner belief?" Each child is unique and precious. They come

from different backgrounds and have different struggles; they also have different strengths and gifts, some more hidden than others.

There will be days when after countless reminders, students still repeat the same mistakes and frustrate you to no end. There will also be days when teachers complain about certain students (usually the same ones) and they seem to have forgotten all that you have tried to teach them. There will always be the days when you feel incredibly overwhelmed, overworked and under-appreciated. Let's face it, Teacher's Day is but once a year. Our students are not robots that we can program, if they were, there would be no satisfaction in teaching. Without the frustration and the tears, there would be no joy in seeing our students grow to be fine young men and women. Believe in them genuinely, love them unconditionally and may you find joy in your journey together.

Samuel teaches PE and History at Swiss Cottage Secondary School. He is active in the Boys' Brigade and is passionate about raising a generation of young leaders in and out of the classroom. During whatever free time he has left, he enjoys music and plays with a band, Alternation.

In teaching you cannot see the fruit of a day's work. It is invisible and remains so, maybe for twenty years.

~ Jacques Barzun

My Journey as a Teacher

Yuen Chai Lin (2010 OYEA, Singapore)

Men love to wonder, and that is the seed of science.

~ Ralph Waldo Emerson

Igniting students' interests, crystallizing learning from experiments and creating colours of wonder in the laboratory are strategies infused within chemistry lessons to intrigue students and arouse their curiosity. Chemistry, a discipline of science that connects other natural sciences, offers explanation for phenomena and is often the starting point for the creation of the materials we own today, ranging from daily necessities such as food, medicine and fuel to the consumers' demands for cosmetics, batteries and buildings. The beauty of serendipity and the discoveries in Chemistry have always interested me. Being an educator, the importance of inquiry in Chemistry cannot be over-emphasized and creating learning experiences for students certainly allows me ignite the passion in them.

Very often, my lessons start with demonstrations, observations of a phenomenon, or intriguing questions, initiating discussions and building an ambience in class that is filled with curiosity, anticipation and enthusiasm. With each experiment or demonstration lesson, I aim to

create a sense of wonder in the students. I want them to draw upon their prior knowledge; question their own assumptions in their attempts find out the reasons which could possibly explain what they had observed, as young budding 'chemists' in their quest for answers. I enjoy such interactive lessons, where questions by the students lead to more discoveries, with me providing the guidance and scaffolding their learning process. The entire class would then be engaged in dialogue and interacting with one another, resulting in the strengthening of my rapport with the students as the days go by. Students were often involved in many varied tasks, such as the scientific inquiry process of designing their own experiments, manipulating the conditions, organising information and data, class presentations, using online interactive programmes and learning experiences beyond the classroom. Lessons were mostly conducted in the chemistry laboratory, where students would feel the ambience of the laboratory and the ease with which the chemicals could be retrieved for demonstrations. Experiments carried out in response to students' questions have enabled me to give them an immediate reply which captured their interests and helped them to learn better. I see teaching as a spontaneous activity where students play a major role in

the process of learning with the teacher as the facilitator. I frequently make use of cooperative learning strategies.

Defining a purpose for learning is as important as making it relevant to the students. Interesting articles like those on the purification of water from urine for astronauts' in space, chemicals in food, importance and dangers of coal mines, sourced from newspapers and magazines, contributed much in promoting dialogue within the class in relation to creating awareness in current affairs. In this way, students will be well-versed in the use of the scientific terms and how to explain things using logical reasoning.

Exposing students to the various applications of chemistry in the industry through enrichment courses and field trips is another way to show students the bigger picture behind the theories and concepts they are learning. It bridges the gap between scientific concepts and our daily lives. I strongly believe that learning should be extended beyond the physical walls of the school with outdoor learning, field trips to the science centre, perfumery and polymer workshops at tertiary institutions and learning journeys. These will definitely deepen students' interests in the subject and expose them to potential career options that have to do with Chemistry. Skills-based electives, such as beauty therapy, 3D-video games design, e-business and entrepreneurship, inline skating, golf, kickboxing, and cartoon drawing develop students' skills beyond the curriculum. These electives provide an opportunity for my students to explore their varied

interests and encourage them to continually learn beyond their textbooks. Consequently, these field trips also had me in awe in terms of the amazing applications of the concepts which I was teaching. I could almost feel that I was back to being a student. I could connect with the students I had brought along on those trips.

This belief in outdoor and experiential learning has influenced the way I have carried out project work with schools overseas. Organised by the Asia-Europe Foundation (AEC) People-to-People Exchange Programme, the AEC project encourages secondary school teachers to develop innovative, effective and sustainable online inter-cultural learning platforms that connect students from Asia and Europe. The most recent project, with eco-tourism as its theme, involved partnering 12 overseas schools and over 200 students in the use of Information and Communication Technologies (ICT) for collaboration. Students had to identify tourist spots in their own countries which were suitable for eco-tourism and then explain what they could do to help sustain them. The participants' ages range from 13 to 19 years. Everyone benefits from the different perspectives arising from age, maturity and culture. I included outdoor filming trips within the project, empowering my students with the freedom to choose the places of interest. The students became motivated and it was relatively easier to sustain their enthusiasm and boost their confidence through the street interviews that they carried out. These were teachable moments which tapped on the strengths of the students in the group and were most memorable to both the students and myself. It had definitely helped to

strengthen the rapport I had with the students. Projects of such nature also fostered a deeper understanding and greater appreciation of cultural diversity between the students of different countries. My students gained ownership of the learning process and promoted global awareness amongst themselves. Being the project manager, I also learnt about the different education systems of other countries from the foreign teachers and students I worked with. It has enabled me to better understand and appreciate the workings of our own education system.

A life would not be considered a fulfilling one without the inherent struggles and triumphs. I have translated this into the way I have managed the National Police Cadet Corps (NPCC), a co-curricular activity (CCA). Instilling discipline in my students is, and always will be, a priority. I often create opportunities to push students to achieve their personal best and to add value to the Unit. I especially enjoy communicating with students, encouraging them and participating in activities with them. I spend a lot of time training the upper secondary student leaders, so that they can in turn lead the younger cadets. When the training gets tough, teachers are always there for them, encouraging them to persevere, helping them to build resilience. A quote by Jacques Barzun says *'In teaching you cannot see the fruit of a day's work. It is invisible and remains so, maybe for twenty years.'* As such, I see my duty as a teacher who will recognize that each student is unique and who will help to nurture students to their full potential.

I have benefited from what my very own teachers have taught me. I still recall the wonderful

memories in class, the laughter and the strict, yet warm teachers who sincerely cared and showered us with concern. The critical lessons were those where my teachers' inculcated values which have helped shape me and my perspectives. My own philosophy of teaching is similar; to be able to pass on the joy of learning and the values we have so as to enable the students to contribute effectively to society in the future. Nothing goes to waste; every minute that I spend with my students gives me the opportunity to bond with them, to be able to impart values and knowledge to them and to encourage them to perform at their personal best.

Teaching is like a rainbow, which spans a continuous spectrum of colours. Being conferred with the Outstanding Youth in Education Award 2010 is an honour I shall cherish and try to uphold. I look forward to even more exciting teaching moments to make learning come alive, and to make the colours of chemistry and culture even more vibrant for my students. The journey had just begun.

I touch the future. I teach.

~ Christa McAuliffe

Yuen Chai Lin teaches Chemistry, Project Work and Mathematics, at Pioneer Secondary School. Currently, she is the HOD for the Normal Technical (NT) Stream and her area of focus is to introduce and promote the use of engaging learning activities for the Normal Stream students.

Reflections on the Singapore Teachers' Conference 2010

Brendon Nutt

I am a teacher in Perth, Western Australia. I attended the Singapore Teacher's Conference as a presenter and guest of the Ministry of Education. I would like to take this opportunity to thank all the people who made my experience in Singapore so amazing. From the people in the Ministry, to the overseas teachers I met, to the members of ASCD, to the staff of schools who returned to work on their holidays to meet us, to the teachers that I talked to at the conference – thank you. There is irony in the sense that I was invited to Singapore to teach, yet I have returned home having learnt so much.

I am very much an ordinary teacher in an ordinary school. It is true that I have received a couple of awards for my teaching and I am proud of my work. However, I do not believe I am so different from the next teacher – perhaps just luckier. My experience in Singapore is worth writing about and so that will be the basis of this

article - reflections on the Singapore Teacher's Conference 2010.

Reflections can often be scattered, anecdotal and personal. To give this article value to you I need a framework – something to guide the reflections. One of the key moments of the Conference was the inauguration of the Singapore Teacher's Academy. The motto of the Academy is *Lead, Care, Inspire*. It is this motto that I will use to structure my reflections.

Lead

Before I came to Singapore I did not really know what to expect of the conference. As I was ushered to my seat on a Monday morning, it became clear to me that one of the things I had not worked out was just how BIG this was. 2000 people on the first day of the school holidays. Being honest – I was pretty scared about my small part in this before I saw the crowd. Now I was terrified. My only consolation was that the man sitting next to

me, who would also be presenting later in the day, seemed to be going through the same series of emotions. The conference was big in another way – it was a place where people shared big ideas.

The first plenary speaker at the conference was Dr Dennis Shirley. He spoke about change in education with particular reference to how education is being shaped by the changing world of the 21st Century. He commented upon how the 'perfect storm of change forces' coming from technology, pedagogical innovations, population movements and other areas could often feel overwhelming to a teacher in his or her classroom. To me it seemed that this was a particularly big idea. I do not want to paraphrase Dr Shirley's address, but rather draw out some of the ideas that really made me pause as a teacher, ideas that will change my own practice.

When talking about how teachers deal with change, Dr Shirley drew attention to the 'Unholy Trinity': *Presentism, Privatism and Conservatism*¹ which he argued were some of the main problems that teachers face today. Presentism is something that we all experience as teachers. In some industries this is called *fire fighting* – dealing with problems as they arise rather than planning ahead. It is those times when the workload of preparation and assessment, meetings and classes force us to think only in the short term rather than seeing the big picture. Presentism leads to Privatism – when it all gets too

¹ I think Dr Shirley said that these ideas came from a book entitled *School Teacher: A Sociological Study* by Dan Lortie, but my notes are unclear. I apologize to Dr Shirley and Mr. Lortie.

much. Sometimes it is easier just to go to my classroom and close the door. I know I am certainly guilty of this. In my classroom I feel as though I can control what is happening when everything outside the door is out of my control. This leads us to Conservatism. When change is happening so fast and so frequently we become resistant to it. We want everything to stay the same but it cannot. I can certainly see how a cycle might develop here, one I suspect that many teachers are caught in.

What solution can we offer to this problem? Dr Shirley recommends 'Disruptive Innovation' – do not wait for change, change first. Often, in education, we feel as though change is coming from above. Yet it is we, the teachers, who have to do the changing. My plan then is to take control of this change, to own it. Rather than sit back and let change happen, I will lead change. There is a further point to be made here though. The changes that you are experiencing in Singapore as teachers are being experienced the world over. The problems that I face regarding change in education in Australia are the same problems that the guests to the Conference from the U.S.A., the U.K. India and China face. Here, the thoughts of Mdm Seah Jiak Choo may be prescient: *'In every problem there is a little possibility struggling to get out'*. I believe that one of the first steps in our disruptive innovation should be to use the technologies that are driving change to our advantage

by opening up better channels of communication between educators around the world. We should not shut our classroom doors – we should open them and work together.

Singapore is in a unique position to take full advantage of this moment of change. Your recently inaugurated Academy of Singapore Teachers could be a vehicle to empower teachers to take control of this change. Further, the Ministry of Education seems to recognise the importance of teachers as partners in change. The last reason that Singapore will make this change is a new word for me – *Kiasu*. Singapore will change for fear of missing out. A case could be made that *kiasu* embodies disruptive innovation. In Australia, we are happy to sit in fifth place on the PISA country rankings, in Singapore, you are not. Finland has topped the PISA rankings since 2000. It seems that nearly every second person from the Ministry of Education that I spoke to, had either just recently returned from Finland, or would be visiting Finland shortly. Why? It is because Singapore wants to lead. This determination to be the best, to offer the best education to your children, is something that I have taken home to Australia with me.

Care

As educators, we sometimes lose sight of the reason we are doing our job. Fundamentally, a teacher's job is to teach. A problem arises however when we start to try to

measure the effectiveness of the teacher or how much a student has learned. At present, the method that is used both in Singapore and in Australia and around the world is high stakes testing. This was an area of discussion not only for many presenters at the conference, but also a common topic for questions from the audience and lunch conversation. My reflection here is not on the right or wrong of high stakes testing, but on what happens to those who do not succeed and become disengaged from education.

Dr Ng, the Minister for Education in Singapore commented on this in his opening speech at the conference. He noted that 'For Singaporeans, there is a great premium on quality education – it determines their livelihood and ability to participate as active and productive citizens. To increase productivity, our industries will undergo transformation so that most if not all good jobs will require high-level skills and education. As a result, the price of failed education will rise and be translated into social drop-outs and marginalised citizens. The teaching fraternity will be challenged into thinking of new ways to help learners across all academic ability achieve their full potential as well as to become lifelong learners.'² To me, it seemed that he was calling upon the teachers of Singapore to not worry so much about the scores on tests, but to develop and deliver programmes of education that would equip students with the skills that they will require

² Opening Address by Dr Ng Eng Hen, Minister for Education and Second Minister for Defence, at the 5th Teachers' Conference 2010 on 6 September 2010 at 9.30am at the Singapore International Convention and Exhibition Centre, Suntec City.
<http://www.moe.gov.sg/media/speeches/2010/09/06/5th-teachers-conference-2010.php>

to be successful in the 21st Century. This is an idea that is very close to my heart in terms of teaching.

I do not work with high achievers, but with those who are disengaged from education. It is my job to provide education to students who do not fit in to an education system that measures success through tests. How do I do it? Divorce education from the tests. Focus on learning, not on assessment. I was intrigued to hear the mantra 'Teach Less, Learn More' while I was in Singapore. I am sure you are all familiar with it, but as an outsider looking in, it is a rather exciting idea. It gives students space to explore their own ideas, make connections and importantly to own their education. John Dewey, the American educational philosopher says that "*The business of the educator ... is to see to it that the greatest possible number of ideas acquired by children and youth are acquired in such a vital way that they become moving ideas, motive – forces in the guidance of conduct.*"³ Rote learning of facts is not a vital, moving idea. As teachers, if we care for our students, we need to make education something that they are doing, not that is being done to them. I believe that this is particularly the case with students like those whom I teach, and to which the minister refers. At this

time of change in education, we should seize the chance to design programmes that inspire students to learn rather than focus on test scores. My experience tells me that once a young person feels this inspiration and takes ownership of his own education, the test scores will take care of themselves.

We need to not just care for our students though, for they are only half of the equation. We need to care for our teachers. Mdm Seah Jiak Choo drew our attention to a line from the McKinsey Report on Education which said that '*The quality of an education system cannot exceed the quality of its teachers*'. Again Singapore seems to have taken the lead. The esteem in which teachers are held in Singapore is something that is missing in many developed countries. The Academy of Singapore Teachers has as one of its primary concerns 'to lead and inspire teachers, and promote a culture of care and support for teachers' well-being'.⁴ The Academy itself says that 'The Academy aims to foster a culture of professional excellence within the teaching fraternity, characterised by strong pedagogical leadership and teacher ownership of professional development.'⁵ I must say that I am rather envious of Singapore teachers – the equivalent

organisation in Western Australia (WACOT) has as its mission statement 'The WA College of Teaching registers all K-12 school teachers in Western Australia and aims to raise the status of teaching by recognising, promoting and regulating the teaching profession.'⁶ To me the difference in focus is startling. Make the most of your Academy – it offers wonderful and exciting opportunities.

Inspire

Linda Darling-Hammond said in her keynote speech, '*If the world is to be a better place, it is teachers who will lead us there.*' This is our challenge as educators, but it should also be our inspiration. One of the areas that we need to lead in is the development of 21st Century skills. Susan Elliot, one of the overseas teachers invited to the conference, spoke about the idea that the job of teachers today is to prepare students for jobs that have not been invented yet. The Ministry recognises the problem too: 'To better prepare students for the 21st Century, teachers will be required to deliver education that is increasingly customised and collaborative, while being grounded in sound moral and social values. To be able to deliver this, teachers will have to continuously acquire new knowledge and apply

³ Dewey, J. (1909) *Moral Principles in Education*, The Riverside Press, Cambridge Massachusetts, U.S.A. p.10

⁴ 'New Academy for Teachers', Straits Times Online http://www.straitstimes.com/BreakingNews/Singapore/Story/STIStory_575412.html

⁵ The Academy of Singapore Teachers <http://www.academyofsingaporeteachers.moe.gov.sg/cos/o.x?c=/ast/pagetree>

⁶ WACOT, <http://www.wacot.wa.edu.au/>

⁷ Ministry of Education Singapore Press Release, September 6 2010 <http://www.moe.gov.sg/media/press/2010/09/academy-of-singapore-teachers.php>

innovative pedagogies to be effective educators.⁷⁷

As teachers if we are to help make the world a better place we should focus on developing the following skills in our students:

1. Learning and innovation skills including creativity, innovation, critical thinking, problem solving, communication and collaboration.
2. Information, media and technology skills including ICT and media literacy.
3. Life and career skills including flexibility and adaptability, initiative and self-direction,

social and cross-cultural skills, productivity and accountability, leadership and responsibility.⁸

I believe that by doing this we can not only prepare our students for the challenges of the future but also create in them a love of learning that goes beyond pride in achieving high marks in a test, which after all is a passing feeling, and becomes a part of who they are. If we can inspire this feeling in our students then the world will be a better place. By now, I hope you can see that I have found the whole experience of the Singapore Teacher's Conference 2010 inspiring, but I want to draw out one more idea. At the Singapore Teacher's Conference, the Ministry of Education brought together 10

educators from around the world, myself included, two eminent professors, Government Ministers, Director Generals of Education present and past, Master Teachers and Teachers (nearly 2000 of you). We all recognise the challenge before us. We all see the problems and possibilities. We should work together to make the world a better place.

Brendon Nutt won the 2008 National Excellence in Teaching (Sec) Award, Australia. He is passionate about working with disengaged students to help turn them around.

The whole experience of the conference was inspiring. To hear so many educators from Singapore and around the world share their best practice ~~we~~ makes me feel so lucky. When I reflect on the fact that there were so many common threads - common problems and common solutions it tells me that we must be doing something right. ~~to~~ This and the passion of Singapore teachers for their students and their genuine efforts to always be better is what I will take back to Australia to share.

Thankyou.
Brendon Nutt

This list from 'The Partnership for 21st Century Skills, http://www.p21.org/index.php?option=com_content&task=view&id=254&Itemid=120, but many different formulations exist.

Leaders in Literacy

Susan Dench



Introduction

Reforms in education are seemingly endless and literacy is not immune. Leaders of literacy, whilst main-

taining a commitment to continuous improvement, must be mindful of previous initiatives to improve standards. The National Literacy Strategy (1998) provided regular

curriculum time for reading and writing to be taught. Dr Kevan Collins, National Director of the Primary National Strategy outlined the rationale for the National Literacy Strategy (NLS) making it clear that a time slot for literacy was critical, alongside “very focused and structured” teaching (oral evidence to the DfES Committee 2005). At that time, it was also noted that this was a continuous process and research must be used to assess and focus our future approaches.

Evidence and experiences of the NLS, the National Curriculum and the Renewed Curriculum have provided an extensive knowledge base that enables us to lead the future generation of students successfully, provided that we continue to evaluate our approaches. Yet, we must have the courage to try new pedagogy whilst maintaining and developing existing successful methods.

There have been significant changes in the ‘placing’ of literacy. From being part of an integrated curriculum, it has become part of a rigid structure in a fixed, named, time-slot. The future where literacy is a skeleton on which all our teaching could sit is a goal to aim for. In this model, students are able to use literacy to ‘function’ – to access the world around them, using their skills in literacy without being overtly aware that they are. Without the combination of historical research and forward thinking, literacy could become lost in content-rich teaching; or part of such an overt focus, that it could hinder students who are unable to transfer the skills where necessary.

The Leitch Report in 2006 identified to the UK Government that literacy standards needed to improve (alongside other skills) to meet the needs of a changing world. Teachers of tomorrow need to empower their students to access their learning. In this model, the teacher no longer focuses on subject or content, but on skills that have been identified as necessary. In addressing this challenge, teachers need to understand their role in the big picture regardless of subject expertise. We all need to be leaders of literacy and teach our subjects through enhanced literacy skills.

World literacy

Today, one in five adults are still not literate and two-thirds of them are women, while 72 million children are out of school (UNESCO). UNESCO's programme aims to create a literate world and promote literacy for all; without it, we are hindering the process of globalisation. Global communication needs to be fast, accurate and easily understood.

“Literacy is a human right, a tool of personal empowerment and a means for social and human development. Educational opportunities depend on literacy.”

~ UNESCO

There have been a number of initiatives to improve standards in the UK. However, according to Claxton, the Cambridge review of primary education in the UK in 2007 found that literacy levels have remained static since the 1950s. The National Literacy Trust has found

that, “One in six people in the UK struggle with literacy. This means their literacy is below the level expected of an eleven-year-old.” There are Government initiatives such as, The National Literacy Strategy; The National Curriculum and the Renewed Framework, which have all supported teachers across the country in providing a structure, resources, ideas and web-based planning material. The National Strategies website maintains that “Standards in English and Mathematics have risen significantly since the introduction of the Framework”. Yet, standards in writing are still too low.

It would be an interesting exercise to change our perspective, to provide an environment for all teaching professionals to become leaders of literacy. The subjects would become secondary. Thus, the maths teacher would use literacy to help to engage students in the explanation of mathematical problems; the scientist would require critical reading skills to interpret data that would form a conclusion to an experiment and so on.

Which Method to Choose?

A strong, yet straightforward methodology, which can be assimilated easily to provide the most effective outcomes with maximum impact, is critical. We need to include the research and keep the strategies that work, whilst continuing to explore and experiment with new methods. In reading, the arguments over the ‘phonics’ and ‘searchlights’ models from the Framework perhaps emphasises that a range of approaches to reading may exist and that the

one-size-fits-all approach is one that will fail.

Leaders of literacy should have access to and provide access to a range of tools for teachers to use comfortably with students of all backgrounds and abilities – a toolkit for literacy. With training in phonics, a teacher could comfortably teach an Early Years child to read, as well as help a more fluent reader to decode a word. Despite this, teaching reading solely through phonics might not be the most suitable approach for all students. Flexibility, personalisation and choice should be inherent.

Ros Wilson, (together with Andrell Education Ltd 2004) has developed a simple strategy to support writing. The ‘Big Write’ is a model that has been used widely in primary schools in England. This model is accessible to students and to leaders of literacy across the curriculum. It is a powerful tool. Wilson has incorporated assessment criteria from the National Curriculum into her model, thus ensuring that her model builds, but does not replace.

Engaging Stakeholders in Leading Literacy

It is not always a simple process to develop an idea in a learning community – especially when it could mean more work, or adoption of a different style of teaching. Literacy policies that sit on shelves or in drawers, do not work. Active, visible policies are the successful models.

Commitment from others and building capacity is essential for any leader. Choosing and “engaging

the right people” (Thompson 2007) ensures that your stakeholders carry the project to completion. In putting these collaborative working arrangements in place, the challenge is to create entire networks that build and do their business through “bridging”, not “bonding” (Field 2003).

It is imperative that the full learning community feel competent and confident to deliver and engage in any literacy programme. Successful leaders should aim to create the highest proportion of supporters that share the same vision, yet maintain a sense of realism to increase the chance of a successful outcome. Provided that the negative voices do not shout the loudest (which they are inclined to do) then leaders can be sure that their project has the best chance of succeeding. It is important for all leaders to understand this principle and to accept that there are aspects of leadership that cannot be controlled, but may need careful management. What is critical to successful leadership is a shared vision with the children at the heart of everything that you do. The passion that we have, which enable our students to succeed, comes largely from a moral standpoint; as Polonius said to his son, Laertes, in *Hamlet*, “to thine own self be true,” (Shakespeare). Teachers should continue to take what they believe is the right course of action for their students, starting and ending with moral purpose.

Following this principle will lead to greater success and any negative voices will become quieter. It would seem that this understanding is universal, as is evident in The National Writing

Project in the United States. It is a collaborative effort by teachers to improve writing and the teaching of writing. Findings there suggest that it is not easy to lead co-workers, yet this has been the model that they have adopted with great success. Therefore, as leaders in literacy, it is also important to be aware of the difficulties that leadership entails. It is often the case that we are leading and sharing a teaching role with our team at the same time; this can be a challenge.

Once a team is established, a chain reaction begins. I see this process clearly like a firecracker igniting others around it. An idea starts with the visionary; it is an exciting idea that generates sparks within others. Just as a spark from one fire does not start the exact same fire somewhere else, the spark of an idea will ignite new enthusiasm that will shape the vision further. A strong leader will allow the vision to be shaped (not changed) by further ‘sparks’. At each stage, a consolidation occurs because another ‘champion’ has been brought into the project. By adding their ideas and time to the project, they are involved and begin to take on some of the responsibility, and the leader has begun to develop the required capacity – this may also include students.

Teachers who become “Learning coaches,” (Claxton 2002) will encourage the involvement of students in their own learning so that they are not merely passive receivers of knowledge; they shape and construct their own learning. It is the relationships that teachers develop with their students and with their peers that is the key to successful working

practices. ‘Relationships matter,’ – in a modern world, respect for the individual must be at the heart of what we do (Field 2003). Engaging students in their own learning should be part of any process of learning. Peer-language exchange is quite different from student-teacher exchange, and should be seen as a supplementary learning tool. Any learning experience should engage a learning community where the students are full partners in the whole process.

Co-construction with teachers and students working together can provide speaking and listening opportunities, whilst developing other literacy skills. Teacher volunteers may be required to engage with this new approach and leaders can support it while explaining that ‘it might not work’. These “Fourth Generation” teachers will not be afraid to “take ideas and run with them,” (Claxton 2006).

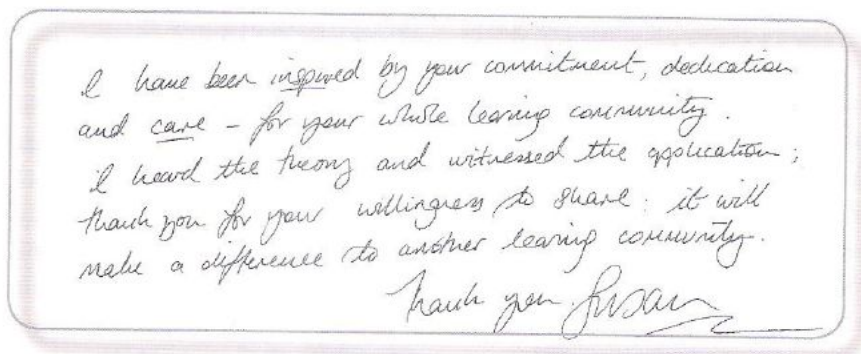
Students will flourish in an environment where structure and creativity can be combined with enthusiastic teaching which embraces new perspectives, such as the use of Howard Gardner’s multiple-intelligence theory alongside literacy to enhance the learning experience. Where teachers have the opportunity to teach using a range of different learning styles, the ‘toolkit’ can be further embellished. Some students or teachers do not learn best with a traditional approach. Increasingly, it has been seen as important to include the use of active learning. Sue Cowley records this as ‘learning that has a dynamic element to it’ and argues that it ‘tends to stay with us longer’ (Cowley 2002). Creative, participative and energetic

learners display the aspects of PLTS Framework and harness the skills that they will need for life.

Personal Reflections

A collaborative, personalised learning approach, and learning through “greater transparency and student participation,” (Claxton 2006) allows learning to surface that may have been suppressed. As a leader of literacy, I have found that devolved responsibility, student engagement and ‘risky’ active learning can engage students and staff in different ways. Learning together is surely part of the social need in us; initiating new strategies or developing existing successful approaches, provides sustainable on-going development. Leaders need to work with models that have been created by other learners, and embed them or use them as a spark for further learning. Together, we can encourage learning that is dynamic, exciting and ultimately successful. We can share the success, enabling our students to express themselves more coherently. Thus, literacy as a subject can support learning in other curriculum areas. The impact it could have in maths for our literate, but not numerate students is worthy of investigation. It is a necessary skill that must be mastered by our future citizens so that they can take their place in the global market place and compete fairly to secure their own future.

Literacy is an important and shared responsibility. It must be led by people with a clear and passionate vision who are ready to begin the ‘Chain Reaction’ and make learning part of everyday life for all.



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Susan Dench won the 2009 Teacher of the Year Award, Nottinghamshire, UK.

Developing Independent Learners Through the Use of Instructional Scaffolding

Roy Hudson

I was fortunate to be included among the few overseas educators invited to attend the Singapore Teachers' Conference 2010 held in September at the Suntec International Convention Center. From the first moment of the conference, I was impressed with the level of commitment of the staff and the teachers. In fact, I saw at once that the room was filled with educators who were focused on the improvement of the student learning experience. My first reaction was reinforced from the opening address delivered by Ms Ho Peng, the Director-General of Education and Dr. Ng Eng Hen, the Minister for Education and Second Minister for Defence, and through the closing address of Mr. Manogaran Suppiah, the Executive Director of the Academy of Singapore Teachers. This also continued when the overseas teachers toured three Singapore schools: Rulang Primary School, Nan Hua High School, and Hwa Chong Institution. We also visited the National Museum and were treated to a dinner by the Executive Council of ASCD Singapore on our last evening in Singapore. Every educator I met was dedicated, articulate in the field of education, and thoroughly committed to their students.



Perhaps one of the most exciting aspects of the conference was the launching of the Academy of Singapore Teachers. While Singapore schools are considered to be one of the top five educational systems in the world, the Ministry of Education had the courage to make a major change in their policy

to improve what is already excellent. By raising the professional standards in each of the disciplines included in the Academy, teacher collaboration and networking have become integral to the educational process, and professionalism and pride in the teaching fraternity, the natural products. By going to a teacher-driven system, teachers have the privilege and the responsibility to develop and promote life-long learning in their students.

For real life-long education to occur, it is critical for a teacher to develop an educational atmosphere where students are prompted to seek out knowledge and skills and allowed the time to develop these skills fully. Without the desire to learn and the means to grow, students will stagnate; without the proper means to begin their quest for knowledge, they will become frustrated and cease their journey. A good teacher must develop a plan that embraces both the desire to learn and the means to grow, utilizing whatever technology is available.



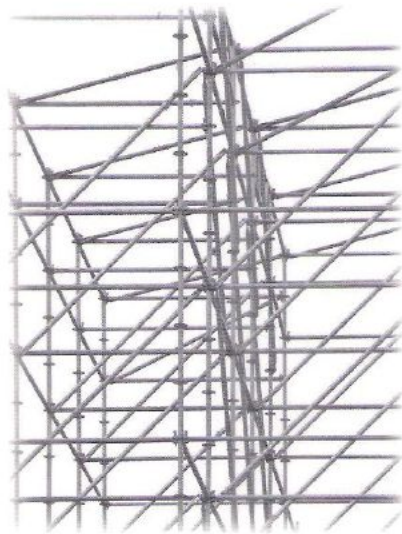


Outside Buckingham Palace, London

The teacher's role must be to allow their students the opportunity to accomplish what they know and understand, to assist their students with tasks that require help, and to illustrate models and strategies that will eventually allow their students to complete their tasks alone.

The prominent developmental psychologist Lev Vygotsky felt that this type of educational strategy utilized what he called instructional scaffolding (Applebee and Langer; Torbe). Nancie Atwell describes it simply: "What a child can do in cooperation today, he can do alone

tomorrow" (Atwell). Instructional scaffolding is a method of teaching where the teacher introduces students to a particular field of study as participants rather than as observers. All students should go through a type of cognitive apprenticeship where the learner apprentices with an expert (the teacher) in an atmosphere that allows for the sharing of strategies and traditions (Englert). As students tackle the various activities, a teacher establishes the models, definitions, and knowledge necessary to develop the appropriate skills while engaging the students in new and more challenging work.



Instructional scaffolding stresses the use of five basic criteria in the development of class work: ownership, appropriateness, structure, collaboration, and transfer of control (Applebee and Langer; Torbe). First, ownership eventually transfers the responsibility of goal setting and activity-design from the teacher to the student. The second criterion of appropriateness is the designing of tasks that allow for learning in a developmental level just above a student's ability to

function effectively without external assistance. Vygotsky called this the "zone of proximal development" (Vygotsky, *Thought and Language*). With the regular repetition of these tasks, learning becomes a recursive act in that the skills and activities are re-experienced but always at a more difficult level. The third criterion creates an appropriate structure for learning so that students understand the importance of what they are studying or developing. In addition, appropriate modeling approaches are explained and analyzed so that students, as they develop, will be able to facilitate their own learning and know the procedure for advancement.

The fourth criterion of collaboration establishes learning as a cultural and social process in which teachers and students share in the collaboration (Englert). If an atmosphere of trust and acceptance is established in the classroom, students feel more at liberty to explore their own thinking and the subject at hand through conversation and interaction with their peers and their instructor. In this way, they discover what they need to know rather than be told what they need to know. The final criterion is for the scaffolding to be removed as the student internalizes the skills and prompts needed to accomplish the activities of the class. The teacher guides students through a series of projects that are at first teacher-prompted and then prompted by both teacher and student. The next step is for the work to be developed by students working together until the motivation becomes internally activated (Vygotsky, *Thought and Language*). At this point, the student takes charge of his/her own

development and works as an independent learner.

This approach employs tenets of the inquiry-based philosophy where students are encouraged to ask meaningful questions that prompt exploration and discovery on the part of both the student and the mentor. That is why it is critical for the teacher/mentor to be an expert in his/her field of study. It is not enough to be well-versed in the theories and concepts of the discipline. The teacher/mentor must also bring practical, first-hand experience into the classroom and to the students. In that way, projects can be designed not only to teach the educational standards but also to have practical applications that students can observe and understand.

I can attest to the value of this type of instruction through my own experiences as a teacher during the last sixteen years. I walked into a secondary school relatively late in my career. I had spent more than twenty years directing, designing,



Observing Singaporean students in Art class

writing, and producing theatre in the professional world. I ran my own production company, and I demanded the best from my staff and colleagues. So, when I accepted the challenge of creating a theatre programme in a high school that had none, I brought skills honed from over two decades to my classroom. If a school is to prepare young

people to accept the challenges of life, then we as educators must expose our students to real-world situations using educators who have that experience. We must challenge our students and expect them to perform independently and to the best of their abilities. Expectations must be high, and students must realise that we will not accept mediocrity in anything that they do.

Students who are in programmes employing instructional scaffolding will be given opportunities to apply the skills they are learning in the classroom in hands-on situations, while their teachers and other professionals guide them through the process. As part of their development, some students will assist their classmates who possess fewer skills, have less training, and need more study in various activities. By keeping this social apprenticeship active, the students work toward establishing their own cognitive independence from their teachers. Howard Gardner, the



At the Globe Theatre

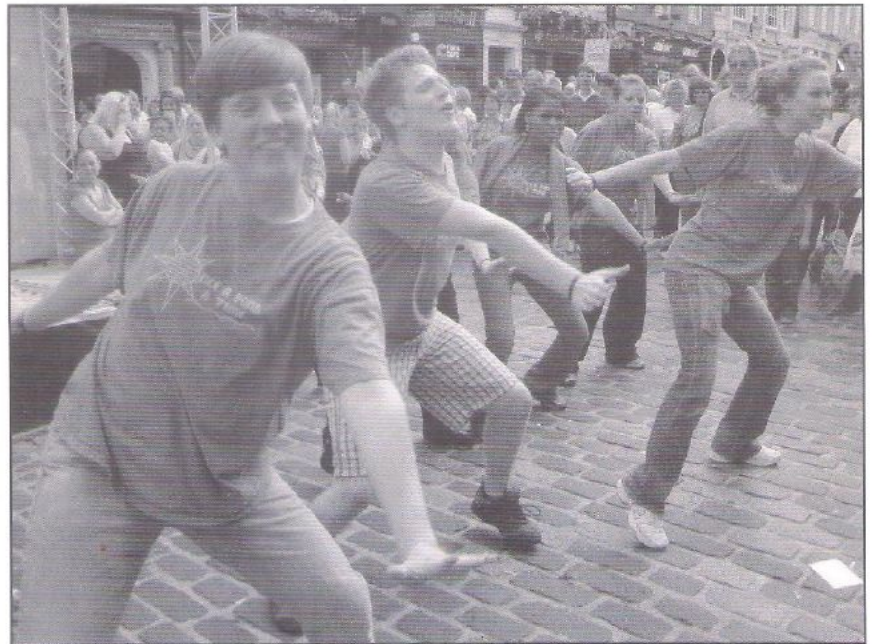
originator of the Multiple Intelligences Theory, maintains that this type of student-apprenticeship format utilizing inquiry-based learning encourages a stronger atmosphere of respect filled with social interchange that promotes "...critical thinking through regular, informal assessment in the context of an authentic domain" (Gardner). This type of instruction also provides a setting that is closer in structure to the type of environment found outside of traditional schools in the global marketplace.

For this type of system to work, students must be exposed to real-world applications at all times. While classes are offered in all of the disciplines, students are given opportunities early in their education to apply the principles they are learning in their coursework. The theory is simply that if a student does not feel the need to get better or to develop additional skills, then he/she will not. This immersion into 'non-academic' environments provides inspiration to our students. They earn the right to participate in these experiences, and they are encouraged to take every opportunity to enrich their talents. This has led our students to become amazingly focused and driven to develop their skills. This atmosphere challenges them to perform and rewards them both professionally and academically for their effort. What is interesting to note is that this process works for an incredibly wide range of student-learners with differing academic abilities.

During my tenure at Shades Valley High School, my students were given the unique opportunity to

work, perform, and study with professionals from all over the world. In a typical year, my students performed on a variety of stages throughout our community, our state, our region, and worked with a variety of professional actors, directors, choreographers, and musicians. My students studied and performed throughout the United States, England, Germany, and Scotland. One of the most exciting times for them was when they had acting classes at the Globe Theatre and performed at the Fringe Festival in Edinburgh, Scotland.

Because of the focus on excellence in both performance and in academics, students in my program annually rank at the top of their school's academic graduates. We instituted a programme of tutoring our students to monitor their achievement and to assist them in areas where they have weaknesses. This type of formative assessment lets us know where our students are academically so that the right type of remediation can be developed for each student. Students in the theatre programme consistently graduate at the top of their class and procure a



Students performing at the Fringe Festival in Edinburgh, Scotland



For additional information concerning the use of Instructional Scaffolding in your classroom or for instructional strategies on the subject, go to the following websites:

<http://www.niu.edu/taconnections/2008/fall/scaffolding.shtml>

<http://projects.coe.uga.edu/epltt/index.php?title=Scaffolding>

<http://www.teachandlearn.ca/blog/2007/07/30/instructional-scaffolding/>

<http://www.huntington.edu/education/lessonplanning/bruner.html>

lion's share of scholarships offered to students in the schools. During the past decade, approximately 140 theatre students have been offered over \$150,000,000 in scholarships, and they have been accepted into some of the most prestigious universities in the United States.

The rewards that come from this style of teaching are evident not only in the continued development of students in their disciplines and the scholarship money they are offered but also in the development of students in all areas of their lives. As educators, we are constantly amazed at the changes we observe in our students as they develop the self-confidence needed to work independently. Students who had planned to drop out of school, graduate instead. They go on to enroll in a university. Students who had no interest in academics began to study and improved their grades. Students who had never been involved with anything outside of recreation became active participants in school and community activities. This positive, aggressive outlook on life and this quest for knowledge outside of the school setting is the greatest benefit of utilizing the process of Instructional Scaffolding in a classroom.

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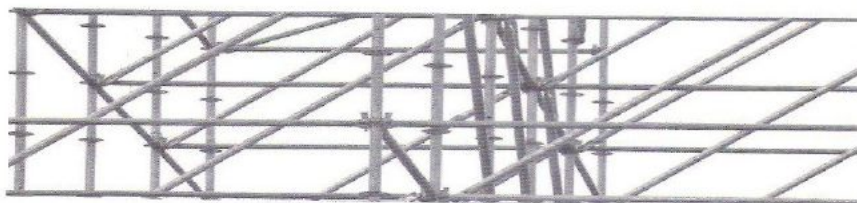
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BEING IN SINGAPORE AND HAVING THE OPPORTUNITY TO SHARE IN YOUR LEARNING COMMUNITY HAS BEEN ONE OF THE MOST REMARKABLE EXPERIENCES OF MY LIFE. IT WAS CHALLENGING TO PREPARE FOR SUCH AN EDUCATED, HIGH-LEVEL AUDIENCE, BUT IT HAS BEEN REWARDING BEYOND BELIEF. I HAVE LEARNED MUCH AND HAVE MADE LIFELONG FRIENDS. NOW, I FEEL I AM PART OF YOUR LEARNING COMMUNITY, AND I AM INSPIRED TO BE A BETTER EDUCATOR AND A BETTER PERSON.

Roy Hudson
Alabama, USA



Roy Hudson is the Director of Theatre Education, Musical Theatre and Assessment, Troy University. He won the 2009 State Teacher of the Year Award, Alabama, USA.

Global Learning through Cross-Curricula Teaching

Helen Gosnell

This article will explore the use of international enrichment days to engage students and staff in learning in a cross-curricula way about a global theme or issue. This approach not only helps develop students' knowledge and understanding but also provides an opportunity to explore their attitudes towards different issues and also to develop life skills as a global citizen.

I teach at Sir John Lawes School in the UK where we have been running international enrichment days for 4 years. The normal timetable is collapsed for the day and students take part in a specially designed programme of activities with a global theme. One member of staff is responsible for leading the programme of activities for each year group and the activities are then facilitated by teachers from a range of subject areas. The aims of

the international enrichment days are:

- To engage students in global learning
- To develop understanding of global issues
- To develop skills (e.g. team work)
- To explore and develop attitudes
- To consider opportunities for 'active citizenship'
- To raise the profile of global issues within the school

In 2010 The UK Department for Children, Schools and Families (DCSF)¹ defined global learning as follows: "Global learning means that the 21st century curriculum should encourage learners to be aware of global issues, enable them to evaluate information and events



Year 7 students at Child Soldier talk

¹ The United Kingdom elected a new government in May 2010 and the DCSF has subsequently been renamed as the Department for Education. As yet, it is unclear what 'global learning' will look like in new education policy.

from a global perspective and to realise their individual responsibilities in an interdependent world.”

It is my opinion that global learning is an incredibly important element of children’s education because of the fact that our students are living in an increasingly globalised world. The rationale for using a cross-curricula approach is that global learning does not just fit within one subject area. Moreover, students’ learning can actually be enhanced by removing the subject divisions.

On our international enrichment day in 2010, each year-group has a different theme and students participate in activities designed to develop their learning about the given theme/issue. The themes were:

- Year 7: Children around the world
- Year 8: International sport and dance
- Year 9: Earth (led by Science Faculty)
- Year 10: Nuclear Weapons (Mock United Nations Summit).

This article will explore the activities that were undertaken by Years 7 and 10.

Year 7 – Children around the world

The reason why this theme was chosen for Year 7 was because a group of Year 13 students had attended a national Global Student

Forum² on the theme of child mortality in which they received some training to be peer educators.

The activities that the Year 7 students participated in included some that were delivered by the Year 13 students, some that were delivered by teachers, and also a presentation from a guest speaker. The day started with an assembly where all the Year 7 students gathered in the hall. The Year 13 students outlined the aims of the day and started the Year 7s thinking about the issues that they would be exploring during the day. This was then followed by a presentation and a Q&A session with a guest speaker from the charity, War Child. She spoke about issues facing child soldiers in different countries around the world. The students then returned to their tutor groups³ where they did some follow up activities with their tutors. This included an Opinion Line activity. For this, the teacher reads out a controversial statement which students might agree or disagree with (e.g. children should have exactly the same rights as adults). The teacher then allocates one side of the room to represent ‘agree’ and one side to represent ‘disagree’. Students then position themselves on the line in order to represent the opinion they have towards the statement. This is then followed by a discussion in which the teacher asks students to justify why they are standing where they are. Students listen and learn from each other. This is a very effective way for students to learn

by interacting and to explore and develop attitudes towards global issues.

The middle part of the day was a carousel of different activities. Students were mixed into different groups and all participated in three different activities. The activities were designed to explore a different issue facing children in different parts of the world so that students could develop their understanding of different issues. It was also designed in this way so that students were exposed to different pedagogical approaches. Table 1 summarises the activities that the students participated in during this carousel.

At the end of the day, the students returned to their tutor group for a plenary session. They discussed what they had learnt during the day and were each given a postcard and asked to draw/represent the issue that they felt most strongly about on one side of the card. This was followed by a class discussion about what they could actually do about some of these issues. They were then asked to choose one thing that they could do about the issue that they had identified on the front of their postcard and to write a message to themselves outlining their intended action. These postcards were then collected by their teachers. The cards would be given back to the students a few months later as a reminder of what they had said. The plenary activity was important as it gave the students an opportunity to reflect on their learning and also to

² For more information about the Global Student Forum go to: <http://www.globalstudentforum.org/>

³ These are groups that they register in not the groups that they are normally taught in. Each tutor group has a tutor who has a pastoral responsibility for the students in the group.

Table 1 Year 7 Carousel Activities

Issue	Pedagogical approach	Explanation
Rights of the Child	Group discussion and art based activity (facilitated by Year 13 students)	Students were given a list of the Rights of the Child and a series of photographs which demonstrated situations where children's rights were not being realised. These were accessed from War Child's educational resources (http://www.warchild.org.uk/sites/default/files/Lesson_1.pdf). The students discussed in groups what the different photos were representing, and which rights were not being met for the children in the pictures. They then chose one of the Rights of the Child to represent artistically. Their work was then laminated and displayed outside the school in an area where many students gather at break and lunchtime.
Child Domestic Workers	Role Play (facilitated by teachers)	In small groups students were allocated different characters who all had a connection to a Child Domestic Worker (the child themselves, employer, employer's daughter, local charity etc). They worked through a series of scenarios where they had to identify their feelings towards the situation and then act the scenario as a group. This activity encouraged a sense of empathy and a greater understanding of the issues. This activity was adapted from a resource published by Save the Children (http://www.savethechildren.org.uk/eyetoeye/downloads/E2E_India_intro_roleplay.pdf)
Child poverty	Mystery activity (facilitated by Year 13 students)	A murder scene was set up in our school library with various physical clues as to what the cause of death might have been for a child. The students had to use the clues to work out the reason for the cause of death. This enabled the students to learn about the multitude of ways in which poverty is a cause of child mortality. This was an activity that the Year 13 students had participated in when they attended the Global Student Forum and they chose to adapt it for use with our Year 7 students.
Street Children	Creative – rap (facilitated by Year 13 students)	The students were given a range of resources illustrating the life of street children. They then worked in small groups to write the lyrics for a verse of a rap speaking from the point of view of a street child. The whole class then came together and recorded their rap each singing a verse each. This activity was entirely designed and facilitated by two of our Year 13 students.
Education	Video and discussion (facilitated by Year 13 students)	Students were shown short video extracts focussed on access to education for children across the world and the work of the Global Campaign for Education in promoting universal access to primary education. This was interspersed with small group discussion about the issues raised in the films. It was designed to raise awareness of the issues and also to highlight to students the idea that active citizenship can take many forms including campaigning.



Year 10 students at a Mock United Nations Summit

consider opportunities for active citizenship.

Year 10 – Nuclear Weapons (Mock United Nations Summit)

We have held a Mock United Nations Summit for the last 4 years as part of our International Enrichment day. In the past, our theme for the Mock United Nations Summit has been climate change. However, it was felt that students learn a lot about climate change in different curriculum areas and it would be better to select a topical issue that they do not really have the opportunity to learn about through the curriculum. The choice

of nuclear weapons was helped by the fact that the UK branch of the United Nations Association have published some secondary age resources to assist students with understanding the background to the nuclear weapons debate (available from <http://www.una.org.uk/mun/>).

The way it worked was that students from Year 10 were split into country groups representing 20 nations. They had the morning to prepare their contribution for the summit which took place in the afternoon. In their groups they had to research and prepare a speech on their country's position on nuclear weapons. Different members of each country group took on different

roles (e.g. main speaker, researcher, media rep). Each country group had access to computers with internet so that they could carry out the necessary research. They were also issued with a briefing paper. As well as researching their own country's position, they also had to prepare questions for other countries which were circulated during the morning. This meant that they had time to prepare a written response. During the morning the main speakers from each country group were taken out for some of the time for a session on public speaking delivered by one of the English teachers.

A number of students from the year group were allocated other

roles. For example, some of the students that would have found it very difficult to engage in the research task were given the task of preparing the Main Hall for the summit. They decided on the layout for the summit meeting as well as did things like prepare flags and name plates for the country representatives. This made sure that everyone was involved in the day.

The actual summit was chaired by the Head teacher. Each country group presented their main speech and were then asked a question by a member from another country (for which they had had time during the morning to prepare their answer). At the end of the summit, various awards were presented to the students (for example best public speaker).

The use of a Mock United Nations Summit is a really good example of experiential learning. Although the meeting is artificial, pupils are simulating the events of an international meeting. In order to make their speeches they have to develop their knowledge and understanding of the issues and empathise with the views of another country. They also need to use and develop skills such as team working, research and public speaking.

Concluding remarks

The international enrichment days have been very successful in achieving their aims and there are a number of reasons why I think this is the case. Most importantly, they engage students in their learning. One of the reasons for this is that we try to choose themes or issues that will be of interest to the

Good teachers are costly, but bad teachers cost more.

~ Bob Talbert

students. The other reason is because of the pedagogy behind the activities; many of the activities are delivered in such a way that students are experiencing active learning e.g. experiential learning, learning by interacting and kinaesthetic learning.

For me, one of the indicators of engagement and impact is the way that the enrichment days inspire pupils to be more active global citizens. This was demonstrated on our last enrichment day when students from Year 7 and 8 came to find me the following day telling me they wanted to get involved in campaigning and fundraising in response to the issues that they had been learning about on the enrichment day. This reflects the notion of global learning outlined earlier in this article which includes the concept that through global learning students “realise their individual responsibilities in an interdependent world”. For myself as an educator, I feel that helping students to realise these responsibilities is an important part of my role.

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Helen Gosnell won the 2009 Teacher of the Year Award, Hertfordshire, UK.

Electronic Portfolios: A Vision of Integrating Technology for Meaningful Learning

Bijal Damani

The integration of technology in classroom can make a vast difference in teaching-learning and assessing experiences. Being a Business Studies teacher for Grade 11-12, I would often have students who have graduated from the school wanting to refer to their own as well their peers' presentations, business plans, case studies and creative advertisements. It would be very difficult to preserve all the project work of all the students. So I started compiling the projects of the students and burning them on to a DVD for every class. But that did not help much as students wanted something readily accessible from anywhere. Collaborating on projects was increasingly becoming difficult for students who wanted to work on projects during their vacations. At that time, I came across a blog by Dr. Helen Barret and I was inspired to create an E-classroom. This would help to connect all students' portfolios to the E-classroom using Google applications. Electronic Portfolios give you autonomy with the Six Cs – Create, Collect, Connect, Collaborate, Conserve and Control.

I have realised that E-portfolios or digital-portfolios are emerging tools for the collection of documents, presentations, videos, photographs, and assessment history. These e-

documents were prepared and maintained by students providing the evidence of work done to communicate accomplishments, work in progress and academic records. The E-portfolio makes it easy to share work with peers, colleagues, teachers, parents, and potential employees – in fact, anyone in the world – rapidly.

E-portfolios have helped me tremendously to engage the students in the learning process. The use of technology has given students opportunities to take ownership of their learning. Showcasing and sharing students work with their peers and parents have greatly motivated many students and helped me enormously in conducting formative assessment. Evidence collected in a portfolio can give a much richer picture of learners' strengths and achievements than merely a test score. Every E-portfolio has a persona reflecting that of the owner. Not only that, assessment by portfolio is less intimidating for some learners than a traditional examination. The evidence in E-portfolios have given me a firm foundation for the personalisation of learning and understanding my students better.



It has helped me in building the confidence of the students in their ICT skills. Knowing ICT is very crucial at University level and this has encouraged students to reflect on their process of learning and development. E-portfolios are expandable. One can add as many pages as one wants, they are easier to update and are universally accessible. Students' portfolios can later turn into the life-long learners' portfolios if so desired.

There are some potential risks involved with the use of the E-portfolios system with students. For successful implementation of the E-portfolio, appropriate infrastructure is required, such as access to computers and high speed internet

E-PORTFOLIOS

connection. Such IT infrastructure may not be available in many developing and underdeveloped nations. Although building of E-portfolios works well for students of all grades, the level of ICT skills students are familiar with will play an important role. Building and evaluating E-portfolios are time consuming initially for students as well as teachers. But once the initial teething problems are overcome, they are more fun to create and assess. One word of caution while assessing the E-portfolios: the teacher must be clear about which student competencies are being assessed.

In fact, I would like to suggest that all teachers compile their own E-portfolios to offer as evidence of their own academic and professional progress.

Bijal Damani teaches Grade 11-12 Commerce and Business and Management in the Galaxy Education System in Rajkot, India. She has received numerous awards for her innovative approaches towards education. In 2009, she was honoured with the prestigious Outstanding Young Educator Award by ASCD, making her the first Asian to receive the award. She uses Project and activity-based learning and likes integrating technology in her curriculum and assessment by using the students' electronic portfolios.



Suggested websites

<http://sites.google.com/site/bijaldamaniseclassroom/>
(My own E-classroom called Masti Ki Pathshala
– A place for learning which is fun)

<http://sites.google.com/site/bijaldamaniseclassroom/Home/students-projects/projects-of-std--11>

<http://sites.google.com/site/snk200910/home/students-projects>
(E-Portfolios of my students Grade 11)

<http://electronicportfolios.com/blog/>
(A comprehensive Blog by Dr. Helen Barret)

<http://electronicportfolios.org/google/>

<http://www.google.com/nonprofits/sites/tutorial.html>
(Google site creation Tutorials to get you started)

<http://sites.google.com/site/bijaldamanisclass/>
(My E-Portfolio – an example for teacher's portfolio)

Visiting Singapore was a wonderful and the most amazing experience. Even though our education systems may differ, one thing that binds us is the wellbeing of our students and their development as a whole child. And there is lot to learn from the practices adopted by each one of us. The 5th Teacher Conference has provided that platform where teachers, irrespective of the country they belong to, can learn from one another. It has definitely broadened my perspective and I am taking home lots of learning - academic and otherwise. I consider myself fortunate to have witnessed the inauguration of Singapore Teacher's Academy. I hope I will continue to contribute to Teacher's Academy, in one way or another. Visiting schools was a beautiful experience as well. I would like to thank ASCD & Ministry of Education to have given me this opportunity.

*Thank you 😊
Bijal Damani
India*

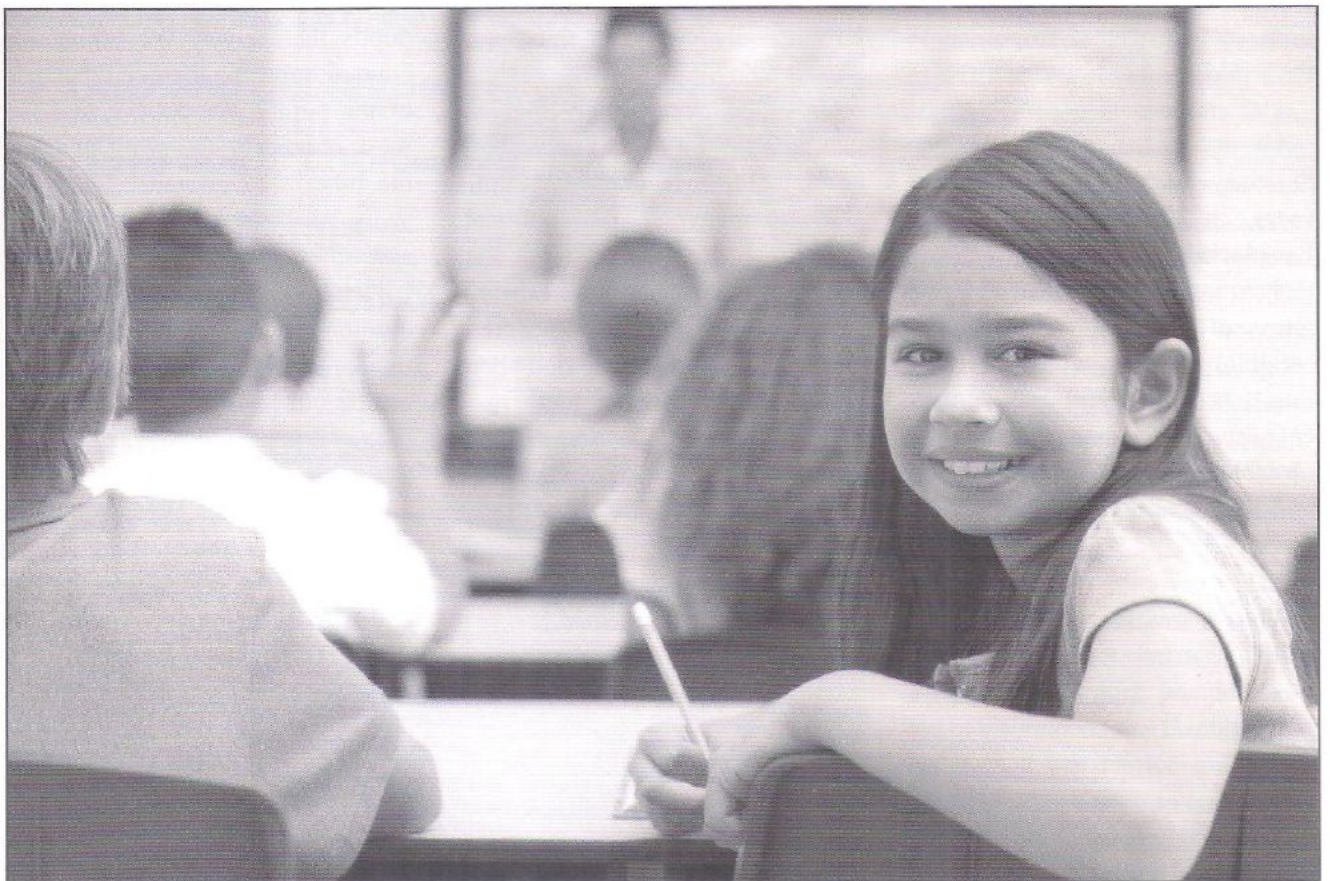
The Role of Art and Design in Southmoor School's Ten Learning Principles

Arthur Ball

A mark on a clean white sheet of paper is such an intensely personal and yet highly public gesture. Everyone can see it. It is not hidden away under a folded arm or secreted away inside some intimate exercise book only to be seen by the invited, or a caring teacher. I believe that all pupils are creative. However, the

way in which creative subjects are taught in some schools disengages the pupils. They are literally scared to 'have a go'. Younger children are generally fearless. They have few inhibitions – they are eager to experiment, learning by trial and error. However, often, as they grow older, work becomes too precious. The combination of fear of failure

and the misguided attention to realistic detail, on getting it 'right' meant that they soon become reluctant to take risks. The fear of looking foolish in front of classmates and of 'getting it wrong' meant they had given up or were frightened away from the subject. Over the years, one by one, the pupils fall by the wayside until everyone knows



who is 'best at art in the class.' Art then becomes the playground of the gifted, the talented, or perhaps the few who just do not care what the others think!

I have always seen art as a visual language, a fundamental means of communication and expression. Like any language, art has its basic elements and vocabulary, line, tone, shape, colour, form and structure. A simple drawing such as a careful linear observation can depict understanding of the shape and structure of an object. Drawing communicates information or personal ideas and emotions to others. For example, we can look at a visual plan or a blue print. Images can both confirm understanding and communicate information. Art is a means of reflecting our understanding of our world and of expressing our individual perceptions and emotional responses to the world.

All too often, the backbone of many art and design courses focus on control of techniques. By placing priority on mastering techniques and control of the vast array of materials available to create art, we can stifle creativity. Pupils become bored with endless exercises. They see them as an obstacle course disembodied from real life's exciting and meaningful tasks.

When I was taught, I had to sit quietly, not talk to others, do as I was told and follow the teacher's instructions. I was encouraged to get everything correct and keep it all neat. Heaven forbid that I should make mistakes which were seen as failure or faults. If I did all this,

there was a promise that I would pass all my exams and get a good job for life. Is this true today? Is this what we want from our pupils today? Is this what we want for our pupils who need to be 21st Century citizens? Does this encourage individuality and creativity?

I do not see my role as simply maintaining discipline and filling up empty vessels with facts and techniques. I am not instructing technicians but enabling youngsters with unique personalities to learn and express themselves. One size does not fit all. I would prefer that the pupils tested their own ideas with the risk of making mistakes rather than do something the way I had instructed and gotten it perfect. A mistake is not a failure or a disaster but a valuable opportunity to learn – in fact, if a pupil gets everything correct, do we really know if they have actually learned anything?

I also believe strongly that we can educate pupils not only about art but through art. My pupils address many social, political, moral, spiritual and emotional issues through their art. I tap into this powerful desire to express personal opinion and passion about real topics that matter to them. I use the pupils' ideas and channel them to want to discover ways of expressing them. This drives most of their learning, enthusing and engaging them as learners. Art does in fact, change their world.

My art department has always encouraged pupils to 'have a go'. We have always encouraged pupils to take risks, push themselves, make mistakes, and then in a structured, guided way, learn from these

mistakes. In the same way that younger children learn through play, we encourage older students to play around with ideas and materials until they arrive at a point where they can make their own decisions. It is similar to Singapore's teach less, learn more strategy. This approach requires a 'safe' and positive atmosphere where mistakes are viewed not as failures, but as precious opportunities for learning. Pupils are always encouraged to share their learning and to help one another.

As teachers at Southmoor, we have never hit on a formula and stuck rigidly to it. We constantly change and refine our own ideas. We share ideas, learn from one another within the department and from colleagues within a network of schools. We are constantly on the look out for new ideas from the pupils themselves. We refine our courses, tailoring them to the needs of the pupils. We believe that the work should fit the pupil and not the other way around! Over the years, we have devised methods of assessment and pupil feedback that have allowed us to listen to pupils' opinions and used this information to adapt our courses. We strive to enable our learners to be creative, inquisitive, innovative, flexible, adaptable, confident and above all, independent. We encourage curiosity, questioning, researching, risk taking, experimenting and an ability to be self-reflective.

We achieve this by delivering projects that are real, relevant, engaging and exciting. We never assume that as teachers know everything and that things must be done the way we think best. The

Southmoor.....

10 Learning Principles

- > *Know the point of our learning*
- > *Experience praise*
- > *Give and get respect*
- > *Have some choice over our learning*
- > *Try new things*
- > *Learn from each other*
- > *Learn by doing*
- > *Think for ourselves*
- > *Are listened to*
- > *Learn in stimulating surroundings*

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tasks we set will seek to tap into pupils' interests and are open to personal interpretation. The tasks open doorways into the pupils' lives. Otherwise, teaching becomes a series of boring hurdles and pupils become disengaged.

In 2008, a new head teacher was appointed. Dr. Phil Ingram arrived and like any new broom, started sweeping. One of the new Head's driving passions was pupil voice. Based on research I had carried out previous to his appointment, we looked at pupil opinion of the school and provision. A key question arose, "What did the pupils think constituted a good lesson?" We asked, "When did learning take place best?" The pupils were quick and eager to respond.

A survey of all pupils established consistent opinions and beliefs of what made a good learning experience. We simultaneously used staff development sessions to ask teachers the same question. Remarkably there was almost total, independent agreement. After considerable consultation (we had, by then, established a student council), we agreed on the ten Southmoor Learning Principles. The principles were very similar to the way in which the Art Department had run its courses over many years. Now, the whole school was being run along similar lines. The ten principles are not just a mechanical checklist or a straight jacket to impose on teachers. They are about an agreed, whole school approach, a shared vision, a vocabulary for consistency across the school for both pupils and staff alike.

Most of the principles are pure common sense, things that good teachers do instinctively. However, to have them formally defined and written down gave us all a common framework to refer to.

The first principle was that pupils felt they learned best when they **knew the point of their learning**. How was it relevant? How did it link with previous learning? How would it lead into the next stage? How do they know when they have succeeded? Do they know how to make it better?

The second principle was that everyone should **experience praise** where appropriate. Everyone thrives on genuine praise. We give praise to acknowledge and to encourage. We give praise to get the behaviour we praise. Praise and respect are two of the most powerful weapons in the teachers' arsenal.

Hand-in-hand with praise was **to give and get respect**. Respect is a powerful tool and essential in building trusting relationships and the development of a positive, safe learning environment. To earn respect, we must give respect – it is a two-way thing.

The fourth was that pupils **have some choice over their learning**. Obviously, this is only where possible and where appropriate. Choice empowers, it motivates, engages and allows pupils to be individuals. As part of assessment, asking pupils to review their choices helps them become better learners.

Fifth on the pupils' list was to **try new things**. To vary work, not repeat

content or format ad-infinitum. The pupils all agreed that the worst lessons were 'Death by worksheet'. What is the most memorable lesson you can remember from your own school days? What lessons can you, as a teacher, remember teaching last year? We must all try new things – take risks.

Sixth on the pupils' list was to **learn from one another**. Pupils would often rather listen to each other than to a teacher, how could

{ Our classrooms are, in themselves, stimulating places to learn. In addition, we tried to build in as many opportunities to learn in different, stimulating surroundings as possible, by arranging visits to museums and art galleries.. }

we exploit this? Collaborative learning encourages engagement and sharing of ideas. Pupils learn more if they have to pass it on and teach classmates. If we involve pupils as teachers and assessors it doubles the value, it encourages engagement and independent learning.

To learn by doing was next on our list of ten. Practical activities and active learning make lessons more interesting. The teacher's responsibility is to create an environment and to provide tasks that support a range of visual, auditory and kinaesthetic learning styles. Where possible, hands-on fun activities should be developed to engage and enthuse pupils, encouraging effective learners.

Eighth on the pupils' list of when they learn most effectively, is when they are given the opportunity and time to **think for themselves**. We

considered questioning techniques and time allowed to answer. The use of open rather than closed questioning was discussed. Deeper thinking, often with no right answer, helps to build up the skills to answer future questions. Just sitting, uninvolved in a lesson, being an extra, is de-motivating. By having pupils think about and assess their own work and work of classmates they become more independent, more aware and begin to learn how to learn.

The ninth principle is **to be listened to**. Pupil voice is the driving force behind all our new ideas. Every pupil has the right to be listened to by their classmates and their teachers. Obviously discussion skills and pupil talk are vital. Listening skills should be part of every lesson. Sharing good practice, helping one another and peer assessment are given high priority in our lessons.

The tenth and final learning principle is **to learn in stimulating surroundings**. What does the classroom environment say about the teacher, the subject, the value and pride placed on the work produced? The classroom should reflect the enthusiasm and passion of the teacher working in it and the quality of the work produced. The environment of the whole school should be vibrant, exciting and busy. The whole place should encourage

and inspire. The surroundings reflect the way a school is run, its aims and its ethos.

Once we had agreed on the principles, we spent considerable time and money publicising and promoting them around the school. We made it perfectly clear that the principles were the pupils' own idea. The ten principles were printed on pens, pupil planners, on mugs for the staffroom. Large scale banners were hung in every classroom and in all communal areas.

We also used the ten learning principles to drive virtually every aspect of school life. We initiated a whole school scheme of work audit to see where we could change practice to best employ the principles. It soon became obvious that we could use the existing good practice and expertise of our own staff to share good practice – to learn from one another. We set up a teacher's toolkit and directory of good practice on the school intranet system. This enabled us to post examples of good practice and share ideas.

Coaching pairs had already been established but they now had a new, common focus. Teachers were encouraged to visit and observe colleagues who were agreed to be particularly strong at delivering particular aspects of the learning principles. I demonstrated methods of how I shared the learning objectives with pupils at the outset of a project so that when we assessed the work at the end the pupils all knew the point of the project. In turn, I observed colleagues teaching history where the pupils worked collaboratively

in teams to research a topic and then performed a presentation to the rest of the class which met the learning from one another element of the principles.

We found that our whole school in-service training could be focused around sharing existing good practice across departments. Why pay for expensive outside 'experts' when there was so much we could learn from each other? Staff were encouraged to carry out action research projects. Teachers were given time and money to try something new and then feed back into the system.

To enable selfreview and to pursue action research, we set up a learning lab. This is a quiet room permanently set up with audio and video recording systems. Any member of staff could book the room to work with a class and try new ideas. They could then watch themselves on video playback to analyse the success or shortfalls of the new approach – to try something new. The learning principles applied to the staff as learners as well as pupils.

The whole lesson observation system and performance management format was changed to observe the inclusion of the learning principles. The proformas used were all redesigned to address the interpretation of the principles in lessons. We even changed the whole school day to release quality time for staff training sessions. The new school day released two valuable hours each week for staff training. Every week, staff would volunteer to run sessions and workshops, sharing good practice across the school.

One of the most fundamental yet contentious developments of the principles was the on-line pupil survey. Three times a year, in absolute confidence, the pupils fill in an on-line survey with questions asking them to comment on the degree that each department had applied the learning principles. Feedback to each department was then used to inform their own improvement planning. If feedback to an individual department was that the pupils did not feel the point of lessons is explained clearly enough, the staff in that department would then devise methods of making this clearer. This could involve testing new methods, carrying out research, perhaps trying ideas in the learning lab. Departments could visit the on-line toolkit or set up a coaching and lesson observation session with a colleague in a different department, where this principle is delivered more effectively. A department member would know who to approach for advice as the top four departments were published in an on-line pupil survey results report. To preserve total confidentiality, only the top four departments were made public. The others would receive their own position in the table but no one else can see the results. In turn, they were not allowed to see the results of any other departments. The staff could identify a focus on which to set their targets as informed by the pupils. The teachers are given the opportunity to be learners, to learn from one another, sharing good practice across departments.

As the art department already had a well-established practice based on similar principles, we had few changes to make. We found it easy to adapt methods to fall in

line with the new systems. The art department featured high in on-line pupil survey results reports. We were consistently in the top four and we regularly appeared top in many areas. We were called upon quite frequently to run CPD presentations in the two-hour training sessions.

At first, the on-line pupil feedback caused quite a stir with some staff. Negative responses came from teachers who felt 'threatened' by what they saw as a league table of departments informed by pupils who were not old enough or sufficiently aware to answer questions. Some staff resented the fact that the pupils might make uninformed decisions when filling in the survey, or even worse be critical or vindictive towards certain members of staff. It is accepted that the results of the survey were only ever used as a rough guide and were one element used to

paint the whole, broader picture. The fact is that the pupils were very honest and enjoyed being given a voice in how we all work and learn together. Over time, we have refined the questions and more importantly, educated the pupils on what makes a good learning experience.

Our department interpreted the learning principles in a variety of ways. We used project introduction sheets that explain the point and success criteria at the start of projects. These shared learning objectives were continually referred to, informally as work progressed and formally as summative assessment at the end of a project. Pupils' work is guided by structured frameworks but these frameworks were flexible enough to accommodate personal interpretation by individual pupils. Our classrooms are, in themselves, stimulating places to learn. In

addition, we tried to build in as many opportunities to learn in different, stimulating surroundings as possible, by arranging visits to museums and art galleries. We regularly visit London galleries, Scottish National Galleries and Paris every year.

Cross-curricular work has featured several times in our courses. Particular success was achieved when working with history and English departments on the theme of the First World War. This enabled pupils to use knowledge from one subject area to inform work in another, breaking down barriers between traditionally compartmentalized learning areas.

Pupils kept design folders to illustrate independent study and experimental, problem-solving processes. The sketchbooks showed

I have been delighted by the commitment and investment put in ^{to education} by Singapore government and teachers. I have been inspired and re-assured that not only do we recognise the same problems, but have managed to arrive at the same solutions in many cases.

If I were a pupil in Singapore I would be full of pride and consider myself very lucky.

Thank you for this excellent life changing experience
Arthur Ball

how pupils have helped to develop their own learning experiences based on their own ideas. We devised pupil assessment record cards to encourage self review and target setting. All these methods and developments have boosted the pupils' confidence and understanding of the subject.

Option numbers have been continually rising. We recently changed exam boards to OCR as we felt this board offered an approach more suited to the way we wanted to deliver our subject, fitting in with the learning principles. Our exam pass rate which was always high (approximately 70% A*-C at GCSE with approximately 90% plus in overall passes) has risen even higher to 90% A*-C. We believe this is due to our teaching approach and to changes made since the implementation of the principles. Our last inspection report stated we were a good and improving school with some outstanding features and referred to the success of our development of pupil voice. Due to the freedom and support we were given and the management style that exists in our school, we are all happy to continue to take risks.

During my visit to Singapore, I was encouraged to see that the teachers, in both Rulang Primary School and Nan Hua High School, had identified desirable qualities for their pupils in their vision statements which were similar to what I had for my pupils. They had also devised many similar strategies and practices to achieve them as we had in my school. Their mission statements, philosophy and values were almost exactly what I strive for in my pupils.

I was however, completely captivated by certain cultural differences such as the inclusion of traditional Confucian values and have started to read up on elements such as Filial Piety which were new to me. I particularly liked the inclusion of a 'Sense of Shame' which I feel a minority of Western children sadly lack. I am continuing my studies and will soon be badgering my senior management team to include such elements into our school philosophy.

I learned a great deal from the excellent, informative visits provided for us by the Singapore schools and educators. I was totally impressed by the passion and professionalism of all the teachers I met while in Singapore. The dedication and care that I witnessed were overwhelming. As I stated on our last evening together, I was totally blown away by this beautiful, awe inspiring country and its warm, friendly, welcoming people. I will be forever grateful for the honour and privilege of being invited to speak at this Teachers' Conference in Singapore. If I were a child in Singapore I would feel so proud of my country and count myself so fortunate to be in its education system today.

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BOOK

Integrating Differentiated Instruction and Understanding by Design: Connecting Content and Kids

Jay McTighe and Carol Ann Tomlinson



Discover how two of education's most powerful frameworks can team up to provide you with a comprehensive and in-depth approach to ensure all your students are learning at maximum levels. The leading experts on Differentiated Instruction and Understanding by Design explain how to connect these two approaches and use their combined power to design a curriculum built on the goal of student understanding. This is integrated with instructional approaches that emphasize reaching every learner and provides teachers with more specific teaching targets and more flexible ways to reach them.

Socially Responsible Students Through Service-Learning

Deirdra Grode



On the picket line: we care enough to speak up

In my freshman year of college, I enrolled in a two-semester intensive study of philosophy and theology which required at least ten hours of weekly community service work. In our study of ancient to contemporary philosophers and theologians, we examined their visions of justice and social responsibility, delved into our own belief systems and used our weekly service work to enrich our exploration. It was due to this deeply meaningful experience which I had fifteen years ago, of volunteering as a teacher in a prison,

that I decided to pursue teaching as a profession. I had not learned the term service-learning until many years later, but this course of study with its integrated service work was service-learning in its purest form and changed the course of my life. It has continued to influence the lens through which I view the world as well as how I teach, lead and learn.

Service-learning has proven to be very effective at my school in engaging students in coursework and demonstrating the relevance

of studies to students. Too often students wonder what the point is for what they are learning and see little value in the skills and content they perceive as being foisted upon them. Service-learning reveals the relevance to the curriculum and empowers them to be agents of meaningful change in their community. Service-learning projects are inherently hands-on, inquiry-based and constructivist. So when teachers embrace service-learning, their methods of planning and instruction transform. In addition, students learn by doing and by interacting with service-learning. Therefore, it makes sense that this pedagogical approach very easily lends itself to differentiation to meet the needs of diverse learners and utilize the strengths of all learners. Service-learning provokes critical thinking and empowers students with tools to effect social change and improve the community and world at large. This not only provides children and young adults with a sense of purpose and power but also ensures that these citizens will have the tools to be effective agents of change in their future.

Learn and Serve America states that the five components of service-learning are: investigation, planning, action, reflection and demonstration/celebration. In my experience, when integrating service-learning into curricula, it is important that students identify a problem, brainstorm ways to address the challenge, make and execute a plan with clear and measurable objectives and reflect upon their work throughout the process and afterward. Frequent

This paper was presented at the Teachers' Conference 2010 with the theme of "Deepening Professional Practice: Teachers as Learners, Teachers as Leaders".

opportunities for reflection and thinking critically about the project ultimately makes these processes habitual. Students should also examine movements and social and political action in history and in contemporary society to better understand processes of effecting positive and lasting change. In addition, it is important that the team leader or teacher keeps the project aligned with curricular objectives, so the work is always reinforcing academic and social goals rather than taking time away from them. Opportunities for students to feel recognised and acknowledged for their important work is also encouraged by Learn and Serve America. Finally, the development of partnerships with local community agencies as well as service and service-learning organisations builds sustainability and improved chances of successful implementation of future projects. These relationships also support the dissemination of information to share with other schools and groups who are currently using or interested in using service-learning.

Examples of effective projects at our kindergarten through twelfth grade school are numerous. A penny drive is led by the kindergarten class every year in which they collect pennies for a cause of their choice. Students speak publicly about their initiative, reinforce math skills such as counting, addition and subtraction and practice fact-finding, problem-solving and consensus-building as they interview local service agencies and make determinations on how they will use the raised funds. This year, our third grade engaged in a water study that culminated in a student-led fund-

raiser through which funds were used to help children abroad access safe water. The third graders had been studying the water cycle with a close look at the Hudson River which touches our town. However, the study expanded to investigate world water shortages and water-borne illnesses and ultimately the water crisis in Eastern Africa,

research, creating presentation packets of their findings, giving oral presentations to the community and building and managing a schedule with new community partners. The tenth grade chemistry class recently learned about the dangers for the elderly if they mix their medications improperly or read the dosage incorrectly. Students



Counting the pennies raised for a cause

African art, music, geography, literature and languages. In the end, the students hosted a water-themed carnival for the children in town through which they raised awareness about cholera and water shortages. They raised enough funds to build a water retention vessel for a village in Kenya.

After studying nutrition in health class and seeing the amount of processed foods in the local food pantry during a service day, our eighth grade students coordinated a fresh produce delivery service from local grocers to the local food pantry. This project involved conducting

investigated efforts of pharmacies to solve this problem and then produced a brochure in collaboration with the pharmacies to educate local seniors.

All of these aforementioned projects were integrated into the curricula to reinforce state curriculum standards while simultaneously engaging students in important community work. Service-learning can be conducted through school-wide events as well. Every April, our students in all grades participate in an event called Empty Bowls which is a part of an international grassroots project with the “goals of raising

money to help organizations fight hunger, raising awareness about the issues of hunger and food security, and [helping] bring about an attitude that will not allow hunger to exist," according to their mission statement. Classroom teachers integrate the study of hunger and homelessness into their studies across disciplines. Ultimately, the students host an event at the local shelter to educate the community about hunger and homelessness through presentations and performance. A canned food item and cash donation are requested for admission to the event. These were later donated to the shelter and local food pantry. Students, teachers and families stationed themselves at grocery stores around town asking patrons to purchase an extra item for the pantry. The total collection of goods and funds supports the pantry and shelter for about four months.

Afterschool programming and electives are other places where service-learning can be used. Middle school students in service-learning-based electives and afterschool programmes at Hoboken Charter School research issues of interest to them. These issues have included animal rights, women's rights and genocide. The students create art and performance pieces to raise awareness and funds for causes about which they are most passionate.

Through all of the aforementioned projects, students identified problems, determined goals they wanted to achieve, developed a course of action and continued to revise and reflect upon their course of action as they worked to meet their goals. Students executed their projects and further reflected

upon their work to determine what worked well and what could have worked better which can to inform their future endeavors.

We attribute much of our success as a school to our use of the instructional strategy of service-learning because it reveals the relevance and purpose of studies to students, makes learning hands-on, empowers students and provides them with positive role models. Our students often state upon graduation, that our service-learning programme was the most important piece of their education with us and that they will bring the values and skill sets learned through service-learning work with them into their future. When asked, most of our students state that they hope to one day work in fields that benefit others. They demonstrate worldliness, compassion and a confidence in their ability to have an impact on the world. In surveys conducted, service-learning is often listed as the primary factor

parents select our school for their children.

We have also found that student engagement in service-learning had been especially effective with students who have struggled previously. Attendance, classwork participation and homework completion improves when students feel empowered and proud of their work. Because service-learning often involves hands-on work with diverse components, all students could feel successful, and many students were newly motivated by a project that felt important to them. It is not only at our school, though, that service-learning has been so effective. Statistically significant impact has been found in areas of leadership, social responsibility, acceptance of diversity and in communication skills, according to a study compiled by Melchior and Bailis based on three national evaluations (2002). In addition, they found that students engaged in effective service-learning programmes experienced increases



Making posters and placards

in school attendance, academic grades and skills including critical thinking, civic responsibility, mathematical reasoning, problem solving, public speaking and vocational skills. In addition to supporting at-risk students, students who are gifted have excelled through service-learning at Hoboken Charter School. Project work requires the development of diverse skills and higher order thinking in ways that a traditional curriculum is less apt to address for gifted students.

Service-learning has been used at my school to help increase test scores. We have taken advantage of student enthusiasm around social justice issues and service and have created assignments that not only reinforce skills that are assessed on standardized tests but will ultimately make a difference as well. For example, in preparation for the New Jersey eighth grade persuasive essay assessment, students are asked to prepare a persuasive essay on a topic of choice that advocates for change they hope to see in the world or that educates others about an important issue that would benefit from greater awareness. Our students have written persuasive letters to their legislators, the President of the United States, the Secretary General of the United Nations, local papers and school administration, proposing policies and programmes they believe would improve their school, local community or the world at large.

Service-learning is challenging, though, especially during first attempts to use it. Very often, people have a hard time differentiating between community service, social justice education and service-learning.

While community service and social justice education are important, they are not synonymous with service-learning. Service-learning has both the action and the academic components. Teachers with experience and success with service-learning should be used to train and support teachers who are new to using service-learning. Another challenge is finding work that both enriches the curricula and involves significant student input. I have seen projects that are student-led become too broad or grand and deviate from the curriculum. I have also seen projects become "add-ons" to the curriculum rather than integrated work, and a disconnect emerges between the academics and service. When executed poorly, projects can lose the academic richness or depth. It is therefore important that staff are trained well and are supported when projects sometimes fail, so they can reflect and make necessary changes for more successful future work.

My experience teaching in a prison at eighteen years of age changed the course of my life, but it was not until years later that I realised the pedagogical approach I experienced was service-learning. After years of watching numerous projects and implementing and refining my own, I have a much stronger grasp of what makes a service-learning project successful and how to create a structure in which a project has greater likelihood of success. There are many variables to the success of inquiry-based, hands-on learning projects, especially with projects that emerge with changing social problems. I have seen the positive impact service-learning has on the students, staff and families

at the Hoboken Charter School as well as the impact our work has had on Hoboken and the broader world community. I hope to be of service in aiding educators in other communities to successfully implement service-learning in their schools.

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Assessment for Learning in Primary Science

Chiang Wai Leng

The recent report by the Primary Education Review and Implementation (PERI) Committee in 2009, on the “Strong Fundamentals for Future Learning” – Key Directions for the Future of Primary Education, indicated that there is a need to review and improve on our current school-

based assessment and feedback system. Assessment should support the holistic development of pupils and “should encourage the balanced development of knowledge, skills and values in children”. Feedback to parents and pupils should be regular and more qualitative. It should include “constructive

feedback on the individual pupil’s progress, strengths and areas for improvement so as to encourage further development”. How does this apply to the learning and assessment of Primary Science? Let us first examine what is Assessment and the purpose of Assessment.

Assessment is a vital part of teaching and learning. It is an ongoing process of gathering, analysing and reflecting on evidence, to determine to what extent pupils have learnt and how well they have learnt. It provides input to help improve teaching and learning as well as serve the purpose of accountability to stakeholders (Black & Wiliam, 1998)



Table 1 Recommended weighting for school-based assessment in Science

	Written Tests	Performance-based assessments
Standard Science	60% - 70%	30% - 40%
Foundation Science	50% - 70%	30% - 50%

(Science Syllabus p.17)

Assessment falls into two broad categories: Assessment of Learning (AoL) or summative assessment and Assessment *for* Learning (A/L) or formative assessment.

Assessment of Learning (AoL) tends to be quantitative in nature and often takes the form of pen-and-paper tests. It is usually conducted at the end of a course or semester and used to report pupil achievement and difficulty in learning a topic, concept or skill. The results are in the form of scores or grades, given to parents and other stakeholders, at the end of a semester or academic year. The end-of-year results are often used to determine pupil progression to the next level of education. Therefore, AoL tests should be reliable, valid and fair and must provide test scores or grades that reflect a pupil's achievement accurately (Tan, Tan & Chiang (2010).

Assessment *for* Learning (A/L) is usually diagnostic in nature and can be carried out by teachers before instruction to determine pupils' prior knowledge, skills level and any misconceptions on the topic to be taught. A/L is also conducted throughout the teaching/learning process to determine how well pupils have learnt and how effective a teacher's instruction

has been in achieving the desired learning outcomes. The information gathered can help both teachers and pupils make decisions as to how instruction and learning can be improved and enhanced.

Both AoL and A/L are important. For assessment to be holistic, there should be a balance between AoL and A/L. Assessment should be aligned to the curriculum and instruction. In the learning of Primary Science, while AoL has been frequently employed, to assess the learning of science knowledge and concepts, A/L is not as pervasive, especially in measuring the science process skills and attitudes that pupils' should acquire.

According to the Primary Science Syllabus (2008), Ministry of Education, the aims of the syllabus are "the acquisition of knowledge, understanding and application of the science concepts, the ability to use process skills, and the development of attitudes important to the practice of science". "The assessment objectives of the syllabus are aligned to the three domains in the curriculum framework as shown below:

- i. Assessment of Knowledge, Understanding and Application of Science Concepts
- ii. Assessment of Skills and Process

iii. Assessment of Ethics and Attitudes"

The recommended weighting for school-based assessment in Science, is shown in Table 1.

Performance-based assessment includes practicals (hands-on activities), projects, teacher observations, checklists, reflections/journals, model-making, posters, games and quizzes, debates, drama/show and tell, learning trails, and pupil portfolio.

Such assessment becomes A/L if the information gathered is used by the teacher to improve teaching and learning. If the data is not used to inform teaching and learning, then it is merely a diagnosis without action (Keeley, 2008).

How to Assess for Learning in Science?

There is a wide range of A/L techniques that Primary Science teachers can use. When selecting a particular technique, teachers should first determine the following:

- the intent and objectives of the assessment, and what is to be assessed
- whether the technique promotes the spirit of inquiry
- how the information collected will be used to improve instruction and promote pupils' learning

A common A/L strategy that teachers often used is questioning. Effective questioning can provide a teacher with useful information about pupils' prior knowledge, their

learning or understanding of what is being taught. Questioning not only gives pupils an opportunity to play an active part in the lesson but also to clarify their doubts or misconceptions in Science.

Co-operative Learning Strategies like Think-Pair-Share and Jig-saw, provide pupils with an opportunity to interact with one another, to share their views or thoughts on a selected topic or subject and to listen to the views of others. Teachers can gauge pupils' understanding of the topic or concept taught by listening in to their conversations.

Keeley (2008) outlines 75 practical Formative Assessment Classroom Techniques (FACTs) that promote Science learning. Science teachers can use these strategies to spark pupils' interest, surface ideas or misconceptions, initiate an inquiry and encourage classroom discourse. An example is the interesting technique of the "Familiar Phenomenon Probes" (See Appendix A for example).

Familiar Phenomenon Probes are two-tiered questions designed to elicit pupil's ideas and understanding about a common or familiar phenomenon. The questions consist of a selected response (multiple choice) section followed by a justification of the response the pupil/s has/have selected. This strategy engages pupils' to think about and discuss the scientific ideas related to the given phenomenon. It helps pupils to relate their science learning to everyday experiences, and the commonly observed phenomena in the world around them. It stimulates in pupils a desire to

Appendix A

An example of **Familiar Phenomenon Probes**.

Ali wanted to find out whether there is a change in mass when a piece of ice had completely melted.

He took an ice cube and sealed it in a plastic bag. He weighed the bag with the ice cube in it. He then placed the bag with the ice cube on the table. After the ice cube had melted completely, he weighed the bag again.

What do you think would be the result?

Circle the statement that best matches your thinking.

When the ice had completely melted, there would be

- A) a gain in mass.
- B) a loss in mass.
- C) no change in mass.

Give an explanation for your thinking.

Try this experiment with your friends in class or family members at home.

know more and to carry out inquiry-based investigations to address the gaps in their understanding. The results of the probe can reveal to the teacher whether pupils are able to transfer what they have learnt to a new situation or problem. If not, the teacher can modify his/her instruction to address the gap/s in pupils' learning.

The Science Unit, Sciences Branch, Curriculum Planning and Development Division has provided all Primary Schools with copies of 'A Guide to Teaching and Learning of Primary Science' (2009) covering all the themes in the Primary Science Syllabus (2008). The guide is to 'complement' the syllabus.

The aim is to "provide useful information and guidance for teachers to plan and deliver engaging and effective science lessons to support pupils offering both Standard and Foundation Science in developing scientific knowledge, skills and attitudes".

Each guide provides the overarching concept, key ideas, linking questions and activities across each of the topics according to levels (P3 & P4, P5 & P6). The very comprehensive lesson plans comprise of the time frame, purpose, background information for the teacher, learning outcomes, assessment indicators, the learning experiences and the resources like handouts, presen-

tation slides as well as differentiated worksheets. The plans guide the Science teachers through each of the steps from ‘Engage’, ‘Explore’, ‘Explain’, ‘Elaborate’ to finally ‘Evaluate’.

The Science Syllabus (2008) advocates the inculcation of the following ethics and attitudes in pupils namely curiosity, creativity, integrity, objectivity, open-mindedness, perseverance and responsibility. These values are also part and parcel of the desired outcomes of education. Both the syllabus and the teachers’ guide spell out the indicators for these qualities. Since ethics and attitudes take time to develop, evaluation of the extent to which pupils have developed these desired qualities should also take place over time. It should be based on a range of evidence that teachers (including teachers of other subjects) gather through observations across different contexts and not based on one assessment or incident alone. Some suggested strategies are given in the ‘*Assessing Learning in Primary*



Science – A Guide for Teachers’ published jointly by the Singapore Examinations and Assessment Board, Singapore and the Ministry of Education of Singapore (2010).

In line with PERI’s recommendations, what should be the way forward for the learning of Primary Science?

Engage the pupils’ in self-assessment and reflection. “The role of the learner is not to passively receive information, but to actively participate in the construction of new meaning” (Shapiro, 1994). Keeley (2008) mentioned that in a formative (A/L) assessment-centred classroom, pupils learn to play an active role in the process of learning. They come to realise that learning has to be “done by them” and it cannot be “done for them”. Keeley posited that encouraging reflection and self-assessment helps pupils develop important metacognitive skills that help them monitor their own thinking and learning.

Stiggins (2002) asserted that the foundation of lifelong learning is laid when pupils “come to understand what it means to be in-charge of their own learning – to monitor their own success and make decisions that bring greater success.” Pupils will become more motivated to learn. He also quoted Black and Wiliam’s (1998) summary of self-assessment by pupils. “...self-assessment by pupils, far from being a luxury, is in fact *an essential component of formative assessment*. When anyone is trying to learn, feedback about the effort has three elements: redefinition of the *desired goal*,

evidence about present position, and some understanding of a *way to close the gap between the two*. All three must be understood to some degree by anyone before he or she can take action to improve learning.”

Stiggins suggested that teachers need to

- understand and communicate, before instruction, the learning goals that their pupils are to achieve, in terms that pupils can understand
- become assessment literate themselves so that they can “transform their expectations into assessment exercises and scoring procedures that accurately reflect pupil achievement”
- use classroom based assessments to build pupils’ confidence and help them take responsibility for their own learning
- translate assessment results into frequent descriptive feedback for pupils, providing them with specific insights and strategies as to how to improve
- continuously modify and improve their instruction to meet pupils’ learning needs, based on information from the assessment
- help pupils in monitoring their own progress, so that they can “watch themselves grow over time and thus feel in-charge of their own success”
- actively involve pupils in “communicating with their teacher and their families” about their achievement status and progress

In addition, Keeley (2008) advocated that teachers should encourage

pupils to take risks. They should create a climate where it is acceptable for pupils to share ideas without the fear of being corrected and ridiculed in front of their teacher and peers. They should establish norms of collaboration where every pupil's ideas are respected and acknowledged.

Empower the Primary Science Teachers to become A/L literate.

Traditionally, Science teachers believed that their main role was to teach the science knowledge and concepts spelt out in the Science syllabus. Their chief concern was to help pupils do well in the examination, especially in the PSLE. Primary Science teachers often lament that they do not have the luxury of time nor the know-how to assess for learning especially in the domains of Skills and Process, and Ethics and Attitudes.

An empowered teacher is a reflective decision maker who finds joy in learning and in investigating the teaching/learning process – one who views learning as construction and teaching as a facilitating process to enhance and enrich development. (Fosnot, 1989)

The role of a teacher should be that of a facilitator and monitor of content learning. (Keeley, 2008). Hence, assessment should not be an episodic exercise but should be ongoing, planned and integrated into each Science lesson. Teachers can select the appropriate assessment techniques to meet the learning needs of their pupils.

The PERI Committee (2009) recommended that “MOE should also train teachers to use a range of

appropriate assessment techniques and tools to provide parents and pupils with better feedback on their progress and development”. Training in the techniques to assess for learning in Science would definitely give Primary Science teachers more confidence to teach the subject and they would become more effective in their instruction.

According to Black & Wiliam (1998), “What teachers need is a variety of living examples of implementation, as practiced by teachers with whom they can identify and from whom they can derive the confidence that they can do better. They need to see examples of what doing better means in practice”. Primary Science teachers should therefore, come together and form professional learning communities within the school, within a cluster and within a zone, to collaborate and share their practices, ideas, problems and resources.

Enlighten and Educate the Parents about holistic assessment.

In the PERI brochure (2010) to parents, the Ministry of Education maintained that children “will look forward to school” when teachers use more engaging teaching methods and “make lessons come to life by infusing more active and creative learning strategies in the curriculum”. Pupils will learn “mathematical concepts through investigative tasks and real-life activities, and language skills through role-play and drama”. “Science lessons will be through doing experiments, making observations and deductions and such lessons can take place both indoors and outdoors, in school and outside school”.

MOE also announced that at Primary One, schools will emphasise less on semestral examinations and replace them with “bite-sized” forms of assessment which focus on learning and at Primary Two, schools would retain the end-of-year examinations while having a range of topical tests and other assessment tasks for the rest of the year.

In a ST Forum, posted on Sep 1, 2010, entitled “Why parents are forced to spend on tuition”, Ms M. Choy, the writer, opined that “Parents are focusing all their energies on academic achievement, thereby neglecting more important matters like character building and family bonding, which are so crucial in today's fast-paced world. It may be a good idea to set up a forum with parents, students, teachers, tutors and the Ministry of Education to analyse the situation. Singapore has a world-class education system. Perhaps, that is in part due to a world-class tuition system”.

In an article published by Straits Times on 10 Aug 2010, entitled “Anxious parents fuel Singapore tutor boom”, the founder of a parent portal claimed that if the schools do not administer examinations, there would be even more stress on the children because parents would send them to enrichment classes so as to give them a better headstart.

While the changes proposed by PERI would definitely improve teaching and learning in all subjects at the Primary level, not many parents fully understand the rationale and benefits of the changes because they themselves have been brought up in an efficiency-driven education

system where teaching and learning are examination-focused.

MOE, schools and teachers need to engage parents in dialogue sessions and school-based workshops to enlighten and educate parents on the benefits holistic assessment have on their children. Teachers should also provide regular feedback to parents on the progress of their children based on evidence gathered from the holistic assessment.

Explore the possibility of including performance-based assessment in Science at PSLE

The ability to use process skills, and the development of attitudes are equally important to the practice of Science. Since assessment must be aligned to curriculum and instruction, these ought to be assessed. The Primary Science Syllabus recommends that performance-based assessment be given a weighting of 30% to 40% for Standard Science and 30% to 50% for Foundation Science in school-based assessments. MOE can explore the possibility of giving performance-based assessment, to assess skills and process as well as attitudes, a weighting of perhaps 20% for Standard Science and 30% for Foundation Science at PSLE. This move would definitely give A/L more credence in the learning of Science and there would be greater buy-in from both the teachers and parents.

Most people do not like change. They resist and fear change when they are not able to make sense of the change and its implications, or when they find it difficult to cope with the pace of the change. With support

and training for teachers, and open and frequent communication with parents, schools should be able to implement the recommendations by PERI and lay “Strong Fundamentals for Future Learning” for our pupils.

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Chiang Wai Leng was formerly the Principal of Townsville Primary School and she is a passionate science educator. She is also one of the co-authors of “Assessing Learning in Primary Science – A Guide for Teachers”, jointly published by the Singapore Examinations and Assessment Board, Singapore and the Ministry of Education, Singapore, in 2010.

The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires.

~William Arthur Ward

Lesson Study as a Formative Assessment of Pre-service Special Education (SPED) Teacher Trainees' Teaching Practicum

Dr Noel Chia Kok Hwee & Norman Kee Kiak Nam

Teaching Practicum for Pre-service¹/In-service² Special Education Teachers

The Teaching Practicum (TP) remains an essentially core component in the pre-service special education (SPED) teacher education programme in Singapore. However, the assessment of SPED teacher trainees' competence during TP continues to be problematic (Haigh & Tuck, 1998). Like their counterparts in the west, a number of issues remain contentious, such as the tension between the different purposes of assessment (Fish, 1995; Thompson, 1999); the impact of context on TP (Maloney, 1998); the tension between message and saving face (Wajnryb, 1996); the appointed arbiter and definer of good TP (Fish, 1995); and competence versus competencies (Fish, 1995; Gibbs & Aitken, 1996). Moreover, debates about the assessment of the TP of SPED teacher trainees (like those who are train-

ing to become mainstream school teachers) often reflect ongoing philosophical debates about the nature of teacher (pre-service and/or in-service) education (Brown, 1996) and traditional barriers between teachers and academics (Groundwater-Smith, 1997).

The TP is designed to augment the course work that pre-service or in-service SPED teachers (including those allied educators who are providing learning and behaviour support services in the mainstream schools) have undergone over a year and to provide them with opportunities to develop their personal intervention strategies and their understanding of their role in the school and in its wider community. The practice of various intervention strategies is undoubtedly the most significant aspect of the TP because it provides the opportunity for these pre-service/in-service SPED teachers/trainees to develop and demonstrate

their professional competence as well as understand their roles, and to translate learning theories, models and examples into real practice. These SPED teacher trainees are guided and assisted towards this end by the school personnel such as Principal/Vice-Principal, the School Coordinating Mentor and Cooperating Teachers from schools they are sent for between 5 to 10-week³ TP attachment through systematic observation, assistance and advice. The National Institute of Education will also appoint external TP supervision coordinators to provide a third party's perspective/opinion on the SPED teacher trainees' TP performance.

During the TP attachment, we recommend that a modified Lesson Study cycle be used to guide the SPED teacher trainees with supervisory inputs from the experienced school personnel as well as the knowledgeable others (i.e. professionals appointed by the National

¹ Pre-service refers to SPED teacher trainees who have yet to teach in special/mainstream schools and are currently undergoing training at the National Institute of Education.

² In-service refers to SPED teacher trainees who have taught in special/mainstream schools but have not undergone formal training and are now undergoing training at the National Institute of Education.

³ For full-time SPED teacher trainees doing the Diploma in Special Education (DISE) programme at the National Institute of Education, they have to undergo a 10-week teaching practicum; others (e.g., those in the Specialist DISE) will have to complete a 5-week teaching practicum.

Institute of Education as external TP supervision co-ordinators).

What is Lesson Study for SPED teachers and trainees?

Lesson Study is an excellent approach to professional development for both qualified and trainee SPED teachers allowing them to collaborate with one another in developing effective lesson plans, teach and observe the lessons as well as to collect data on student learning. They can also use their observations to refine their lessons. Lesson Study is a process rather than a product – a means through which all SPED teachers/trainees can engage continuously in learning more about best or effective pedagogical practices in order to improve their student learning outcomes (Chia & Kee, 2010).

The historical development of Lesson Study

Lesson Study is a unique approach that has its humble beginnings in Japan as a result of a concerted effort initiated by a group of Japanese teachers to improve their pedagogy (Fernandez, 2002). Although, along the way, several different types of Lesson Study were developed, Lesson Study is generally conducted as part of the pre-service training for teachers. The first-year interns continue to participate in Lesson Study as they embark on their career towards becoming an effective educator (Fernandez & Yoshida, 2004; Shimizu, 2002).

As more people and various professional bodies came to learn about the Lesson Study approach, new ideas were introduced, added, explored and even presented

at various national and district conferences. Lesson Study groups based on subject matter were soon formed in various regions or districts in Japan (see Murata & Takahashi, 2002, and Shimizu, 2002, for a review). Moreover, schools in various districts met to conduct their own Lesson Study approach as a part of their school-based professional development known as *konaikenshu* in Japanese (Yoshida, 1999). Today, Lesson Study is still being conducted in primary and secondary schools covering all academic and non-academic subjects, which include arts and craft, moral education, physical education, and co-curricular activities (Murata & Takahashi, 2002).

The key characteristics of Lesson Study

According to Chia and Kee (2010) and Stepanek et al. (2007), there are five main characteristics that define the Lesson Study as a unique pedagogical approach for both mainstream and SPED teachers as well as trainees. We have described them briefly below:

Firstly, Lesson Study is a collaborative and comprehensive process. It involves the participation of all teachers/trainees organised around common subject areas or grade levels. The approach as a process (NOT an end in itself) is designed to be an ongoing concerted effort that is most effective as a key component of a school-wide programme for continual improvement in both teaching and learning.

Secondly, Lesson Study focuses on the subject matter. Teachers/Trainees, who teach the same subject/grade level or share com-

mon interest, can come together to form a Lesson Study committee. They meet to discuss, develop and teach their lesson plans as well as share and draw on resources about a specific topic and how their students can best learn the topic. Evidence on best practice is collected from lesson observation for post-lesson conference discussion to be applied later for subsequent lesson planning and day-to-day teaching.

Thirdly, Lesson Study is a teacher-driven and classroom-based approach. In other words, the teachers/trainees within the same Lesson Study committee are responsible for identifying their lesson focus, finding and applying information gathered from lesson observation, conducting lesson research, sharing their findings, and exploring areas that will encourage and enhance further learning. Each teacher/trainee carries out the lesson study in his/her own classroom and with his/her own students whom he/she knows best.

Fourthly, Lesson Study is participatory and hands-on. By this, we mean that the approach provides support for teachers/trainees to develop their own subject knowledge, placing their learning within their scope of work rather than outside of it. In this way, the approach provides the means for teachers/trainees to apply what they have learned from their practice and thereby, honing their capabilities to analyse and interpret evidence gathered from lesson observation and evaluation.

Finally, the approach focuses on student learning outcomes. In other words, Lesson Study commences

with teachers/trainees identifying learning goals for their students to guide their lesson planning. They continue to focus on their student learning progression by observing and anticipating student responses to their instruction.

The three levels of Lesson Study for SPED teachers/trainees

We have divided the Lesson Study into three levels (primary, secondary and tertiary) based on the same model presented by Stepanek et al. (2007). However, we have also modified the model (at the tertiary level) to suit the local needs of our SPED teachers/trainees (see Chia & Kee, 2010, for a review).

Primary Level of Lesson Study

At the core or primary level of the approach is where the SPED teachers/trainees' habits are the main concern. A habit is a mental character or disposition originated from our mind: I think, therefore I am (taken from Rene Descartes' Discourse on Method). At this level, the habits of mind refer to the qualities SPED teachers as well as trainees develop and apply in order to grow and mature professionally through the Lesson Study. Although such qualities may not be familiar to all trainee teachers, they are essential in inspiring teachers and/or trainees to make a significant impact in their attitude towards their work.

There are three important factors to be considered at this level:

1. Research-teaching stance;
2. Collaborative learning; and
3. Teacher self-efficacy.

The concern of the first factor is more than just mere teaching. It takes into the consideration that teaching has its research component that involves asking relevant questions, focusing on the right problems; exploring possible solutions, testing ideas, gathering data, and finally analysing findings (Stepahek et al., 2007). In other words, qualified and/or trainee SPED teachers engage in inquiry, reflection and critical examination of their pedagogical practice (Chia & Kee, 2010). In the case of an allied educator for learning and behaviour support (AEDLBS for short), he/she can look at the withdrawal session or in-class support session as a starting point in which to investigate his/her intervention and researching into his/her student's learning and/or behavioural challenges that has been encountered along the way.

The second factor emphasises on the need for the SPED teacher/trainee to work collaboratively with the other staff members in school (or the school case management team) in order to establish and sustain a non-threatening learning/teaching environment. Within the

Lesson Study, communication among members should be clear and respectful. Senior or more experienced teachers can serve as coaches for their junior staff or trainees while the heads of various departments can play the role of mentor. Let us not confuse between *coach*⁴ and *mentor*⁵ for these are two different terms and both play different roles (Connor & PokoraJoy, 2007). There is even a third person or term coach-mentor or mentor-coach (Pask & Joy, 2007), who plays a crucial role in ensuring the success of Lesson Study. It is important for the coaches, mentors and *coach-mentors/mentor-coaches*⁶ to be open-minded to a wide range of ideas and approaches that a junior staff or SPED teacher trainee has learnt during his/her pre-service or in-service training as he/she embarks on the TP.

Thirdly, the teacher self-efficacy concerns one's motivation and perseverance as well as responsibility to improve oneself in terms of knowledge, skills and pedagogy so that he/she can make a difference in his/her student learning and/or behaviour.

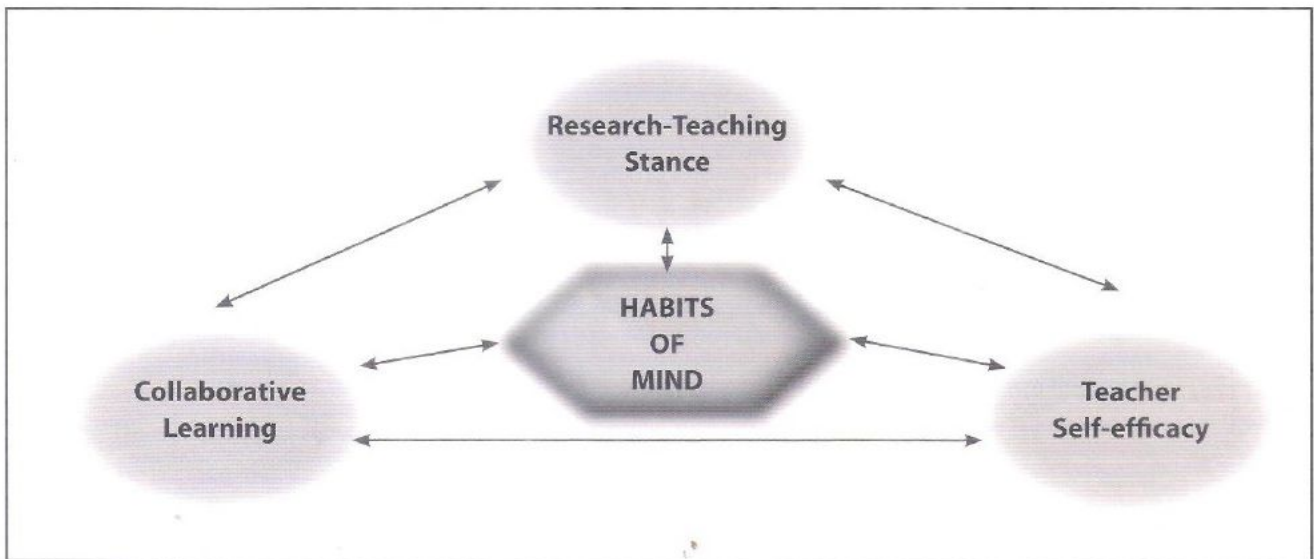
The triangulation of these three factors – research-teaching stance, collaborative learning and teacher self-efficacy – forms what Stepahek et al. (2007) have termed *Habits of Mind*, which in our modified or adapted model of Lesson Study

⁴ Coaches (also known as cooperating teachers) are senior or more experienced (master) teachers.

⁵ Mentors (also known as school coordinating mentors) are the heads of departments or vice-principals.

⁶ Coach-mentors or mentor-coaches (also known as coordinating supervisors) are either lecturers from the National Institute of Education or professionals (e.g., psychologists, counsellors and therapists) from the private or public sector.

Figure 1 Triangulation of the Primary Level Components of the modified Lesson Study



becomes its first or primary level (see Figure 1).

Secondary Level of Lesson Study

The next or secondary level of the Lesson Study focuses on four key components:

1. Students;
2. Goals;
3. Content; and
4. Instruction.

Together, the four factors form what we would term as *teaching and learning platform*.

At this level, the qualified and/or trainee SPED teachers need to know what and how to engage these four important components. Among them, students are most important. The qualified and/or trainee SPED teachers must consider their students' prior knowledge and background experiences. They must think about how their students learn and/or why they behave as such in class. They must also identify the anticipated responses and

misconceptions, discuss and plan how they might want to address their students' reactions/responses and build on these ideas and actions.

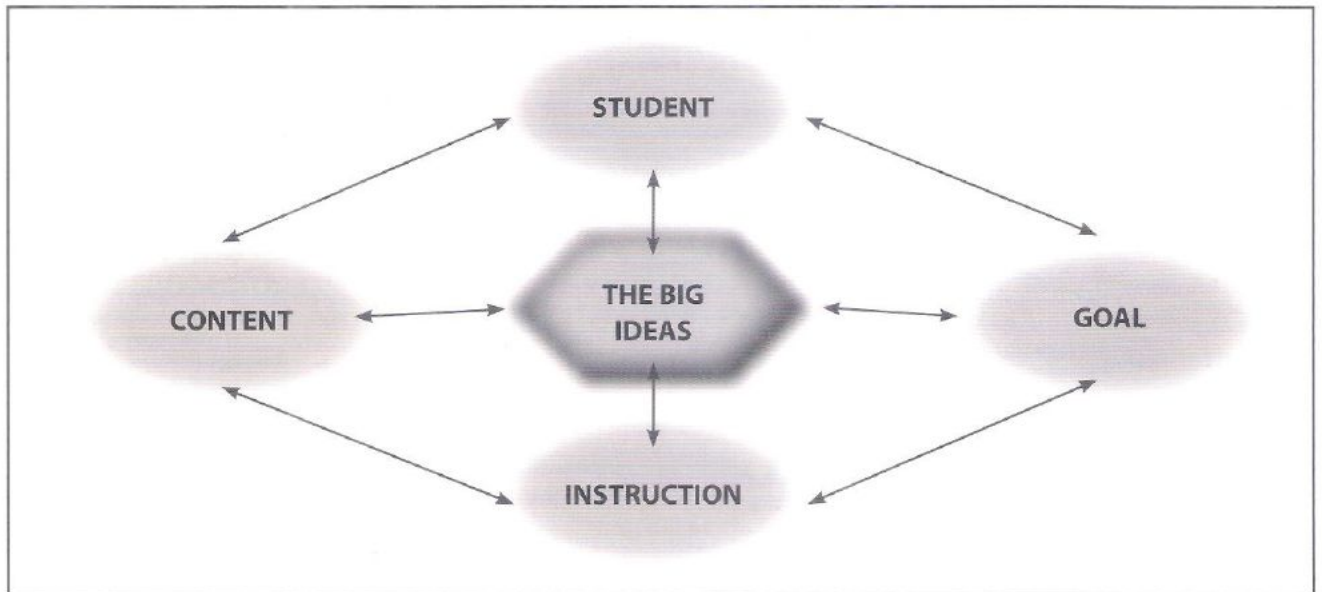
Next, the qualified and/or trainee SPED teachers need to consider what their students should be learning – something that should benefit them and not learning for the sake of learning. In other words, they need to consider the student learning goals and hence, their appropriate teaching goals. The short-term (semestral) goals for students should typically focus on content and process, while the long-term (annual) goals for them should be established by considering what the students need to learn or become and their present level of performance (i.e., where they are now) based on the mainstream curricular goals, for instance, if these students with special needs are attending regular schools.

Only when SPED teachers/trainees know and understand

their students and are also clear about the learning/teaching goals can they be considered ready to examine the curricular content that has to be learnt or taught. They have to explore the topic of a unit to be covered and then decide on the lesson focus. Besides, the key concepts underlying the topic as well as connections to other concepts must be carefully thought through. Next, the SPED teachers/trainees need to identify gaps in their own knowledge as they develop the lesson in consultation with their coaches, mentors and/or coach-mentors (Chia & Kee, 2010). It is important for us to emphasise at this juncture that if a SPED teacher or trainee fails to ground his/her work in important ideas and adopts the necessary habits of mind (i.e., the Primary Level), the Lesson Study is unlikely to materialise, i.e., to bring about any significant improvement in teaching, student learning progression and/or positive behavioural change.

Lastly, before a lesson begins, all qualified and/or trainee SPED

Figure 2 Secondary Level Components of the modified Lesson Study

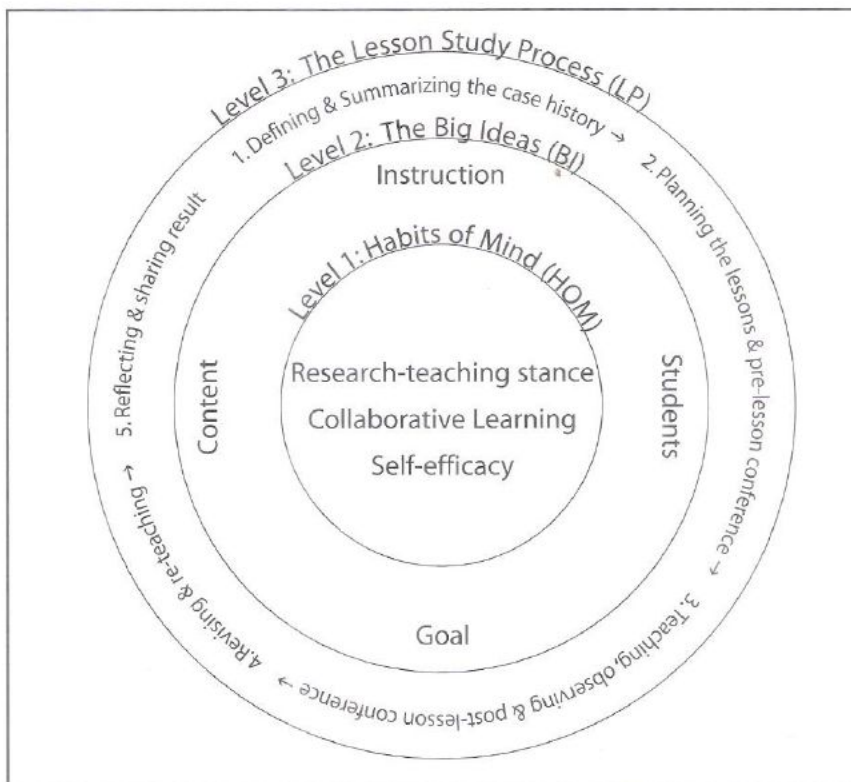


teachers should be aware of their students' present level of performance; their instruction should help in linking key concepts underlying the content to their students' learning

capacity so that learning/teaching goals can be successfully attained. Moreover, qualified and/or trainee SPED teachers should take into consideration how to start a lesson

proper, the types of questions to ask, the most appropriate strategies for their students to be used, and how to summarise the key concepts at the lesson closure. The Lesson Study committee should be ready to collect and examine existing lesson plans and best practices available as well as identify learning and/or behavioural support tools to be used during instruction. In other words, this secondary level (see Figure 2), what Stepanek et al. (2007) have termed it as The Big Ideas, concerns the topics that SPED teachers/trainees need to explore as they engage in the Lesson Study process. Focusing on important issues in teaching and learning helps to ensure that their work will have broad impact on their student learning. This teaching and learning platform guides SPED teachers as well as trainees towards building their knowledge that will endure beyond the first level of Lesson Study.

Figure 3 The modified Lesson Study approach (adapted from Stepanek et al., 2007, p.5)



Tertiary Level of Lesson Study

In addition to the two levels as already described above, the Lesson

Study is further divided into the following five phases (Stepanek et al., 2007; see Figure 3 for the modified Lesson Study):

1. Setting teaching/learning goals;
2. Planning the lesson;
3. Teaching, observing and debriefing;
4. Revising the lesson and re-teaching it; and
5. Reflecting and sharing results.

In the local context of training our pre-service SPED teacher trainees⁷, especially when they are out in schools for their TP, we have proposed the following modified model of Lesson Study at this third or tertiary level while still retaining the earlier two levels. Please refer to Table 1 for the comparison between the original Lesson Study as presented by Stepanek et al. (2007) and our modified model (Chia & Kee, 2010).

Lesson Study as a Formative Assessment

As mentioned at the beginning of this paper, the Lesson Study cycle shows how SPED teachers and/or trainees can work collaboratively as a team to develop/plan good lessons; teach (or even co-teach if the team wishes to) them; and observe lessons in collaboration with their coaches, mentors and/or coach-mentors. In addition, SPED teachers and/or trainees can collect useful data from the lesson observations, whose focus is mainly on student learning, to refine their lessons. This is an approach to professional develop-

ment for both SPED teachers and trainees. We want to emphasise again at this juncture that Lesson Study is a process rather than a product – a means through which everyone can engage continuously in learning more about best or effective pedagogical practices in order to improve the student learning outcomes. Hence, it can serve or even adopted as a model of formative assessment.

The term assessment can be norm-referenced (related to other learners and SPED teachers and/or trainees) or criterion/standards-referenced (related to pre-determined criteria/standards). It is broader in scope than measurement in that it involves the interpretation of measurement data (Print, 1987), which are often interpreted in terms of whether or not an intended level of achievement has been attained. In turn, this achievement is expressed as a pass or fail or by some letter or numerical grade.

In some situations, especially in the context of an educational setting (e.g., curriculum evaluation, teacher evaluation, and student evaluation, which includes student values and social skills), the measurement data collected may be expressed in the form of comments or of a descriptive nature (or described as qualitative). In other words, such data cannot be interpreted quantitatively. These data can be based on observation, interviews, questionnaires or some other measurement device, especially more so in the Lesson Study approach. They could form the basis

of evaluative comments set within the context of that school.

Formative Assessment

When we add the term formative to the word assessment to form formative assessment, the term is now directed towards serving two important roles: (1) to determine the level of mastery (either competence or performance) during a teaching/learning task; and (2) to pinpoint that part of the task not mastered or yet to be mastered.

Within the context of our modified Lesson Study approach, the main purpose is to help both the SPED teacher/trainee and his/her students focus upon the particular teaching/learning necessary for mastery, that is, there is a need to assess how well the student or a group of students is progressing during the learning experience in order to determine if changes are required along the way. This is crucial learning point especially for new SPED teachers as well as trainees during their TP.

Main Features of Formative Assessment

According to Print (1987), there are four main features, which we have summarised, to describe formative assessment (see Table 2 for a summary of these factors).

One of the questions that we have always been asked by many SPED teachers and/or trainees during training is this: “What about closing the case of a student who is coping well and ought to be discharged?” Our recommendation to these SPED

⁷ Special education (SPED) trainees refer to pre-service/untrained allied educators (learning and behavioural support) (AED/LBSs) and special school teachers (SSTs).

⁸ Curricular goals can be used to determine the student’s present level of performance.

Table 1 A comparison between the original Lesson Study and the modified Lesson Study

Phases	Original Lesson Study	Modified Lesson Study
1	<p>Setting teaching/learning goals</p> <ol style="list-style-type: none"> i. Establishment of a Lesson Study team who shares a common interest or teaches the same grade/level. ii. Collaborative effort in the identification of a research theme. iii. The research theme should be a broad, long-term goal with an impact on student learning. iv. The goal serves as a focus for the professional development for teachers in the Lesson Study team. 	<p>Examining the case history (Chia & Kee, 2010)</p> <ol style="list-style-type: none"> i. Establishment of a Lesson Study committee that oversees cases of students with learning and behavioural challenges in school. ii. Evaluation of cases by the committee: <ol style="list-style-type: none"> a. Case conference with parents & school personnel involved in the case; b. Evaluation of the psycho-educational/behavioural assessment reports; c. Review of academic achievement test results; and d. Review of self-esteem profile results. iii. Profiling the case by the committee: <ol style="list-style-type: none"> a. Identification of learning and/or behavioural difficulties; and b. Decision to be made on whether or not any further assessment is required. iv. Setting intervention goal(s) collaboratively by the committee: <ol style="list-style-type: none"> a. Decision on the lesson focus; b. Planning of long-term and short-term intervention goals in terms of inputs, operations, outputs and benchmark criteria; and c. Design of the individualised education programme/plan (IEP for short).
2	<p>Planning the lesson</p> <ol style="list-style-type: none"> i. Examination of assessment data collected earlier before the start of the Lesson Study. ii. Identification of a common problem. iii. Collaborative development of a research lesson. iv. Investigation of teaching materials and drawing on own experiences, ideas and strategies used in lesson planning (Lewis, 2000). v. The lesson plan is used as a communication tool for the lesson study team in clarifying goals and testing ideas (Stepanek et al., 2007). 	<p>Planning the lesson</p> <ol style="list-style-type: none"> i. Decision on whether the lesson planning is for withdrawal session or in-class support session (Chia & Kee, 2010); ii. Cross-referencing the lesson objects with the IEP objectives to ensure they match what is to be covered; iii. Pre-lesson conference among the members of the Lesson Study committee who are involved in the case; and iv. Drafting of a lesson plan in collaborative consultation with the coaches, mentors and/or coach-mentors in the Lesson Study committee (Chia & Kee, 2010).
3	<p>Teaching, observing and debriefing</p> <ol style="list-style-type: none"> i. One person from the Lesson Study team teaches the lesson to his/her students. 	<p>Lesson presentation</p> <ol style="list-style-type: none"> i. Conduct the lesson with a student (individually or in a small group) for withdrawal session or a group of students during the in-class

	<ul style="list-style-type: none"> ii. Other team members (especially the senior members) act as coaches and/or mentors. iii. Knowledgeable others (external to the school) serve as coach-mentors. iv. Collection and recording of data observed during the lesson (main focus is on student learning). v. After lesson, “the lesson study team conducts a debriefing to discuss the lesson and observations made” (Stepanek et al., 2007, p.6). This is not to evaluate the teacher who has taught the lesson. 	<p>support session (Chia & Kee, 2010).</p> <ul style="list-style-type: none"> ii. Lesson observation made by the members of the Lesson Study committee (i.e., coaches and mentors) and/or an external knowledgeable other (i.e., coach-mentor). iii. Feedback from the Lesson Study committee with or without an external professional on what has been observed during lesson. This is debriefing or post-lesson conference (Chia & Kee, 2010).
4	<p>Lesson revision and re-teaching</p> <ul style="list-style-type: none"> i. The Lesson Study team examines the evidence collected and discusses what has been observed during lesson. ii. Recommendation of changes to be made to the lesson. iii. The team makes use of “the data to craft revisions that will address problems and student misunderstandings identified in the first lesson presentation” (Stepanek et al., 2007, p.6). iv. The team may meet several times to revise the lesson. v. The lesson is given a second presentation to a new group/class of students. vi. The same processes for observation and debriefing are applied for the second presentation of the revised lesson. 	<p>Revising and re-teaching the lesson</p> <ul style="list-style-type: none"> i. Revision of the lesson after post-lesson conference. ii. Identification of needed changes to the lesson plan. iii. Re-teaching the lesson as a form of revision to the same individual student or group of students (either during withdrawal or in-class support session).
5	<p>Reflection and sharing of results</p> <ul style="list-style-type: none"> i. The Lesson Study team records and shares their research lesson with interested others within or outside school. ii. The team publishes a report about their work that includes reflections and a summary of team discussions (Yoshida, 1999). iii. The team uses the knowledge gained to plan and improve other lessons and instructional practice. 	<p>Reflection and sharing of results</p> <ul style="list-style-type: none"> i. Personal reflections from members of the Lesson Study committee are based on the lesson taught, recorded or observed. ii. Formative evaluation of the lesson taught is done with the focus should be on student learning. iii. Archiving of the case/lesson plans to be used for future case conference or reference (Chia & Kee, 2010).

Table 2 A summary of the four main factors of formative assessment (Print, 1987)

Function	Emphasis	Time	Type of instruments
<ul style="list-style-type: none"> • Analysis of teaching/ learning units • Feedback to students and diagnosis of difficulties • Feedback to teachers and quality control of Lesson Study approach • Forecasting summative evaluation results 	<ul style="list-style-type: none"> • Cognitive entry behaviours • Affective entry characteristics 	<ul style="list-style-type: none"> • It is ongoing throughout the school term • It is done at frequent intervals whether or not preliminary instruction is complete. 	<ul style="list-style-type: none"> • Instruments constructed to test the essential elements of the Lesson Study include lesson plans, unit-specific teacher-made tests, student work samples, interviews, checklists, rating scales.

teachers and/or trainees is to follow a proper procedure that we have termed C.L.O.S.E. These letters represent the points to be carefully considered before closing a case or discharging the student:

C = Curricular goals⁸ that are based on the mainstream curriculum (i.e., academic subjects):

1. Has the student attained the specified curricular goals of various academic subjects as stated and agreed upon by the Lesson Study committee for his/her IEP? Why?
2. What are the curricular goals that the student has achieved?
3. What are the curricular goals that the student has not achieved?

L = Long-term goals that are based on the student's learning and behavioural needs:

1. What are the long-term goals in terms of the student's learning and behavioural needs?
2. What are those long-term goals that the student has achieved?
3. What are those long-term goals that the student has not achieved?

O = Open date (This means as and when the student needs further help, he or she can always return to the intervention programme.

1. Is the student ready for discharge?
2. Are there any other learning and behavioural needs that still require attention?
3. What are these learning needs? Are they serious or not?
4. What are these behavioural needs? Are they serious or not?

If the student needs some kind of a short-term intervention to rectify some minor learning and/or behavioural problems, the SPED teacher/trainee will proceed with the following two steps:

S = Short-term goals that are based on the student's learning and behavioural needs:

1. What are the short-term goals in terms of the student's learning and behavioural needs?
2. What are those short-term goals that the student has achieved?
3. What are those short-term goals that the student has not achieved?

E = Evaluation of the goals

1. What are the curricular goals in terms of the various academic subjects that the student has attained?
2. What are the long-term goals in terms of learning and behavioural needs that the

student has attained?

3. What are the short-term goals in terms of learning and behavioural needs that the student, having undergone an additional short-term intervention, attained?
4. Compare the student's present level of performance with his/her previous, check if he/she has made any significant improvement, remained stagnant or declined in performance.

Criteria for Formative Assessment in the modified Lesson Study

We have summarised the phases of the modified Lesson Study for formative assessment based on the following descriptive criteria (see Table 3.

The criteria can be used to design rubrics for formative evaluation of the different components in the modified Lesson Study. Although the original purpose of the Lesson Study focuses on improving the student learning through lesson taught and re-taught after lesson revision, our focus in the modified Lesson Study has shifted to focus on the competence of the SPED teachers/trainees in the following areas: case history examination, lesson planning (IEP and designing

Table 3 Criteria for Formative Assessment in the modified Lesson Study

Phases	Modified Lesson Study	Criteria for Formative Assessment
1	Examining the case history	<ul style="list-style-type: none"> • Details provided in the case history of the student • Details provided on the student's home/familiar background • Details provided on the student's functioning in classroom • Key information obtained from formal and informal tests on the student's learning and behaviour administered • Relating test results to student's cognitive abilities and/or functional behaviours • Diagnostic prioritising of learning and/or developmental and/or behavioural problems and/or needs • Proposed actions by the SPED teachers/trainees to be taken to address issues pertaining to the learning and/or developmental and/or behavioural concern
2	Planning the lesson (i) Individualised education plan (IEP)	<ul style="list-style-type: none"> • Clarity in description of current level of the student's performance in learning • Definition of the student's present behavioural status • Clear establishment of long-term goals in learning and behaviour • Clear establishment of realistic and achievable short-term objectives in learning and behaviour • Recommendation for appropriate intervention (proposed teaching approach and strategies for the identified goals and objectives with appropriate rationale)
	(ii) Designing a lesson plan	<ul style="list-style-type: none"> • Specificity and measurability of instructional objectives based on the school curriculum (in behavioural terms) • Learning activities: <ul style="list-style-type: none"> o Quality and relevance of learning activities in relation to objectives o Appropriateness in the choice of teaching strategies in relation to domain and/or disability o Appropriate selection of resources and/or materials used • Report of the implementation of the current lesson plan
3	Lesson presentation	<ul style="list-style-type: none"> • Balance of talk and demonstration • Rapport with and preparedness of student(s) for the lesson • Engagement level of interaction during lesson • Variety of the lesson presentation • Fluidity of lesson • Enthusiasm of the SPED teacher or trainee • The SPED teacher's/trainee's content or skill knowledge • Directions given by the SPED teacher/trainee during the lesson • Proper lesson closure
4	Revising and re-teaching the lesson	<ul style="list-style-type: none"> • As in Phase 3
5	Reflection and sharing of results	<ul style="list-style-type: none"> • Reflective journal writing based on lesson observation done by coach or mentor • Response to queries from the Lesson Study committee

a lesson plan), lesson presentation, revising and re-teaching lesson, and reflection and sharing of results. We believe firmly that the competence of a SPED teacher/trainee will impact on the performance of a student with special learning and behavioural needs. Hence, the need for a formative assessment rather than a summative one as the modified Lesson Study is a process that through it, the lessons taught will improve progressively for the benefits of the students and for the continuous professional development of the SPED teachers/trainees.

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Understanding by Design: Designing Learning, Assessment and Teaching for Understanding

Susan Clayton

“Understanding by Design (UbD) just makes good sense for teachers and students.”

Understanding by Design (UbD) is also referred to as ‘backwards design’, the idea of planning ‘backwards’ connects quickly with people’s experiences in life: planning for a vacation, planning a budget or planning for house – people begin with the end in mind. However, as many educators have discovered, there is much more to “Understanding by Design” than simply ‘planning backwards’.

The intent of this article is to provide a brief synopsis of Understanding by Design: the philosophy that underpins the model, a brief description of two key pieces of the model and how UbD works with the 21st Century skills concept. I will also highlight what Singaporean teachers and I have done to adapt the model to work more effectively with the Singapore education system.

What is “Understanding by Design”?

UbD is a philosophy drawn from learning theories that focus on the concept of transformational learning. The learning theories

put the learner at the centre of the process and view the teacher as one of several resources that students draw upon to explore, interpret, and create new knowledge. Wiggins and McTighe drew much of their inspiration for UbD from the works of education theorists such as John Dewey, Jerome Bruner and Socrates.

“Understanding by Design” is a way of thinking about learning, assessment and teaching that puts the student at the centre of the learning process. As teachers begin learning about big ideas, enduring understandings and designing assessments that demonstrate understanding, they must be aware of the education theories that influence their thinking and the culture of education that shapes their philosophy of learning, assessment and teaching. Singaporean teachers are discovering that UbD challenges aspects of the thousands of years of their culture that has put the teacher at the centre of the education process.

The role of the teacher in UbD is two-fold:

- The mindful, thoughtful designer



of student learning and their teaching

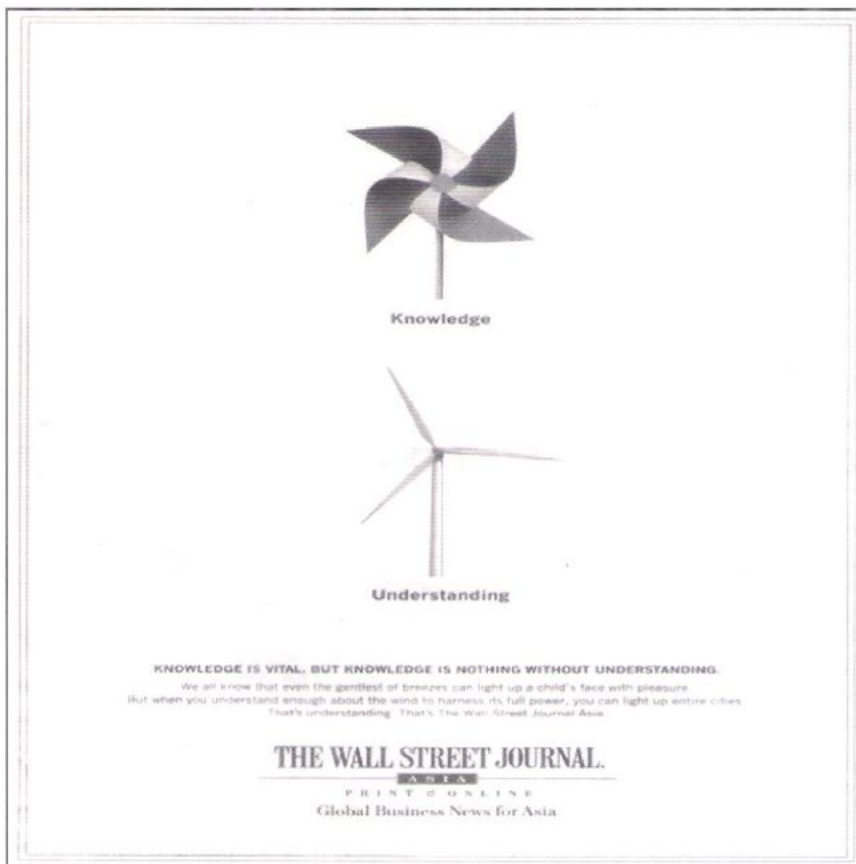
- The teacher/facilitator/coach of the learning process in the classroom

The “UbD template” developed by Wiggins and McTighe is meant to serve as an organizational tool – a place to hold thinking and to check for alignment. It is a mistake to think that filling in the template is ‘doing UbD’.

What makes UbD different is what makes it important (Wiggins)

1. The difference between knowing and understanding

There are several features of Understanding by Design that distinguish it from other reforms.



Wall Street Journal – Asia – 2009

This article discusses the concepts of knowing and understanding and big ideas. UbD makes a clear distinction between ‘knowing’ and ‘understanding’. The terms are not interchangeable.

Take a moment to think about the difference between knowing and understanding by answering the question: “Can you know something but not understand it?” Look at the picture below to assist your thinking. (The top picture is labeled ‘knowing’, the bottom picture is labeled ‘understanding’.)

In the next figure, you know how to bend paper or other pliable materials into that shape to catch the wind. However, do you understand the principles of wind and shapes so that you can create a different

looking windmill that performs a task other than just enjoy watching it twirling in the wind?

Learning to bend the materials in the top figure requires following a set of established instructions down a single pathway to one conclusion. This is a simple task, an algorithmic task. However, when the inventors of the windmill in the lower figure began to explore the principles for other uses they had to experiment – think, try, make mistakes, evaluate, think again and then try again – to eventually make the windmill in the bottom figure. This is a heuristic task.

As the last two decades of the 20th Century unfolded, it was becoming clear that algorithmic tasks were decreasing in our world

and work was moving towards a more heuristic nature. More than any other time in human history, the ability to apply principles in new ways has become crucial to the individual’s survival and also the communal survival of our planet. When we understand something, we can use or apply that understanding to solve problems, meet difficult challenges and/or create new products. Consider the challenges facing BP and the United States government in the Gulf of Mexico oil spill. There is no one established set of instructions or algorithm to ‘fix’ that problem. The solutions have been a messy and recursive process as they struggled to create something new, something that has never been done before. Heuristic tasks are authentic transfer tasks in UbD.

2. Big Ideas: Less is More

The idea of organizing many pieces of knowledge and skills around a big idea is not unique to UbD. Educators such as Lyn Erickson (1995) were also talking about the potential of big ideas. During the 90’s the literature emerging from neuroscience indicated that there is some biological evidence regarding the brain’s natural proclivity for organizing around big ideas. (John Bransford; “How People Learn”, 1999, 2001).

In his book “The Overflowing Brain” (2009) neuroscientist Torkel Klingberg offers important insights into how the human brain responds to ‘too much, too fast’. Torkel’s theories reach back to George Miller’s research (1956). Who claimed that the conscious part of the brain – working memory, the areas where we consciously

learn – have limits. Torkel writes: “There is...an inherent constraint on the brain’s bandwidth”. (p. 8) “We must always be aware of the limited scope we have for receiving information”. (p. 165)

Using big ideas to design learning, assessment and teaching works with the human brain’s learning processes. Our species has not survived by memorizing lists of facts and practicing skills outside of a meaningful context. A big idea helps the teacher to group the discrete pieces of curriculum into useful concepts instead of lists of facts. A big idea provides a way to group and sequence the curriculum’s skills so students are moving along a continuum from novice to expert. A relevant big idea helps the teacher and the students to weave together the concepts and skills.

The idea of organizing the many pieces of curriculum – learning outcomes, goals and objectives – around a big idea challenges many teacher’s perceived need to cover everything in the curriculum or syllabus. It takes time to uncover the value of designing learning, assessment and teaching around a big idea. It also takes time to ‘see’ the many pieces of the curriculum embedded in the big idea and it takes time to trust that ‘less is more’ and will still give the students the knowledge and skills they need to pass the exams.

21st Century Skills

In their book “21st Century Skills” (2009) Trilling and Fadel note that our children’s future is clearly not predictable. However, what can be predicted with considerable

accuracy are the skills our children will need to be successful in an unpredictable world: (this is not an inclusive list)

- **Learning and innovation skills** which include the ability to think critically, solve problems, communicate and collaborate and be creative and innovative
- **Digital literacy skills** which include information literacy, media literacy, ICT
- **Career and life skills** which include flexibility and adaptability, initiative and self-direction, social and cross cultural interaction, productivity and accountability, leadership and responsibility.

Design learning, assessment and teaching for understanding embeds 21st Century skills and competencies. The three stages of the UbD planning model embed the knowledge and skills for our children’s future. However, it is Stage 3, the lesson designs that will determine whether or not students will learn and practice the skills they will need as adults in the 21st Century.

Teachers may design a technically correct and even inspiring set of learning goals (Stage 1) and an engaging and potentially effective assessment plan (Stage 2) however if the teaching approach remains rooted in the transmission model (teacher does most of the talking) then students will not be learning for understanding. The person who does the most talking is the person doing the most learning.

Learning for understanding requires a facilitator teacher and a classroom that is organized so students regularly interact with each other and with materials in multiple formats. The change from teacher centred to student centred maybe the most difficult shift for a teacher and an education system as a whole.

The following is a very brief outline of the ‘fit’ of one set of 21st Century skills and Understanding by Design’s Stage 3 planning tool.

Learning and innovation skills

- Students work with the concepts through analysis which include skills such as questioning authors, testing claims, comparing and contrasting...
- Students synthesize information by making connections as they tap into prior knowledge; generalize from findings; develop and defend a thesis...
- Students apply their learning and adapt what they know to suit realistic situations; monitor and adjust their performance...
- Students evaluate through critical thinking; assess the significance of an event...
- Students demonstrate collaboration working in small groups to solve problems; create new knowledge...
- Students make their thinking visible to others through communication and visual displays using a range of media and technologies...

Understanding by Design is like the umbrella that overarches many other education reform initiatives. It is not a programme or a recipe. It is a comprehensive and complex way of thinking about learning, assessment and teaching and it is these qualities that give UbD the potential to 'fold in' such reforms as "Multiple Intelligences", "Differentiated Instruction", and "Assessment for Learning".

UbD in Singapore

I provided my first UbD workshop in Singapore in late March of 2007. It was very clear to me after that first workshop (thank you to the teachers of NJC who were my first Singapore experience, you were wonderful!) that UbD needed some adaptations to work with the Singapore education system. That said, it took me almost two years to design the first adaptation (and thank you to St. Hilda Secondary School for this idea).

A major concern for Singapore teachers is the large number of details students need to learn to be successful in their exams. The original version of how enduring understandings are written was so broad it was difficult to see the connections to the lessons where the details were taught. Through conversations with science teachers at St. Hilda's Secondary School we came up with the idea of 'layering' or 'mapping' the enduring understandings and essential questions. We designed three sets of EU's and EQ's: a set for the big idea, a set for the topic and a set for the lessons. I have been teaching this idea for over a year and for most teachers, it seems to be working.

A second concern that took me much longer to address was the number of ATT's (authentic transfer tasks) that end up in a school (thank you to Xinmin for raising this concern). At this point, I am still 'testing' the idea with Singapore teachers, using three types of assessments. The 'performance task' might be the small assessments done with each learning outcome/goal/objective. A mini "ATT" might be used for a unit or a small set/series of lessons about 3 to 7 lessons. The "ATT" would be used only for groups of lessons that go beyond 7. The teachers who have had this instruction tell me that this modification is much easier for them and their students.

Conclusion

Life 'feeds' on change. Nature seems to be 'ok' with the constant cycles of change. However, it is not so with humans. We tend to want change to happen 'yesterday' and to be 'left out of it' as much as possible – change is hard work. UbD is a major change in the way we think about learning, assessment and teaching and as many Singapore teachers truly understand, coming to understand UbD is a long and at times arduous journey.

Change 'experts' agree that it takes 5 years to become fluid, flexible and comfortable with a

deep change; it takes another 5 years for that change to become the culture. We have only just begun.

Thank you Singapore educators for a fantastic learning experience – my life is so much richer for getting to know you through the common goal of wanting to enrich the lives of children and youth.

Susan Clayton, EdD, has been a passionate educator for more than 30 years, in Canada and the US, where she has worked with Grant Wiggin's Authentic Education Group. She has also conducted UbD workshops for Singaporean schools since 2007. Susan is one of the many experts brought in by ASCD (Singapore) to facilitate the professional development of our teachers. She has averaged 4 to 5 trips per year, presenting several workshops during each trip to Singapore and noted that the demand for such workshops is growing in Singapore and the region. To better focus on Singapore's education goals, she has even developed resource packages and text for these workshops. Susan has also customised workshops to meet the specific needs of individual schools.

A teacher is one who makes himself progressively unnecessary.

~ Thomas Carruthers

Seeing the Results for Yourself: A Portfolio Primer

Anne Davies

Portfolios are powerful because they help students learn about their learning. They provide an opportunity for students to share the responsibility for collecting proof or evidence of learning. Portfolios are worth doing well because they are a rich resource for reporting – they help students and parents see the results of student learning for themselves.

Portfolios become simple for classroom use when teachers design them for their students, their parents, and their school communities by answering the following questions:

What is my purpose for using portfolios?

All portfolios are a collection of evidence of student learning. They

become powerful when they have a purpose. There are three major purposes for portfolios: to display student work around a theme (e.g. best work, celebration, showcase, representative, chronological), show the process of learning, or show growth or progress. As you plan your portfolio, consider what your purpose will be.

Who is the primary audience for your portfolio?

There are many possible audiences for your portfolios, such as students, parents, next year's teacher, or the school district. Each audience has different needs and requires different information. An effective portfolio has clear purpose and communicates clearly to the audience; having more than one primary audience muddles the message.

What does your audience want to know?

The contents of your portfolio will be determined by your purpose and audience. For example, a portfolio that shows progress will include "snapshots" of student work over time in the various subject areas or units the students are studying. When the audience looks at the progress portfolio, the progress or

growth will speak for itself. These portfolios are similar to the height charts I used as my kids were growing up. They would stand against the door frame and we'd mark their height, date it, and then look to see how much they had grown since the last measurement.

If the portfolio is designed to show the student's best learning then it will consist of all those things that showcase what has been learned. This is much like getting ready for a job interview. You gather all your evidence and present yourself in the best possible light. You are expected to talk not only about your strengths and achievement but also about some things you need to work on and what your goals are.

Process portfolios require learners to collect and organize evidence that illustrates their process of learning. When I keep a process portfolio as a teacher, I acknowledge that I am a learner and that the learning process never ends. I will include things I am proud of, some things that I learned from, and some questions I am now exploring. This kind of portfolio acknowledges that learning is a process and not a destination.

A portfolio communicates more for an audience when the audience knows why the evidence has been included. The portfolio might contain writing samples, pictures, videotapes or audio tapes, work samples – anything that helps the audience understand the student's accomplishments as a learner. When students are selecting pieces, they use categories that you have developed with them, such as "best work," "hardest work I now know



how to do,” and “most improved.” We find that when we set criteria with students, they begin to understand what they are to learn and how to talk about it. They begin to use a shared language of assessment.

What will it look like? Where will we keep it?

If you’ve decided to show growth or progress and are using a progress folio as part of the reporting process then you will probably want to do some initial entries and some entries at each reporting period – a total of three to four entries per year. If you’ve selected to do a best work or process portfolio, then you may decide to select entries weekly, monthly or term by term. Once you’ve made that decision, you will need to think about what kind of access students and parents will need and where best to store them.

Organization within the portfolio tends to be by time (when was it done), by progress (how have they improved as a learner), or by accomplishment or best work. A progress folio is usually organized with work samples within a subject area displayed side by side so viewers see progress over time. A showcase portfolio is organized so the audience sees best work as determined by students in consultation with teachers. The key to organizing is to ensure the portfolio represents the learners and their learning rather than who they could be with huge amounts of support from others. Students need to have a major role in selecting work, putting work in the portfolio, and preparing self-assessments that

explain the significance of each piece of work.

What are some ways to get started?

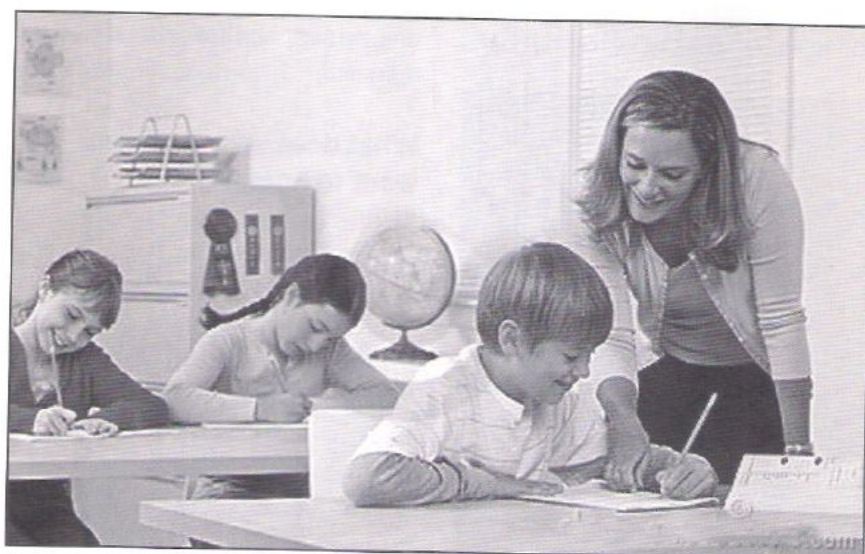
My advice is that you explore your answers to the previous questions, start small, and begin quietly. When I begin with students, I’ve learned to give them a chance to set criteria, and provide many opportunities for them to self-assess, collect and organize their evidence of learning, and choose work according to categories. I ask students to explain why they chose a piece of evidence for that category and what they want the viewer to notice. The earlier we can involve the students in the process, the more successful students and their portfolio will be.

Powerful, practical, possible and painless portfolios result from:

- Keeping the portfolio process simple
- Understanding that there is no one best method

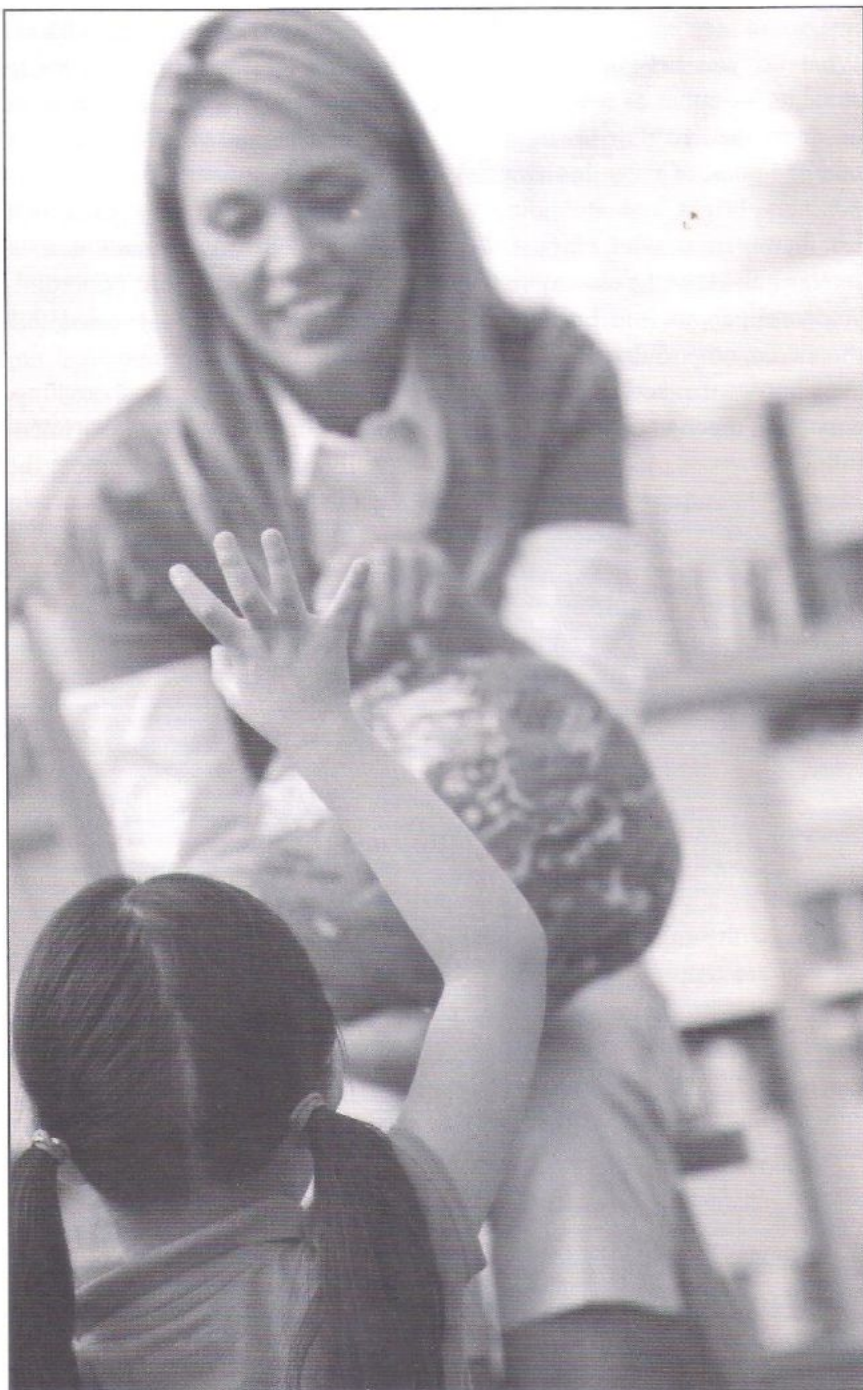
- Including more than written work
- Asking students to explain and record why they chose each work sample
- Maintaining a clear purpose
- Ensuring students have involvement and ownership

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Tips for Talking Invitationally with Your Students

Jenny Edwards



We are teaching because we want to impact students' lives in positive ways. This article includes strategies for accomplishing this goal. For a moment, think back to what your teachers said to you. What do you remember about the words they used, their tone of voice, and the impact that they had on your life and your achievements?

Numerous studies have been done to investigate the language that teachers use with students. Cline (1995) studied middle school students and discovered that they want two things from their teachers.

First, students want teachers who care for them. Second, students want teachers who think of them as individuals . . . [They want teachers to] care in terms of "I care enough for you to encourage you, be sensitive to you, show pleasure with you and your friends, help you, be joyful, create trust, and just appreciate you." (pp. 82-83)

As we seek to create an invitational learning environment for students, we can intentionally use inviting language—language that invites students to learn.

The ASCD Commission on the Whole Child (2007) emphasized the importance of educators working with the whole child. We are not

just teaching reading, writing, mathematics, science, social studies, and other subjects. We are teaching the whole child. Thus, we can build up the whole child by using language to make our students feel strong and capable. According to the Commission,

Through interactions with responsive, respectful adults — regardless of their role within a child's life — children learn to imitate, and then internalize, valued social, physical, cognitive, or ethical behaviours. When children believe that the adults around them care about who they are and what they know and what they can do, they are more likely to respond to what those adults value and take those values as their own. (p. 16)

We can work with the whole child by using strategies such as the following:

Look for Students' Positive Intentions

What we think about our students will eventually come out of our mouths. By thinking positive thoughts about students, we will be able to speak positively with them. How do we do that?

Sometimes, students do things that we would prefer that they not do. An immediate response can be to ask ourselves, "What might be some of the positive intentions that the student has?" For example, students might not do homework because they had to care for a sick parent. The parents might

have needed the student to run some errands or care for a younger sibling. The student might feel that the homework is too difficult and not want to risk failing. What might be some other positive intentions that a student could have for not doing homework?

Examine What We Believe About Our Students

What do you believe about your students — either as a whole class or individually? For a moment, take the point of view that they are not very bright and are going to just barely pass your class. Other factors outside of the classroom (the students' parents and background, the media, other outside influences, etc.) impact the student so that you cannot do much to counteract those influences.

In what ways do those thoughts impact the ways in which you interact with the students? How do those thoughts impact what you say to students? In what ways do those thoughts impact the degree to which students learn in your classroom?

Now, think of each one of your students as a genius — a brilliant person with unlimited potential! As you are tapping each student's individual brilliance, you are creating an exciting future for your country and for the world. Each of your students is going to powerfully impact the world in order to bring about the greater good for others.

In what ways do those thoughts impact the ways in which you interact with the students? How do those thoughts impact what you say to students? In what ways do

those thoughts impact the degree to which students are learning in your classroom?

Focus on Creating an Inviting Classroom

Purkey and Novak (1996) discussed the importance of educators intentionally creating an inviting environment in which all students can learn. According to these authors, "Inviting messages are intended to inform people that they are able, valuable, and responsible; that they have opportunities to participate in their own development; and that they are cordially summoned to take advantage of these opportunities" (p. 10). They suggested that educators can be intentionally disinviting, unintentionally disinviting, unintentionally inviting, and intentionally inviting. As we explore the ways in which we think about our students, and as we intentionally use language to invite students to learn, we will be creating inviting classrooms in which all students can excel.

Focus on Students' Strengths

In the 1980s, I presented seminars for Jim Fay and Foster Cline on "Discipline with Love and Logic." They had an overhead transparency that said, "It is only possible to build from strengths." A recent book has brought this to the attention of many people. The book is called *Now, Discover Your Strengths* (Buckingham & Clifton, 2001). The authors discuss 34 strengths that people have, and they guide readers to discover which of those strengths they have.

What might be some of your students' strengths? You could

invite students to write a paper on their strengths. If you teach younger children, they could draw pictures of their strengths and label them. You could conduct lessons in which students explored their strengths, discussed them, read books on them, etc. They could teach their classmates about their strengths. For example, if a student enjoyed a particular sport, he/she could teach the fine points of that sport to classmates. If a student enjoyed building model airplanes, that student could teach others.

Avoiding Using "But," and Using "And" Instead

Compare the way the following statements make you feel:

- "This is nice, but . . ."
- "This is nice, and . . ."

What do you think when people use the word "but?" "You did a really nice job, but . . ." Many people think, "Oh, no! What is coming next?" When we use the word "but," we tend to negate what we said before (Hall, 2006). When we use the word "and," we imply that something more is coming, and it will probably be good. "You did a really nice job, and . . ." Think of when you might be able to use this with your own students.

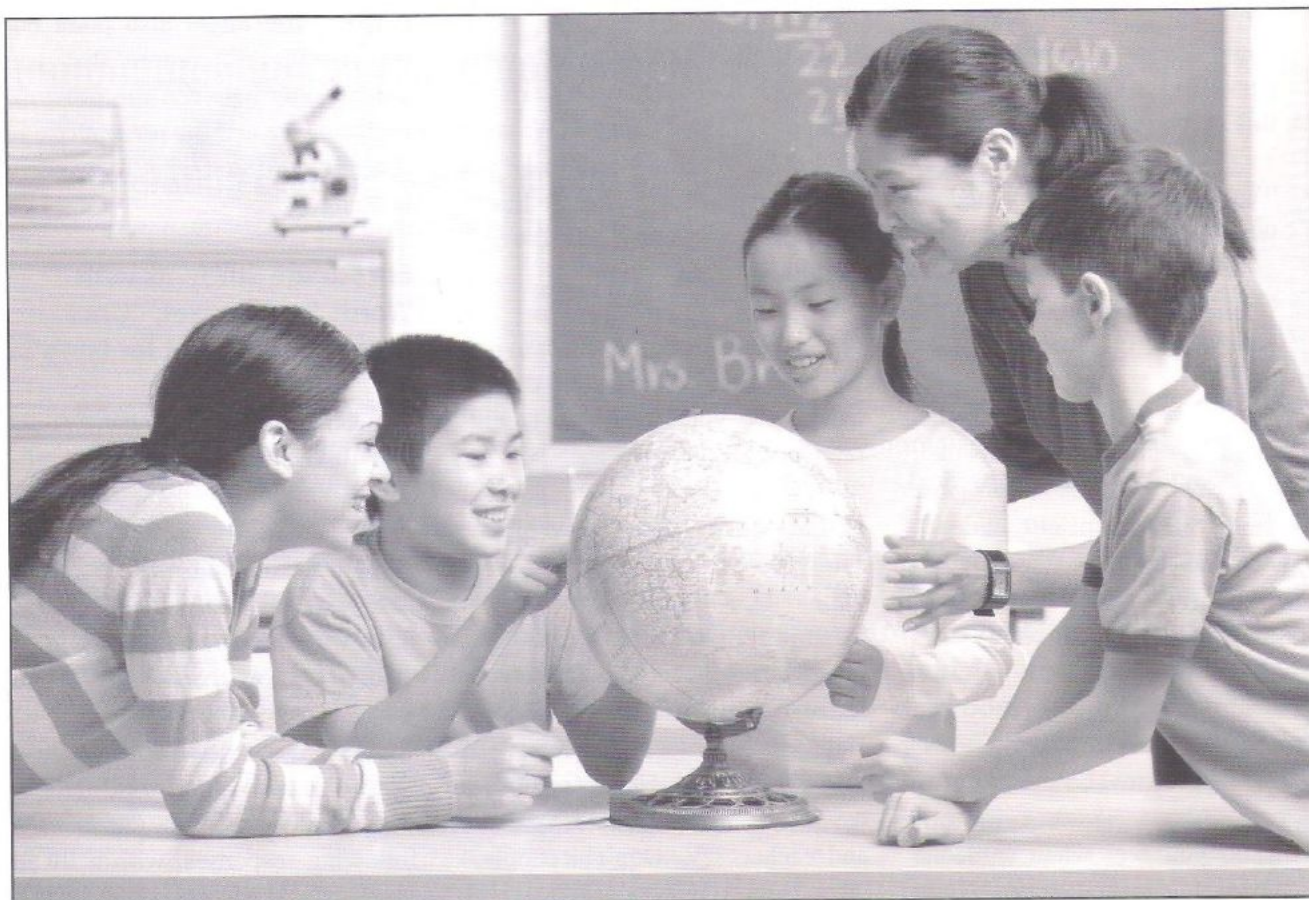
Give Students Positive Identities

We tend to behave based on the ways we see ourselves. Students who have positive identities will tend to behave in positive ways, while students who have negative identities will tend to fulfil that

vision of themselves. Of course, students have many identities. They might say, "I am a daughter," "I am a good student," "I am a friend," or "I am an athlete."

We can look for opportunities to give students positive identities every day. When a student does well in mathematics, we might say, "You are a mathematician!" When a student does well in reading, we might say, "You are really a reader!" Think of some of the identities that you could give to students in your class.

If a student has one or more negative identities, we can look for times when the student acts in a way that is the opposite of the identity, point it out to the student, and suggest a new identity. For



example, if a student normally does not work hard, and the student begins working hard over a period of time, we could say, "Wow! You really worked hard doing that. You are a hard worker." We need to point out specific instances of the behaviour before naming the identity so that the student will believe us.

Pass on the Compliments to Students

Everyone loves to hear compliments! We can encourage students by telling them positive things that others have said about them. We can tell individual students about what others have said about them, and we can tell our entire class what others have said about them. Some possibilities might be:

- "Mrs. _____ said that she was really impressed with your performance at the athletic event this past weekend."
- "Your mother complimented the work that you did yesterday."
- "Mr. _____ said that this class put on a wonderful performance."

As we make compliments to other teachers about students in their classes, they will be even more likely to compliment our students. What might be some compliments that you could pass on to individual students or to your class as a whole?

Tell Students What They Can Do

How do you feel when someone tells you what you cannot do? On

the other hand, how do you feel when someone tells you what you can do? We would prefer to hear what we can do rather than what we cannot do.

Frequently, we are in a situation in which we need to convey to a student what he/she cannot do. Why not tell the student what he/she CAN do, instead?

- Instead of saying, "No, you can't do X," say, "You can do Y."
- Instead of saying, "No, you shouldn't do X," say, "It might be helpful for you to do Y."
- Instead of saying, "You are wrong," say, "You are close," or "Here is the correct answer."

Use Positive Words

How do the following words make you feel? "Bad", "Difficult", "Hard", "Failure", "No" and "Wrong"? Now, how do these words make you feel? "Happiness", "Possibilities", "Resources", "Potential", "Discovery", "Curiosity", and "Joyful"?

As you are choosing words to use, you can easily choose words that make both you and your students feel good!

Tell Students What We Want Them to Do

What if someone said, "Don't think of green elephants?" You would have to form a picture of green elephants in order to process what they were saying. How many times have we heard well-meaning parents and teachers say, "Don't hit people," "Don't run," "Don't do X."

Students' brains remember the message that they hear, and they delete the "don't" (Hall, 2006). The next time you want a student to do something, you can suggest what they should do. You might say, "Please keep your hands to yourself." "Please walk." "Please do Y."

Tell Students That This is "Even Better"

What do you think of when someone says, "This is better?" When I clean the house, my husband has said, "This looks a lot better!" What is the presupposition? The presupposition is that the house did not look good before.

The next time that a student makes improvements on a paper, on an assignment, in behaviour, you might say, "This is even better!" You might also point out the specific differences that you are noticing between the previous performance and the present one in order to reinforce what the student is doing.

Encourage Students with Words Such as "Yet," "Until Now," and "But Not for Long"

From time to time, students might feel discouraged or perceive that they cannot do something. Of course, as adults, we know that it takes time for students to learn a new skill. It would be laughable to think that anyone could learn to do a complex task in one day.

In response to a student's lament of "I can't do this," Hall (2006) suggests answering with the following responses, with a lilt in the voice and a smile on the face:

- “I can’t do my homework.”
.....“Yet.”
- “I don’t know how to do this.”
.....“Until now.”
- “I feel confused.”
.....“But not for long!”

The son of a friend of mine was feeling discouraged and said, “I can’t understand this!” His mother replied, “Yet!” She said that he thought for a few seconds and then got a big smile on his face! He stood a little bit taller and said, “You’re right!”

Conclusion

As we think positive thoughts about our students, look for the students’ positive intentions, perceive our students as geniuses who are filled

with potential and consciously create an inviting classroom. Focus on our students’ strengths and we will be setting the stage for using positive language with them. By using “and” instead of “but”, giving students positive identities, passing on compliments to students, telling them what they can do and using positive words, you will have positively impacted their lives and their futures.

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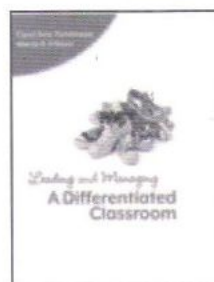
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Jenny Edwards, PhD is the author of Inviting Students to Learn: 100 Tips for Talking Effectively with Your Students, published by ASCD. She also wrote Cognitive CoachingSM: A Synthesis of the Research, published by the Center for Cognitive Coaching. She has been working in the field of education for 35 years and has taught at the elementary, middle school, and university levels. She has presented seminars in 11 countries in French, Spanish, Italian, and English.

BOOK

Integrating Leading and Managing A Differentiated Classroom (E-Book)

Marcia B. Imbeau & Carol Ann Tomlinson



Most books on classroom management focus on keeping pupils in their seats and giving good directions. However, this book explains how to lead a class that is differentiated to individual students’ needs. The top authority on differentiated instruction, Carol Ann Tomlinson, teams up with educator and consultant Marcia B. Imbeau to provide you with everything you need to deal with time, space, materials, groups, and strategies so that you can balance content requirements

with multiple pathways for learning. The authors use authentic and tested examples from all levels and subjects. The book provides step-by-step guidelines, checklists, and a Teacher’s Toolkit with ready-made classroom activities to help you master the nuts and bolts of managing a student-centred classroom — from creating the learning environment and classroom routines to challenging advanced learners and buying time for struggling students.



A Call for Articles

The ASCD (Singapore) REVIEW Committee seeks original articles on teaching and learning...

Manuscripts should be between 2,000 - 2,500 words, typewritten (Microsoft Word document) in Arial font size 12 in single line spacing. Submissions will be done via e-mail. Photographs would be appreciated. These visuals may also be e-mailed as jpg files.

Send all articles to:

Mrs Soo Kim Bee

Editor, ASCD REVIEW (Singapore)

E-mail: Soo_Kim_Bee@moe.gov.sg

Tel: 6831-9596

The theme for the forthcoming issue is:

Teaching for the 21st Century

Deadline for articles:

31 Aug 2011

Association for Supervision and Curriculum Development (Singapore)

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Annex 1

ASCD (Singapore) Membership Benefits (from Jan 2011)

Benefits per year	Life	Ordinary	Institutional	Remarks
	\$500	\$30	\$300	
Annual ASCD review	✓	✓	✓	
20% off books	✓	✓	✓	
\$50 off UbD workshop	✓	✓	✓	Up to 4 participants for institutional member
\$1500 off UbD school customized workshop	NA	NA	✓	
20% discount on other workshops	✓	✓	✓	
Book vouchers per year for ASCD Singapore promoted books*	Two \$5 vouchers	Two \$5 vouchers	Ten \$5 vouchers	One voucher applicable to one book only
Services – sourcing for speakers for workshop	NA	NA	✓	
Door gift at AGM	✓	✓	✓	
One copy of ASCD Leadership magazine	✓	NA	✓	ASCD Singapore will select the most useful issue
Total value (if all benefits are used)	>\$150 per year	>\$100 per year	>\$400* per year	

* Applicable after 20% discount

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