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Issue 2 | October 2011

Above-Level Testing

Assumed Benefits and Consequences

Photo — Courtesy of Mdm Koh Lee Leng, Academy of Singapore Teachers

Dr Soh Kay Cheng

"Wah! Only 20% of my class passed the Literature exam."

"Ah? Only 26% of my class passed the Math test."

These are what some Secondary Three students of a school on the island often claim. Their teachers may be doing what is called out-of-level testing (OLT) or more specifically, above-level testing. OLT, in contrast with level-appropriate testing, simply means assessing students with tests not pitched at their current grade levels or using marking standards that were not meant for them.

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IDENTITY

"Who am I?", "What can I do?" and "What can I be?" If the next phase of education is a "values-driven" phase, what difficult questions must educators answer? Read more in the ***Inner Work of the Teaching Profession.***

READ MORE

We are a 31,000 strong fraternity. What untapped potential is there for Teacher Ownership and Teacher Leadership? Find out what's in store for teachers in ***More Than Two to Tango.***

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DEVELOPMENT

Both Singapore and Hong Kong education systems are internationally recognised as high performing systems. Hear from Ms Promail Leung (Our first Outstanding-Educator-In-Residence), from Hong Kong, Mr Abu Bakar B Farid, Lead Teacher from Ngee Ann Secondary School and Master Teacher, Dr Charles Chew, and discover what they have to say about being a professional.

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Editorial

Director's Welcome

Welcome to **i.d.e.a²**!

The theme for this second issue is *Teachers as Professionals*. This theme is a timely reminder of the important work that teachers do, and affirms our identity as professionals.

The celebration of Teachers' Day 2011, the launch of the Ethos of the Teaching Profession and the Official Opening of the MOE Heritage Centre, signal our unstinting commitment to preserve and grow the values, beliefs and practices of 50 years of excellent service. The launch of PESTA, STAR and ELIS further affirm our mission of growing teachers as professionals, where we see teachers leading teachers and teachers teaching teachers - all part of our journey towards teacher-led excellence and collaboration. In this issue, we examine our identity as teachers and professionals and learn how teachers connect knowledge with beliefs and practice. We celebrate those who have distinguished themselves as outstanding professionals. We will hear from the winners of the President's Award for Teachers (PAT) and the Outstanding Youth in Education Award (OYEA), and the first Outstanding-Educator-in-Residence (OEIR), Ms Promail Leung from Hong Kong.

On many platforms, Singapore teachers have been lauded for their mission-driven sense of professionalism. The McKinsey report affirmed it all when it attributed Singapore's strength in education to her quality teaching force and her relentless pursuit of excellence.

We hope you will enjoy this issue of **i.d.e.a²**.

S. Manogaran
Executive Director
Academy of Singapore Teachers

Do feel free to drop us a line at **MOE_Academy@moe.gov.sg** if you have any suggestions or feedback.

Feature

Above-Level Testing

Assumed Benefits and Consequences

Dr Soh Kay Cheng

Out-Of-Level Testing (OLT) in the United States

OLT may take two forms: below-level testing and above-level testing. These have been done in the United States for specific purposes with specific assumptions.

Below-level Testing

In America, OLT has a long history and refers to administering tests of a lower level to students, e.g. testing Grade Five students with Grade Four tests. This form of OLT usually involves students who are weak at a class level. It is also called off-grade testing or instructional level testing. In 1993, only one state allowed this form of OLT. The number has since increased to six states in 1995 and 10 in 1997. Common reasons given for below-level testing are: (1) it avoids student frustration and emotional trauma; (2) it improves accuracy of measurement; and (3) it better matches the student's current educational goals and instructional level. However, such arguments have their supporters but also invited rebuttals (Thurlow, Elliott, & Ysseldyke, 2011).

Above-level Testing

In contrast, there is the above-level OLT where students sit for tests that are of higher standards than their current grades. Such testing is carried out to identify gifted and talented students who are achieving at the top end (e.g. 95th percentile), far above their current grade level. There are advocates who support such testing and detractors (such as Ra-

It is claimed that such testing (1) allows the needs of the gifted and talented children to be better met; (2) allows teachers to gain a clearer picture as to whether enrichment, differentiation, pull-out, subject acceleration, or even whole grade acceleration are viable options; and (3) opens doors to award ceremonies, programmes, and on-going academic and socio-emotional support (Boulianne, 2008).

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mond Ravaglia, Deputy Director of Stanford University's Education Program for Gifted Youth), who are not in favour of this form of OLT (Cawley, 2007).

Above-Level Testing in Singapore

The experience of the Secondary Three students cited at the beginning of this paper is more like the second kind of OLT—above-level testing. It is not known how widely practised above-level OLT is in Singapore schools. An accurate picture of the situation requires proper surveys but if above-level testing turns out to be a common practice among primary and secondary schools and junior colleges, it does not come as a surprise as it is perfectly understandable in the highly competitive context of Singapore.

Whatever the situation may be, the responses of the students cannot be taken too lightly:

"Our teachers said they marked our Sec Three papers using Sec Four standards."

"Our Sec Four friends told us that they had the same tests."

"Our teachers want us to know what Sec Four standards are."

"Our teachers want our parents to motivate us because we must get ready for Sec Four."

The teachers, in doing above-level testing, perhaps hope to achieve better assessment results by setting a higher benchmark for the students and encouraging them to study through motivating (or frightening) the parents. However, a distinction needs to be made between above-level testing for identifying or confirming academically excellent students and motivating and challenging students.

Questions can be raised: Does such testing really motivate and challenge students? Which group of students will be positively influenced by such testing? What other consequences may result, in the short run and in the long haul?

Assumed Benefits

There are several possible benefits for above-level OLT. Cognitively, taking an above-level test gives the students a chance to experience in a concrete manner the demands of the more difficult tasks. This feed-forward may orientate the students to future challenges and set a clearer focus for their learning. It may work for conscientious and high-achieving students – those in the top quartile of a class. It may not work for students in general, especially the unmotivated (and always non-achieving) ones to whom schooling serves purposes other than learning.

Emotionally, the more challenging tasks may motivate and force some students to study harder, especially if they fail to cope with the above-level tasks. Some high-ability students take occasional failures as challenges with the traditional belief that failure is the mother of success. They will work harder to maintain their self-image of being capable.

Socially, students' difficulty in coping gives teachers and parents good reasons to press the students to study even harder. Such social motivation is legitimised over and above the self-motivation some capable students may already have. This double dose of internal and external motivation will impact the conscientious and 'achieving' students to maintain a high level of effort.

Probable (Undesirable) Consequences

The assumed benefits discussed above are what they are – *assumed*. They may and may not materialize depending on other factors beyond them. These are explicated below.

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Unfamiliar content and untaught skills

First of all, as rightly pointed out by Raymond Ravaglia cited earlier, above-level tests contain items testing materials and skills which the students are not familiar with or have not been taught. These built-in characteristics prevent the students from shining as they would for level-appropriate tests; thus, excellent students may turn out to be (and mislabelled as) mediocre after above-level testing. The above-level testing results do not truthfully reflect the capability of high-ability students in the proper context of their current grades.

Low score reliability

Secondly, as is true of all tests (standardised or otherwise), there are more items and questions in the middle range of the ability tested and fewer at the two extremes. As a result, score reliability is higher for scores in the middle of the distribution and lower for scores away from the centre. When above-level testing is practised en mass, students are likely to obtain low to mediocre scores, and this means much of the scores are psychometrically less trustworthy. Thus, above-level testing results do not truthfully reflect the capability of the high-ability students because of its poorer measurement quality.

Beyond zone of proximal development

It is a well-known fact that students learn more effectively when the learning tasks are within the zone of proximal development (ZPD). The concept of ZDP originated from the Russian psychologist Lev Vygotsky (Morris, n.d.) and is defined as “distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers.” In view of this, students who sit for the above-level testing may feel that they have been thrown into the deep end of the pool. They either sink or swim; some survive however, many don’t.

Frustration and its correlates

If above-level testing fails three-quarters or more of the high-ability students, it deserves serious consideration for its probable negative effects on them. Occasional frustration is a normal experience in life and its ill-effect may soon dissipate in many cases. However, repeated and constant frustration has adverse psychological and social effects, and may possibly lead to some long-lasting undesirable consequences. At the personal level, repeated and constant failure to cope with above-level tests create in the individual students a wrong image of *being unable*. There are sufficient research studies on learned helplessness of animals and human learners to show that constant failure leads to unwillingness to try as it may have an incapacitating effect. Research also shows that this is difficult to eradicate even when the negative condition has changed to be positive (Beaumont, 2005-2009).

A related phenomenon is the development of *externality* (in contrast of internality) as a consequence of repeated and constant failure. Students who keep failing tend to attribute their failure to external factors such as bad luck, favouritism, or the powerful others. They thus develop an *external locus of control* and lack faith in their own ability to influence events around them. Conversely, successful students develop a sense of self-worth, self-confidence, or internal locus of control, believing in their own ability to control their destiny (Neill, 2006).

At the societal level, a natural reaction to failing an above-level test is the feeling of injustice. When such a test is administered, students who could not cope feel that the teacher has not been fair since many of the materials or skills are not familiar as they have not been taught. Parents who come to know about this are likely to experience the same feeling of injustice (of their children being tested beyond what has been taught). When done again and again over a long period of time, the sense of injustice accumulates and it may be seen as an inherent quality of the system and even the society. In the long run, students’ (and their parents’) sense of injustice created by conditions beyond their control will be transferred to the system

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and society and this actually goes against the grain of democracy and fairness.

When above-level testing is practiced often and wide, it will create generations of future citizens who lack confidence as they have been regularly made to feel frustrated and incapable.

The Way Ahead

Above-level testing must have been introduced by a few schools in the beginning with a specific purpose. The assumed benefits discussed earlier may or may not have been actualised, but the probabilities of undesirable consequences would have increased. To prevent further aggravation and to protect the students from unnecessary psychological stress or trauma, some cautions are suggested below.

Context

To benefit students with above-level testing, the context needs to be made clear to them. Doing so will reduce much of the anxiety before testing and frustration after testing. It may also avoid misunderstanding. Students need to be clearly told that it is done to familiarize them with the requirement and standards of the above-level tests. In short, it is done as a *mock* or rehearsal assessment.

Frequency and timing

Since above-level testing is done as mock or rehearsal assessment, it needs to be done intermittently (perhaps, once a semester) with advance notice. Forewarned means fore-armed; students should not be caught by surprise. They should be psychologically prepared to take above-level testing. This may be done best after normal assessment towards the end of each semester after the formal examinations so that there is a clear distinction between the real assessment and the mock assessment.

Participation

As above-level testing is potentially stressful and even traumatic, care needs be exercised to involve only students proven to be in the top end of performance overall or in specific subjects; this could mean those in the top 15-25% of a cohort and who have consistently done well in their studies. Moreover, participation is best if it is voluntary, to avoid students feeling being pressurized into it.

Debriefing

Many students will find the above-level testing much more difficult than their normal assessment. To eliminate the painful stress of not being able to cope, proper debriefing after the assessment needs to be conducted to help the students, especially those who have failed, to see the results in the right perspective. Moreover, a thorough discussion on the materials and skills (which they are yet to acquire) will motivate and orientate the students to achieve success.

Ethics

Whether a student passes or fails the above-level tests, the scores do not validly indicate their true ability levels. This raises an ethical concern. Should the students be given false impressions about their achievement and ability as these definitely have an impact on them as learners and persons.

Research

At this moment, there is no information about how widely above-level testing is practised here in Singapore and its effects. To have a better understanding of this practice, which can be expected to have some long-lasting consequences, there is obviously a need for objective data. The study can look into the positive and negative effects on the curriculum, the students' cognitive gain and affective experience, and the teachers' instruction.

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Conclusion

Above-level testing is assumed to be beneficial but its real benefits need to be objectively evidenced. The intention may be good, but the probable undesirable consequences are not to be overlooked. Even more fundament is its logic, as some Secondary Three students rightly reflected:

"If we can pass the tests, then the school should promote us to Sec Four."

Let me end with a Chinese parable which reiterates my point that impatience never yields the results we want and may have an adverse effect on the young whom we are tasked to nurture.

"We learn that those who are too eager to get something done only make it worse and fail to achieve the expected results."

Once upon a time, there was an old farmer who planted a plot of rice. Everyday he made it a point to go to the field and watch the seedlings grow. He saw the young shoots break through the soil and grow taller each day. Impatient by nature, he was not satisfied with their slow growth.

"How can I get the plants to grow faster?" he thought. Suddenly, he had an idea. He jumped out of bed and dashed to the field. Under the light of the moon, he began working on the rice seedlings. One by one, he pulled up the young plants by half an inch. Pleased with his work, he said to himself, "What a great idea! Look, how much taller the plants have grown in one night!" Satisfied, he went back home.

The next morning he told his son proudly about what he had done. His son was awe-struck. He ran to the field only to find all the young plants dying.

Feature

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Identity

The Inner Work of the Teaching Profession

Mr Ashraf Shah (retired Principal) sharing significant milestones of the Singapore education system with invited guests at the Official Opening of the MOE Heritage Centre

Mr Andrew Chong and Mrs A. Anand

Parker Palmer, in *The Courage to Teach*, famously said that 'Good teaching cannot be reduced to technique, good teaching comes from the identity and integrity of the teacher.' Given the intensely personal and relational nature of our profession, a strong sense of selfhood and the ability to achieve unity in our values and decisions is crucial in helping us do our jobs well. The excellent work of Singapore's teachers has gained increasing recognition over the years by various international studies. What is it that makes us – as a teaching fraternity – good or even great?

The source of our excellence goes beyond just systems, programmes and resources. Like Palmer claims, it is indeed the identity and integrity that make us a good education system. What then defines our identity and integrity? This was the question that the 3 key events of the teaching service this year – Teachers' Mass Lecture, the launch of the Ethos of the Teaching Profession and the Official Opening of the MOE Heritage Centre – focused on, uncovering and expressing key tenets of who we are as a fraternity of Singapore teachers.

Identity

Teachers' Mass Lecture — Affirming the Importance of our Identity

Titled 'Teaching with Heart, Purpose and Values', Mr Lim Siong Guan's thought-provoking address at the Teachers' Mass Lecture was a call to educators to realise that the next phase of education required a greater focus on the 'inner work' that we do. After charting the shifts in our system from survival-driven to efficiency-driven and finally, ability-driven, Mr Lim postulated that the next phase would be a 'values-driven system', with values being the 'beliefs, perspectives, attitudes and fundamental motivations that would fit [students] best for their lives in future'. These values could be classified into 3 broad areas: values of identity ('Who am I?'), values of community ('What can I do?') and values of discovery ('What can I be?'). At the MOE Work Plan Seminar, Mr Heng Swee Keat, Minister for Education, also shared that student-centric, values-driven education will be a key emphasis going forward, with MOE and schools placing greater focus on values and character development.

This seems to strengthen what Mr Lim shared about an updated Maslow's hierarchy where the highest level is no longer self-actualisation but transcendence. Transcendence may be defined as helping others to achieve self-actualisation which is only possible if learners first understand who they are, what they can do in service of society and what they are capable of achieving. Perhaps this is how one may interpret 'student-centric, values-driven education'.

Launch of the Ethos of the Teaching Profession at MOE Teachers' Day Celebrations — Articulating our Values and Beliefs

As noted in DGE's speech, over the past 50 years, Singapore teachers have developed a distinct set of professional beliefs, practices and conduct. This ethos, previously unspoken yet powerful, defines the Singapore teaching profession, and has contributed to making the service a strong and resilient one.

Comprising five important facets, namely Our Singapore Educators' Philosophy of Education, the Desired Outcomes of Education, the Teachers' Vision, the Teachers' Pledge and the Teachers' Creed, the Ethos of the Teaching Profession was launched during the Teachers' Day Celebrations held in the MOE Edutorium this year. The Ethos document articulates the fundamental beliefs and principles that guided past and present educators in their daily decisions. Indeed, the

3 Takeaways from the Teachers' Mass Lecture

- **We need to help our students attain values of identity (Who am I?) by helping them forge "a sense of identity, of feeling comfortable with themselves and of belonging to a family, to a group, to a country".**
- **Helping the child develop their values of community (What can I do?) requires the child to learn how to get along with others, and to learn about social and moral responsibility. It is about the individual doing his part for others and for country.**
- **Teaching our students the value of discovery (What can I be?) is not just teaching them to be different, it is 'knowing why you believe what you are believing, and why you are doing what you are doing'. The values of discovery are hence inextricably linked to the values of identity.**

Identity

Active teacher participation during the Teachers' Mass Lecture

Ethos of the Teaching Profession recognises that the excellence of our Singapore teaching service is founded not just on the 'external' work we do, but more essentially on the values which govern our decisions. Equipped with this document, educators now have "a stronger sense of the beliefs that have helped buttress our education service", as DGE mentioned. The Creed instils in us a sense of identity and pride, as we now know clearly the ideals we must live up to. DGE reminded all educators to take ownership of the Creed and rallied them to "jealously guard the good name of the profession at all times – [Teaching] is after all what we have decided to do with our lives."

Opening of the MOE Heritage Centre — Moving Ahead by Understanding Our Past

While the Ethos represents the timeless principles that make us who we are as an excellent teaching service, the Heritage Centre encapsulates our shared memories as an excellent teaching service. The challenges faced by our predecessors, like the lack of basic amenities and absence of proper teacher training, are presented vividly through photographs and artefacts.

3 Quotable Quotes from the Teachers' Day Celebrations

- **"In Kung Fu panda, Poh was grateful to Shifu for bringing out his greatest potential, something Shifu was able to do because he believed in Poh. Similarly, it is only right that we live up to the trust that our students place in us. This is our promise, as a profession."**
  Mr Kwek Boon Liang, Academy Officer, in the video screened during the celebrations.

- **"There are many professions, and each of us has chosen teaching. Amidst all the noise, the buzz, the multi-tasking, the multiple roles that we play, let us be very proud of what we are doing. This is our contribution to our nation."**
  Mrs Rabia Shahul, Principal of Sengkang Primary, in the video screened during the celebrations.

- **"I believe that there is now a clearer articulation of our beliefs and values and systems. I think this is important because it binds us together as a community of professionals."**
  Mrs Susan Chan, in the video screened during the celebrations.

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These galleries not only help educators gain a deeper understanding of our past, but also inspire a sense of pride as we witness the indomitable spirit of our predecessors.

Visitors were encouraged to leave their thoughts and reflections after viewing the exhibits in written or recorded formats. The MOE Heritage Centre complements the timeless beliefs articulated by the Ethos by connecting us to our rich legacy, completing our sense of identity as a teaching fraternity.

Moving Ahead by Investing 'Inwardly'

Underlying these 3 key events is the recognition that because education is inextricably linked to our 'inner' values, beliefs and identity, it is important that we invest time in 'inner work'. Every teacher has a part to play in collectively building a profession recognised for its unique beliefs and values, which sets us apart from other profession and defines our identity from the past, to the present and into the future. Indeed, it is timely and apt to ask ourselves "Who am I?", "What can I do?" and "What can I be?" Only then can we truly take on the mantle of leading, inspiring and caring for the next generation.

Mrs A. Anand has been teaching for 28 years. She is currently the Lead Teacher of Ang Mo Kio Primary School. Her main area of interest is research. Over the years, she has shared her research knowledge with her teachers and has encouraged them to present papers at both local and overseas conferences.

Mr Andrew Chong Wenyi has taught for 2 years and is a General Paper/ Project work teacher at National Junior College (NJC). Prior to his teaching experience at NJC, he has done teaching stints at a broad range of schools, including a primary school in Romania and a high school in Shanghai. He finds teaching immensely rewarding and sees it not just as his job, but his calling.

3 Highlights from the MOE Heritage Centre

- **Challenging conditions in which education took place in the early days – Schools in the early days did not enjoy the luxury of a proper school compound. Instead, these schools often started with the barest of amenities. For example, the first Tamil schools, such as the Methodist Anglo-Tamil School, had their humble beginnings in shop-houses.**
- **Old textbooks used in schools – These old textbooks immediately brought back fond memories of how they had been used in school by students and teachers. It also enabled me to compare the amount of scaffolding teachers had to create to teach the syllabi of in the past and in recent times.**
- **The many stories featured in the Inspiration Garden were touching and thought-provoking. I especially liked the quotation by Lee Iacocca, quoted by Ms Gayle Ng, "In a completely rational society, the best of us would be teachers, the rest of us would have to settle for something less".**

Identity

It Takes More Than Two to Tango

Building Teacher Leadership and Ownership through the Academies

> In the current educational landscape, the professional development of a teacher is no longer represented by an exclusive Tango that the teacher does with the Ministry, but one where many parties are required to come together.

Traditionally, it takes two highly committed individuals to do a Tango. In the current educational landscape, the professional development of a teacher is no longer represented by an exclusive Tango that the teacher does with the Ministry, but one where many parties are required to come together. With the greater emphasis on Teacher Ownership and Teacher Leadership, the various academies have been launched recently to devote attention to building teacher-led learning communities.

***Teacher Ownership and Teacher Leadership** may be defined as teachers, driven by a sense of mission, individually or collectively, exerting intentional influence to achieve an enhanced state of professional excellence within a climate of trust and supportive relationships. It may be further understood according to the acronym i.d.e.a - Identity, Development, Empowerment, and Affirmation.*

Identity

It is acknowledged that a system that is steered and bound by a compelling moral purpose (Hargreaves & Shirley, 2009) is more likely to inspire teachers to realign their practices with the fundamentals of teaching and learning and exert intentional influence on professional learning to realise the best educational outcomes for their students.

Development

Collaborative professionalism plays a critical role in building a quality teaching force, where networked learning encourages teachers to conduct critical inquiry on their work (Cochran-Smith & Lytle, 1993).

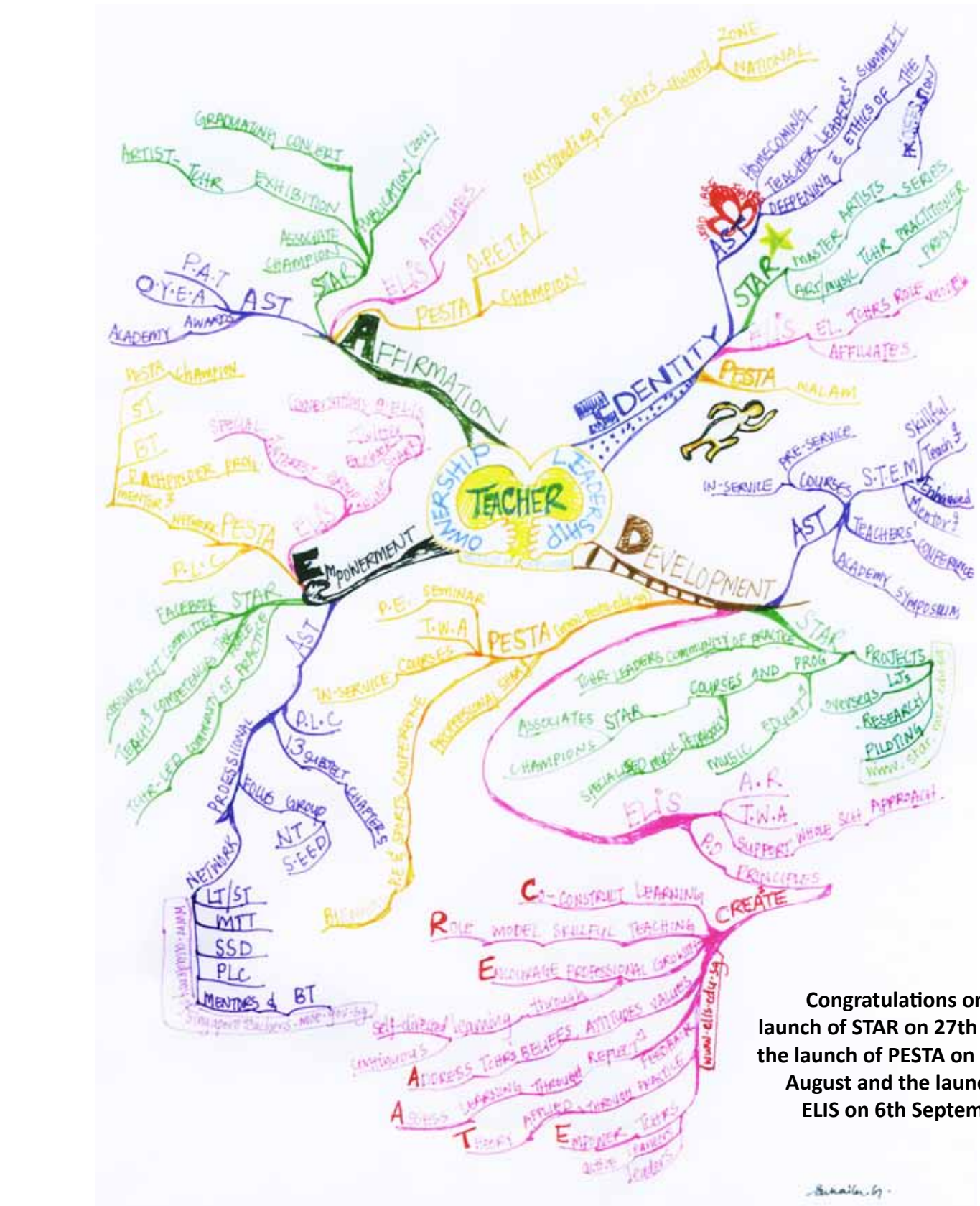
Empowerment

Teachers are empowered to enact distributed leadership and concepts of learning organization. With a sense of responsibility arisen from the shared ethos at its core (Hargreaves and Shirley, 2009), distributed leadership advocates leadership to reside in practice and involve multiple leaders, including informal teacher leaders (Spillane, 2005).

Affirmation

This is important in recognizing, encouraging and sustaining behaviours of teacher ownership and leadership in schools.

Identity



Congratulations on the launch of STAR on 27th July, the launch of PESTA on 16th August and the launch of ELIS on 6th September!

Identity

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Identity

We are Teachers, We are Professionals






Dr Ho Boon Tiong

In a few words our Prime Minister affirmed a teacher's importance as a professional in building the future generation of Singapore. "Virtually every study that has examined the role of the classroom teacher in the process of educating students has come to the straight-forward conclusion: An effective teacher enhances student learning more than any other aspect of schooling that can be controlled" (Marzano, 2006, p. 1).

The McKinsey Study (Mckinsey, 2007) of 10 top performing school systems found three important attributing factors: "getting the right people to become teachers; developing them into effective teachers; and ensuring that the system is able to deliver the best possible instruction for every child". Teacher quality made the largest difference in student achievement and the most effective school systems invested in their teachers (McKinsey, 2007). In view of this, Singapore has invested heavily in enhancing the quality of her teachers as professionals.

In this article, I would like to explore three essential questions which would clarify a teacher's role as a professional and also explain briefly what he or she needs to do to ensure quality instruction necessary for high levels of student success.

The questions are:
a. What does it mean to be a professional?
b. What beliefs about the profession do you hold and which professional development model will you use?
c. What research questions on teacher professionalism do you want to explore?

What does it mean to be a professional?

Teaching is a profession and you, the teacher, are a professional. "A profession is always a form of highly complex and skilled practice"(Shulman, 2004. p. 531). It has a "base of verifiable evidence or knowledge" that supports our work (Bransford, Darling-Hammond

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& LePage, 2005, p. 12). It requires advanced education and demands high standards in its practice.

As a teacher, I believe that teaching is a calling and it has strong connections to a teacher's beliefs, values and commitments. I would like to bring your attention to the *Teachers' Pledge* and examine how it reveals key aspects of professionalism shared by all professions.

1. The first goal of a profession is service. Professionals are educated individuals who serve their students, community or society with the bodies of knowledge and skill not readily available to the layperson. Our teaching is only as effective as our students' learning and our mission is to bring out the best in them! Hence, the statement from the Teachers' Pledge extols us to "**be true to our mission to bring out the best in our students**".

2. A profession demands high standards in its practice. As teachers, we have been called upon to be "**exemplary in the discharge of our duties and responsibilities**". To achieve this, the development of a professional community that aggregates and shares knowledge and develops professional standards is an imperative.

3. A professional does not only acquire knowledge but applies it innovatively to create powerful results. Knowledge alone will not make an individual wise or useful. It is knowledge judiciously applied, sometimes in very difficult and trying situations, that transforms lives. Teachers take on this heavy yet fulfilling responsibility of guiding their students to be "**good and useful citizens**". Through this, we fulfill our mission of moulding the future of our nation.

4. Do you believe in continuous learning? When was the last time you learnt something new that influenced your teaching? If teachers find it difficult to answer these questions, then perhaps it is equally difficult for them to "**pass on the love of learning to their students**". A professional knows that knowledge is ever evolving and he or she has to keep abreast with the new ideas and developments in the field. A teacher must always be a fresh overflowing fountain and not a stagnant pond full of algae if he or she wants to impact young lives. Making the conscious effort to continuously strengthen content preparation as well as pedagogy, curriculum development, and assessment is important to improve student achievement and bring about a love for learning in their pupils.

5. 'It takes a whole village to raise a child.' This Igbo and Yoruba (Nigeria) proverb reminds us that educating a child is a communal effort. In the same vein, the last statement of the *Teacher's Pledge* exhorts us to "**win the trust, support and co-operation of parents and the community so as to enable us to achieve our mission**". Teachers rarely work alone. Often, they collaborate with other teachers in their pursuit to achieve excellence. Indeed, working beyond their colleagues, they strive to engage other stakeholders (students, their parents and the community) to fulfill their mission of developing thinking and committed citizens equipped to meet the challenges of the future.

What professional development models can we look at to build the capacity of teaching professionals?

Teachers function as members of a community of practitioners. They believe in sharing knowledge, collaborating to create learning systems that support students, and working in ways to advance their pedagogical content knowledge. A good understanding of the pros and cons of various Teacher Professional Development (TPD) models will be useful for teachers as they decide on their development (See Table 1). Often, the choice for a particular model will depend on several factors such as the objectives of the programme, available resources, including budget and school's strategic thrusts and constraints.

Identity

Models	Strengths	Limitations
Standardized TPD The most centralized approach, best used to disseminate information and skills among large teacher populations	• Introduces a common knowledge base and skills to many participants • Broadens teachers' knowledge by providing access to new idea and strategies • "Pyramid" Training structure (one-to-many) facilitates large scale projects and rapid diffusion across systems • Can engender new alliances and relationships among participating teachers • Cost-effective means of distributing discrete sets of knowledge and skills intended to be implemented by all teachers	• "One size fits all" approach excludes contextual issues that may pose barriers to implementation in schools • Unless it is a series of workshops over a long period of time, the one-shot approach of workshops does not address the long-term, developmental nature of learning • Significant diminishment of skills and knowledge in the transfer from champion teacher to colleagues • Format does not provide follow up or support— there are essential components for success that require additional cost and capacity • Evaluation and accountability are difficult— classroom- based results only emerge over time, and are outside the workshop structure • Training facilities may not match school conditions. Champion teachers and teachers may not be able to apply TPD
Site-based TPD Intensive learning by groups of teachers in a school or region, promoting profound and long-term changes in instructional methods	• More conducive to building a community of practice • Locally based, focused on local needs and builds and cultivates local expertise • Supports sustained TPD cultivates expertise in schools	• Time intensive • Difficult to provide expertise when there is a shortage of teachers
Self-directed TPD Independent learning, sometimes initiated at the learner's discretion, using available resources Gaible and Burns (2005) suggest that self-directed activities should not be used as the primary means of providing TPD. Instead, they should be used to complement and extend standardized and/ or site-based TPD	• Flexibility • Opportunities for choice and individualization • Teacher can participate in online communities and access resources that would be otherwise unavailable	• Teachers must have access to technology or to other resources • When technology is not working, the learning opportunity is lost • Assumes that the teacher has already developed a high level of expertise • Only works with teachers who are highly motivated and autonomous • Since the teacher works alone, the attrition rate may be higher

Table 1: Adapted from Gaible, E. & Burns, M. (2005). Using Technology to Train Teachers: Appropriate Uses of ICT for Teacher Professional Development in Developing Countries. Washington, DC: infoDev / World Bank.

Identity

Over the last five years, in my consultancy work with many schools, I have observed a rising trend of more and more schools engaging in site-based teacher professional development. This augurs well for schools that are clear about their vision and mission and intent on achieving the long-term strategic goals. In conclusion, no matter which PD model a teacher or school chooses, there needs to be a continuous cycle of exploration, reflection, discussion, application, and knowledge building, through which teachers grow professionally and their students gain deeper knowledge.

What research questions on teacher professionalism would you want to explore?

Teachers are at the heart of delivering quality education. The prevailing focus of teacher research is to expand the teacher's role as inquirer about teaching and learning through systematic classroom research (Copper, 1990). Teachers are encouraged to continually build on and refresh their knowledge and expertise to better prepare our students for a challenging future. Engaging in research promotes professional dialogue and thus, creates a more professional culture in schools. The depth of a teacher's knowledge will also empower him or her as a professional by providing authority and credibility with students and other educational stakeholders.

In this section, allow me to just suggest three possible areas for research which you may wish to consider for initiating change and improving your teaching and learning environment.

Possible areas for research

Concept of teachers as professionals

a. What conceptions do teachers in the field (schools) hold about themselves as professionals?
b. How do these philosophical conceptions translate into actual classroom pedagogies?
c. How big is the gap, if any, between this 'theory-field' conceptualisation of teacher professionalism?

Building community of professionals

a. How are schools that are engaged in Action Research building professional communities?
b. What models of teacher professional development do these schools adopt?
c. What areas of research do schools undertake?

Teachers' workload

a. How much time do teachers spend on professional duties vis-à-vis administrative duties?
b. What trends are there when the time spent on these duties are analysed by positions of responsibility and by years of teaching experiences?

Conclusion

Teaching, no doubt, is a profession. Therefore, a teacher needs to have both competence and character since a profession contains a codified body of knowledge and carries with it the moral and ethical ideals. At the same time, to develop teachers professionally, one must choose a programme or model that best suits a particular school's context. Getting teachers involved as practitioner-researchers will proliferate and enhance the building of communities of professionals espoused by the Prime Minister's conviction of quality teacher professionals shaping 'tomorrow's people, tomorrow's students '.

Identity

Dr Ho Boon Tiong is the Founder and Principal Consultant Educationist from Class Point Consulting. Having spent a total of 25 years in education (7 years teaching in schools, 6 years with the Gifted Education Branch of the Ministry of Education and 8 years with the National Institute of Education, Nanyang Technological University), he now provides consultancy to schools, educational institutions and other corporate organizations on Action Research, Curriculum Development, High Yield Pedagogies and Assessment.
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Development

Teachers as Professionals

Dr Charles Chew (left) caught up with our Outstanding Educator In Residence (OEIR), Ms Promail Leung (centre) and Lead Teacher from Ngee Ann Secondary, Mr Abu Bakar B Farid (right) for a chat over coffee. They talked about brewing hot topics such as Teachers as Professionals and candidly shared their views on teacher ownership, culture of collaboration and the critical need for teachers to move to the front to helm school progress

Dr Charles Chew, Ms Promail Leung, Mr Abu Bakar B Farid

On Teaching As A Profession

Charles: In Singapore, teachers are known to be caring but it is only in recent times that we see ourselves as professionals. Promail, what is your concept of teachers as professionals?

Promail: To me a professional teacher is someone who believes that our practice is guided by values and sound beliefs. For me, I believe that it is my primary responsibility to facilitate and value-add to my students' learning. To be in sync with the rapid changes in the world (because it matters to my students), I update myself with the latest findings, discoveries and theories. Most importantly I believe in contributing to educational change in whatever way I can.

Bakar: Yes, Promail. To value-add to my students' learning, I believe in fostering wide connectivity. As a Lead Teacher, I initiate and also encourage others to lead Professional Learning Communities. Co-constructing knowledge and expanding our knowledge base is crucial to bringing about value-added improvements to our practice.

Charles: Yes! I would like to affirm the important role that Bakar plays in the Physics Subject Chapter and the Lead Teachers and Senior Teachers Network (LT-ST Network). Teachers in the Subject Chapter focus on subject mastery and pedagogical content and together they co-construct knowledge and build a culture of professionalism and pride. Above all, we strengthen our identities as teachers.

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Promail: In Hong Kong, a professional teacher is seen as someone competent. He or she has mastery of languages and generic skills such as critical and creative thinking and communication skills. He or she is expected to be aware of and understand global trends and developments especially those which take place in our mother country, China.

Professional teachers also demonstrate care and concern for their students' holistic growth by providing space and time for them to learn, allowing students to make mistakes and learn from them and spending time to understand not only students' needs but that of their families too.

On Teacher Leadership

Charles: That is interesting. I believe that many teachers demonstrate such key attributes to improve student learning. This leads us to the next question. To what extent do teachers in Hong Kong exercise ownership of their own professional development? How would you rate the level of teacher agency in Hong Kong?

Promail: There is a greater push for accountability these days. As such, we do see more and more teachers moving to the front to helm school progress.

Teachers raise discussions on school policies; it is a bottom up approach. Our school-based curriculum is usually teacher-led too.

Teachers are free to attend training and join different professional groups for professional development and to form groups or committees within the same sponsoring body. Sometimes, teacher leaders need to work with networks beyond schools so as to maintain partnerships for effective teaching and student learning. In addition, teacher leaders need to reflect and report observations to the school management team, mentor new teachers, coach experienced colleagues and provide instant support to ad-hoc or urgent issues that surface at schools.

Bakar: In our schools, teachers take ownership of their development by coming forward to share their innovative teaching strategies at school, cluster and zonal platforms. They also sign up for postgraduate studies, many pursuing them on a part-time basis.

As a Lead Teacher, I mentor and coach teachers. I also role-model collaborative professional development by being involved in professional networks beyond my school in areas such as pedagogy and classroom practices.

Let me share with you some of the things teachers in my school do as part of their professional development in the area of research. They adopt a collaborative approach. Teacher research gives them ownership of their professional growth because they need to inquire, reflect, analyze and then improve on their practices. They not only co-create knowledge but also share their findings of new ideas with others. Furthermore, they work alongside other teachers and school leaders to conduct and present research papers at local and international conferences.

On Being Creators Of Knowledge

Charles: Professional networks present very good opportunities for teachers to co-create knowledge. Moving from consumers of knowledge to creators of knowledge is a shift that Master Teachers are trying to role-model and lead. We have just designed an online course called "Demystifying Research". This is to reduce the psychological barrier between teachers and educational research. We are currently working out a roadmap to equip teachers with different entry levels in research. As we are constantly responding to an ever-changing world, our teachers need to continually co-create and deepen their knowledge.

Bakar: Charles is right in saying that we must move from becoming consumers of knowledge to creators of knowledge. In Ngee Ann Secondary, we use a blended approach to PLC. We have implemented an ICT-based PLC based on Microsoft's Live@Edu (Cloud

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Computing). It supports teachers in designing and critiquing of lesson units and sharing of good pedagogical ideas and practices culled from literature read.

We also collaborate with local and overseas institutions. Ngee Ann Secondary collaborates with AB Paterson (Australia) on Mathematics Modelling. I work with Harvard Graduate School of Education on 'International Case Study on Teaching for Understanding – A Systemic Educational Improvement'. Our school leaders collaborate with professionals such as Michael Furdyk and Michael Fullan via Webinars. My school is also the 'Microsoft Mentor School (2010)'. We are a mentor to schools in Vietnam, Australia and Philippines.

Promail: Bakar, I am very impressed with what your school is doing and I am sure there are many such schools in Singapore. Many of the schools in Hong Kong do have some common time-slot for professional collaboration. Teachers will bring their ideas and experiences together to create new teaching pedagogies, strategies and content. Some enthusiastic teachers form groups within their schools or with other schools to explore strategies for better teaching. In addition, some stand-free associations like CEATE TA (Chief Executive Award for Teaching Excellence Teacher Associations) work closely with EDB (Hong Kong Education Bureau), to provide professional development platforms for teachers in areas such as classroom observations and discussions.

However, in comparison professional networks in Singapore such as Subject Chapters, is a more structured one. Master Teachers here work closely with Lead Teachers in cluster schools. They hold regular subject chapter meetings and such professional conversations and sharing provide a more solid grounding for the establishment of long term relationships and rapport among teachers. I find this a very good practice that we from Hong Kong can learn from Singapore.

On The OEIR Experience

Charles: Promail, can you share with us your experience in working with the Academy and with some of the teachers in the Singapore schools?

Promail: Working with the Master Teachers and the officers from the Academy, and Singapore teachers has been a wonderful and meaningful experience for me. I feel so much at home as everyone I meet is caring, humble, passionate, competent, helpful and professional. Above all the Master Teachers are warm and enthusiastic and they have put in much time to guide me in my learning journey in Singapore. I have had opportunities to go on school visits, hold sharing sessions with schools, attend subject chapter meetings, engage in dialogues with educators from institutions such as NIE and also complete an Action Research project. During my school visits I was impressed by teachers who unselfishly share their knowledge, experience, expertise, practices and know-how. The teachers in the schools here do not work as competitive individuals but are willing to collaborate and help each other. There is great support for each other and that is amazing. They are so willing to learn. After the master class in Ngee Ann Secondary and Innova Junior College, I received e-mails from teachers who requested for a meeting with the Physics teacher group so that they could better their teaching to improve

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student learning. The zeal in them to learn from and with one another, and in the process co-create knowledge, as well as cascade that knowledge is remarkable. Such professionalism would surely increase the competence and strengthen the teaching fraternity. This thirst for learning and willingness to share has left an indelible mark in me about the Singapore teaching fraternity as a whole.

You can never put a full stop to your learning. I learnt all about Action Research in this trip and Dr. Charles Chew who is an excellent facilitator, instructor and collaborative mentor patiently guided me through the whole process. I aim to share this knowledge with many other educators in Hong Kong and spur them to adopt and adapt this form of collaborative professional inquiry.

Bakar: I want to add that it was such a pleasure working with someone so humble, passionate and professional. Promail, you are very approachable and you take on questions and answer them well. Your workshops use the hands-on approach and teacher participants are so enthused that the time they spend at the workshop exceeds allocated time. Do you know that the class you ran in the East-Zone was over subscribed? I think the greatest draw is the fact that you think out of the box and use simple materials to teach a complex concept such as light. I find your use of plastic mirrors instead of those made of glass to teach the concept of light, very fascinating. Another thing I am impressed with is your candid nature. You are willing to share your experiences, both good and bad, with the Master Class participants and I think they appreciate that. I am very glad that Dr. Charles linked you up with me. I will continue to collaborate with you, for such partnership will surely enrich the learning of our teachers as well as enhance my professional development.

Charles: What a pleasure to have this generative conversation with you, over nice coffee too! Your passion and enthusiasm is truly contagious and our teachers will surely find this conversation inspiring and introspective. I have certainly learnt much about the Hong Kong system and developed greater insights into Singapore schools! Let's take a toast to more collaboration and enriched learning!

Development

A Case Study on Science, Technology, Engineering and Mathematics

Mdm Aw Wai-Lin and Mr Kom Mun-Siong

Collaborative Professional Learning Through Lesson Study

A collaborative professional development approach using Lesson Study was designed to support the teachers in their planning and implementation of STEM (Science Technology Engineering and Mathematics) lessons as well as the construction of pedagogical knowledge. This form of collaboration enables teachers to exercise creative leadership together and assume responsibility for helping all students learn (Kohm and Nance, 2009). There was shared decision making as the teachers were involved in every stage of the study from its conception to completion. By overlaying the entire case study with the use of Lesson Study, teachers understood that the process was as much about teacher learning together as it was about the lessons themselves (Lewis et al, 2006).

Four Science teachers, two Mathematics teachers, the School Staff Developer (SSD), the Head of Department for Science from a Secondary School and a

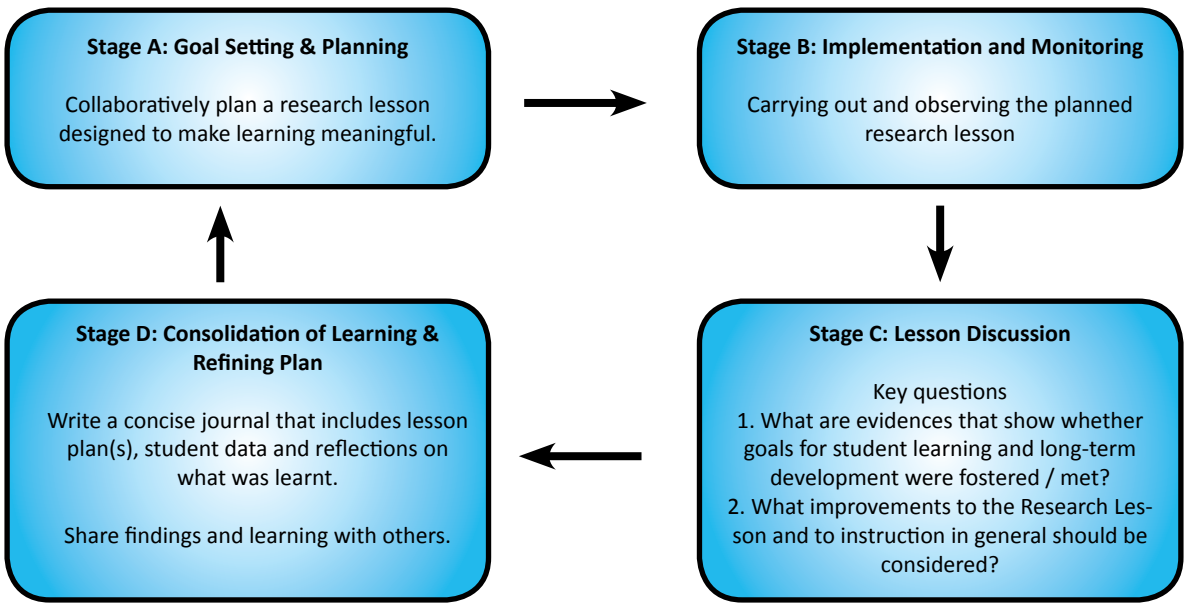

Figure 1. 4-Stage Lesson Study process.

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Master Teacher (Science) were involved in this study. The Science and Mathematics teachers co-designed the lessons and the resources. To reduce the influence of teacher variability, the same teachers taught both classes for Mathematics and Science. Arrangement was also made for the teachers to observe the research lessons.

Two Research Lessons served to guide the investigation. A single-group pre-post test was used on one research entity over 2 time-periods separated by the STEM intervention. The same group of students was pre-tested before the implementation of the first set of STEM lessons and then post-tested using the same measure. The feedback from the 1st Research Lesson was used to refine the 2nd Research Lesson and at the same time, the findings from the 2nd Research Lesson served as comparative findings to the 1st Research Lesson.

Data Collection and Findings

Both qualitative and quantitative data were collected. These multiple data sources included a perception survey, interviews with students and teachers' reflections. The interviews and reflections provided contextual understanding of how the students learnt and how the teachers perceived professional development. The pre and post survey was a structured questionnaire, administered to find out how STEM lessons had influenced students' interest in learning Mathematics and Science. In addition, the questionnaire also studied how knowing Standard Forms in Mathematics helped students learn concepts of scale, measurement and units in Science and how these concepts could be applied in Nanotechnology and in the real world.

The teachers designed tasks to help students see the application of Mathematics in Science and vice-versa. They also helped students connect with their prior knowledge and encourage them to think and to question. In doing so, teachers helped contextualise the learning for students and sustain their enthusiasm as they practised their inquiry skills. On their own, students had to go through the process of data gathering and learn how to apply their knowledge to complete the task. As a facilitator, the teacher gave minimal guidance, as they wanted to encourage students to 'own' their learning and discovery.

"It was the first time I was able to see the link between the two (Mathematics and Science)." (Student A)

"It helps to deepen my understanding. Mathematical theories can be used to solve science problems as shown in the lessons. In the past, teachers informed us to link the two subjects but we were unable to see the link. This is the first time I am able to see the link between the two."(Student B)

"Prior to the research lesson, I guess I have never had the chance to collaborate with the Science department to come up with a lesson. It was actually fun working together and trying out the experiment a few times to see why it did or did not work. In addition, through the research lesson, I found I was also learning, along with the students, aspects of the Science content covered during the lesson, which was new to me." (Mathematics Teacher A)

"The experience actually brings some new insights for me in terms of lesson delivery. Bringing in some of the concepts that are found in Mathematics into my Science teaching, and vice versa, helps to bridge the two subjects together." (Beginning Science Teacher)

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Findings of Case Study

After adopting STEM for two classes, the post test (perception survey) findings showed the importance of relating students' learning to real world applications. The students' interviews corroborated the results of the pre and post survey. It appeared that the use of STEM in learning Science and Mathematics indeed had some effect on students' learning. The reflections of the teachers suggested that they valued the collaboration and that they had benefited from the experience.

Catalyst - Leader, Learner, Encourager & Facilitator

In carrying out the 4-stage process, it was clear that the SSD played roles that were important to the completion of the study. For instance, the SSD played a leadership role in leading the team of teachers to work together. On another occasion, when the teachers were deliberating over the instructional design of the Research Lesson, the SSD acted as an encourager by nudging them to adopt inquiry and a more inductive approach to their lessons. During the post-lesson observation, the SSD played the role of a facilitator by distilling key learning points as the teachers shared their findings. In addition, the SSD also shared the learning he gained in working with the teachers and as the Lesson Study progressed.

The emergence of these roles: Leader, Learner, Encourager and Facilitator, which the SSD assumed suggested the need for a key person (from within the school) to be involved in every stage of the Lesson Study cycle. In assuming these four roles, we gathered that the term "the Catalyst" was most apt in describing the four roles of Leader, Learner, Encourager, and Facilitator. In this case, the SSD got the teachers to work together and adopt inquiry as part of their learning. Thus, the Catalyst might be regarded as an agent of change.

Considerations for Future Work

As the case study was administered for one cycle of Lesson Study and done using a single group experimental design, future work could consider the use of a control group (non-STEM lesson group) to eliminate internal threats such as prior knowledge and maturation of students. Students' interviews also showed a strong interest in continuing with this form of learning on current science issues like solar energy and green technologies.

The teachers felt that to level up students' understanding of industrial application, learning could be enhanced through relating these lessons to real world applications. For example, students could visit the NeWater Treatment factory in which waste water is treated and purified via micro-filtration and reverse osmosis, together with convention water treatment processes to become drinking water.

Conclusion

Though there were limitations in implementing this preliminary case study using STEM lessons, it has shown that STEM had improved students' understanding of how the use of Standard Forms, Scale and Measurement was applied in real world applications. Teachers found that the use of STEM across departments had raised their awareness of the importance of learning across disciplines and making the learning more integrative and connected to real-world. In addition, teachers affirmed Lesson Study as one of the collaborative professional development approaches that they could use.

For enquiries on the project, please contact
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Development

Aw Wai Lin, Alice, had taught for 23 years in secondary schools and was appointed as Master Teacher Science in 2003 and Principal Master Teacher in 2009. She retired in August 2011. She was actively involved in promoting inquiry-based learning for Science and engaged in pedagogical research and innovation. She was also interested in working with experienced teachers to share and engage in reflective practice so as to promote collegial learning amongst the teaching community.

Mun Siong has been serving as an Education Officer since completing the initial teacher training in 1998. Prior to his current posting with Educational Technology Division, he taught Chemistry, Lower Secondary Science and English at Dunearn Secondary School, followed by a stint as a Professional Development Officer with Teachers Network and subsequently HOD for Science at Kuo Chuan Presbyterian Secondary School. One of his professional interests lies in working alongside teachers to expand their vision and capacity for 21st century education in both curriculum and character development domains.

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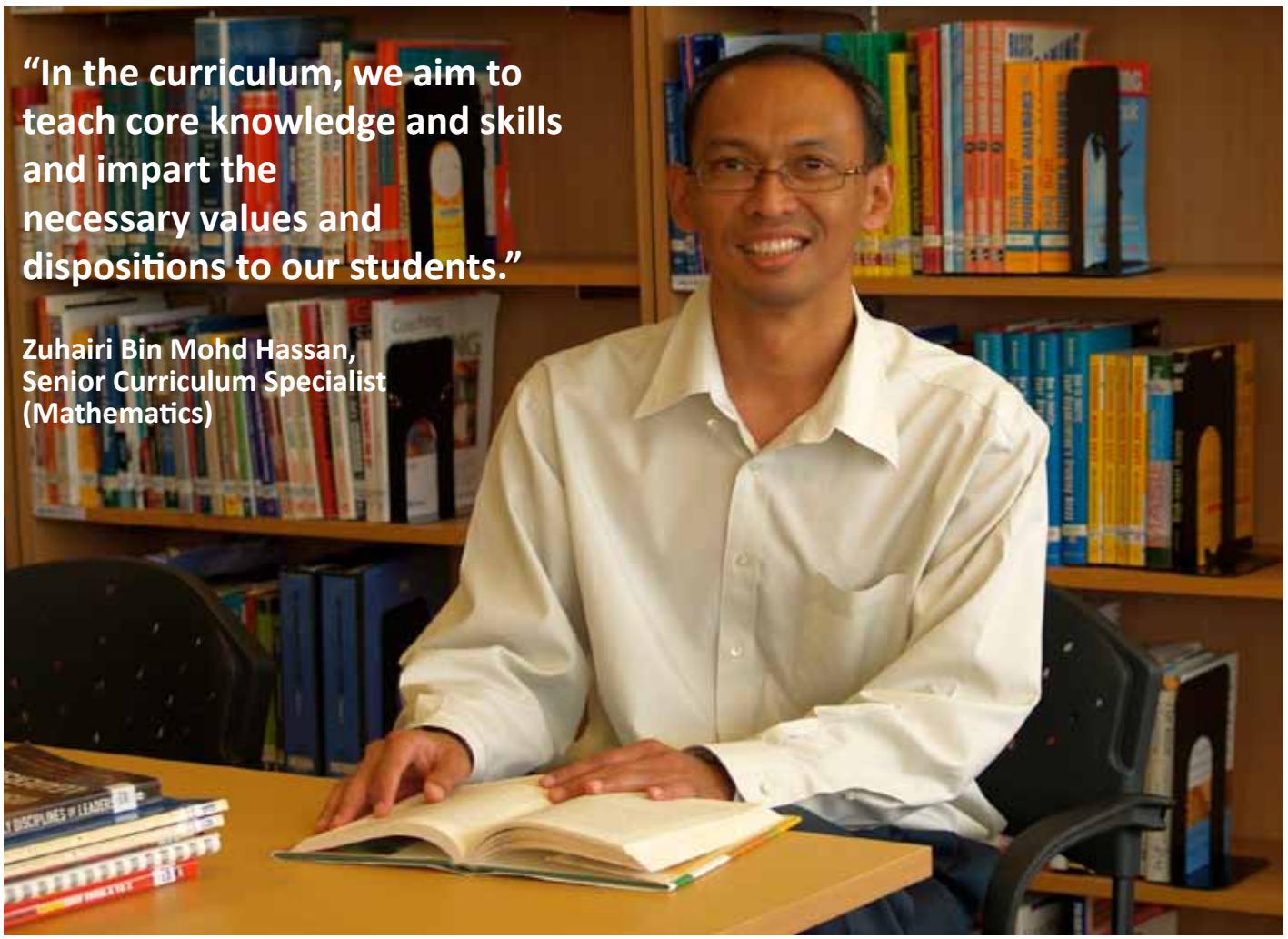
Empowerment



Senior Specialist, Zuhairi Bin Mohd Hassan, supports teachers to plan, teach and reflect on their lessons, through his work in curriculum planning and research

Mr Akmal Bin Abd Rahman & Mr Chee Meng On

As a Senior Specialist, what are key pieces of work that you have been involved in?

I have been involved in the past Mathematics Syllabus reviews, looking at content reduction in 1999 and reviewing the syllabus in 2001 and 2007. I am also involved in the ongoing 2013 review. In addition, I am involved in research projects such as the Sustained Support for Mathematics (SSM) at the Primary level and the Normal (Technical) (NT) Mathematics project.

It looks like you play a key role in ensuring that the Mathematics syllabus is refreshed every 6 years. What is the greatest challenge in curriculum review?

I would say the most difficult challenge is to reach a consensus on the aims of the curriculum. The aims have to take into consideration 21st century skill-sets and meet the needs and aspirations of the students. In a sense, the aims are a synthesis and an embodiment of the views from various stakeholders that we consult. A good set of aims can be the guiding light, influencing teaching and learning, assessment, and implementation.

Empowerment

How then does MOE strike a balance between breadth and depth in curriculum review?

In the curriculum, we aim to teach core knowledge and skills and impart the necessary values and dispositions to our students. Students who show aptitude are given more exposure which can take various forms. Besides leveraging the use of ICT, the brightest students can also benefit from an extended structured programme with mentoring and coaching by suitable persons, and attachments to appropriate institutions. There is evidence in educational literature that support these measures, and one example is the meta-analysis by John Hattie.

Let's turn our attention to your work in research. As a senior specialist in Mathematics, what concerns are you trying to address with your research?

We are trying to find the most effective intervention for students who are weak in Mathematics. The SSM is a project that makes Mathematics less abstract through the use of Mathematics manipulatives. Another project-the NT Mathematics project, leverages on digital textbooks to expose students to real-life contexts and activities to support their learning. My research work in the SSM and NT Mathematics projects will help us determine if these intervention strategies do result in improving student learning attitude and achievement.

How do you translate your research to inform Mathematics teaching practice in schools?

Evidence from research will be shared with schools in many ways such as through HOD meetings, workshops for teachers, Mathematics conferences, and the Principals' Curriculum Forum. We also work closely with the publishers to incorporate research evidence into textbooks, thus ensuring that evidence-based practices positively influence teaching and learning in the classrooms.

Overall, what would be your greatest satisfaction in the work that you do?

Satisfaction for me means that our work can impact large numbers of students and teachers. The flip side to gaining this satisfaction is the challenge to produce quality work which teachers and students can leverage on since our work can influence large numbers of students and teachers. Another challenge is time. Nobody seems to have enough of it.

Footnotes

[1] Hattie, J. (2009). Visible Learning: A synthesis of over 800 meta-analysis relating to achievement. New York: Routledge.

[2] The PETALS Framework comprises five dimensions of engaged learning. These five dimensions are Pedagogy, Experience of Learning, Tone of Environment, Assessment and Learning Content. Student-centredness is at the heart of the Framework.

Zuhairi Bin Mohd Hassan is a Senior Curriculum Specialist (Mathematics) at the Curriculum Planning and Development Division (CPDD). He holds a Masters in Curriculum and Teaching from Teachers College, Columbia University. Zuhairi has had varied experiences, from developing the Kindergarten Curriculum Framework to developing the PETALS framework which guides the Teach Less, Learn More (TLLM) efforts in schools.

Affirmation

i.d.e.a^2 Salutes PAT and OYEA Winners!

Our heartiest congratulations to the outstanding teachers who were awarded the nation's pinnacle teaching awards - the President's Award for Teachers (PAT) and the Outstanding Youth in Education Award (OYEA).

THE President's Award for Teachers recognises excellent teachers for their critical role in moulding the future of our nation. These teachers inspire their students and peers to greater achievements through their words and deeds. They are also models of commitment to continual learning and enterprise. The five awardees were conferred the awards by President S R Nathan at the Istana on 26 August 2011.

The Outstanding Youth in Education Award honours the role of young educators in moulding the future of the nation, their youthful idealism, enthusiasm and active involvement in the development of youth beyond the formal curriculum. This award is presented by the National Youth Council and supported by the Ministry of Education. The three awardees were conferred the awards by Minister for Education, Mr Heng Swee Keat, at the Teachers' Investiture Ceremony, held at the National Institute of Education on 8 July 2011.

These exemplary teachers are role models for the fraternity and their commitment to the profession and to their students has indeed made a difference! We salute these educators who epitomise professionalism, drive and commitment in the journey towards excellence.

President's Award for Teachers 2011

Mdm Joyce Chua Mui Ling
Woodlands Ring Primary School

Mdm Dianaros Bte Abdul Majid
Haig Girls' School

Miss Serene Han Tui Kin
Monfort Junior School

Mr Chong Jack Sheng
Woodlands Ring Secondary School

Mr Ganesan s/o Rahman
Fairfield Methodist School (Secondary)

Outstanding Youth in Education Award 2011

Miss Teh Meijie Jerine
Teck Ghee Primary School

Miss Cheng Wei Na Edwina
Compassvale Secondary School

Mr Syed Faisal Bin Syed Ismail
Greendale Secondary School

Affirmation

President's Award For Teachers

Standing (Left to right): **Mr Chong Jack Sheng, Mr Ganesan s/o Rahman**

Seated (Left to right): **Mdm Joyce Chua Mui Ling, Miss Serene Han Tui Kin and Mdm Dianaros Bte Abdul Majid**

"I am very grateful to receive the President's Award for Teachers 2011. As an educator, it is a great honour to receive the recognition and affirmation for the positive impact I have made on my students and colleagues. This will spur me on to scale even greater heights as a professional and in my pursuit of excellence in education."

Mr Chong Jack Sheng
Woodlands Ring Secondary School

"I believe that teachers make a difference to the schooling experience of our pupils and the President's Award for Teachers recognises that teacher leadership is an important factor."

Mdm Dianaros Bte Abdul Majid
Haig Girls' School

"The award has affirmed my belief that the key to making a difference in the lives of the children lies in the heart of a teacher – how much you care for the children will determine how you teach, what you teach and where your influence can reach."

Miss Serene Han Tui Kin
Monfort Junior School

"The award serves as a personal affirmation of the good work put forth in teaching over the past 19 years. It is a celebration of the number of lives I have positively influenced. It opens up new possibilities that would otherwise not have been possible as I journey on to lead, care and share."

Mdm Joyce Chua Mui Ling
Woodlands Ring Primary School

"I believe in doing my best to encourage all my students to pursue their dreams and passion. Many of them have been successful, I am pleased to note. Being an awardee of the President's Award for Teachers will motivate and encourage me, as an educator, to continue to be a beacon of hope to my students."

Mr Ganesan s/o Rahman
Fairfield Methodist School (Secondary)

Read their inspiring stories from 8th issue of *'Teach to Inspire, Inspire to Teach'* here.

Affirmation

Outstanding Youth in Education Award

"Our teachers touch the lives of students in ways big and small. Today, we honour three teachers for their extraordinary work and for inspiring their students."

Mr Heng Swee Keat, Minister for Education, at the NIE Teachers' Investiture Ceremony on 6 July 2011.

Back row: **Miss Teh Meijie Jerine**
Front row: **Mr Syed Faisal Bin Syed Ismail and Miss Edwina Cheng**

"Being conferred the Outstanding Youth Education Award is a humbling experience for me. When I help my students make sense of their lives, I fully appreciate what it means to be a teacher."

Mr Syed Faisal Bin Syed Ismail
Greendale Secondary School

"OYEA has made me a more confident person and teacher. It is an additional boost for me, to push myself further to learn and do even more, so as to serve and benefit others – my students, fellow teachers and stakeholders."

Miss Cheng Wei Na Edwina
Compassvale Secondary School

"I am deeply honoured to win this award and I am appreciative of the recognition of my effort. I am excited and inspired to continue to do my best to help my students succeed and be the best they can be."

Miss Teh Meijie Jerine
Teck Ghee Primary School

Dear i.d.e.a²

What is a Professional?

Dear *i.d.e.a²*,

I had an interesting conversation with my colleagues on what professionalism meant. Many of them linked it to doctors, lawyers and engineers. They also observed that these professionals drew upon a body of knowledge specific to their profession and conversed with others in the profession using language that is rather specific.

How are teachers different? I have observed that teachers prefer working on interventions that are more intuitive as opposed to tapping on more evidence-based knowledge. How can I encourage teachers in my school to read more to inform their teaching practice? For those who are interested, where should I point them to for professional literature?

School Staff Developer (SSD)

Dear SSD,

It is interesting that your colleagues and you compared the teaching profession with other professions. In fact, you might want to refer to Professor Lee Schulman's talk on The Signature Pedagogies of the Professions of Law, Medicine, Engineering and the Clergy: Potential Lessons for the Education of Teachers (http://hub.mspnet.org/index.cfm/11172) which presents unique lenses through which we could view our teaching profession.

On your question on how teachers could tap on evidence-based knowledge to inform their practice, you may want to begin with small steps. You could tap on time-tabled time set aside for professional learning to encourage teachers to develop the habit of referring to professional literature. Here are some possible ways:

1. Share one or two articles or books that have direct relevance to a specific challenge or shared problem in the learning team or department.
2. Make available summaries, reviews and abstracts rather than full-length articles to help allay teachers' fears at the beginning.
3. Increase your teachers' awareness of and accessibility to professional literature. Some online resources that teachers may refer to include:
   - ERIC (Educational Resources Information Centre): http://www.eric.ed.gov/ or http://www.eduref.org/
   - EHIS (EBSCOHost Integrated Search): http://readacademy.carl.org/resources-and-services/e-resources/
   - Google scholar: http://scholar.google.com.sg/
   - Libris NIE: http://www.acis.nie.edu.sg/nie-acis/libris/index.do (if you are a member)

i.d.e.a²

Dear i.d.e.a²

What is Networked Learning?

Dear *i.d.e.a²*,

Recently I have been hearing the term 'networked learning'. What exactly is 'networked learning'? Why do we need to do networked learning?

Interested Collaborator

Dear Interested Collaborator,

Thanks for raising this question.

According to the National College for School Leadership, networked learning can be said to take place when individuals come together in groups from different environments to engage in purposeful and sustained developmental activity informed by the public knowledge-base, utilizing their own know-how and co-constructing new knowledge together.

The key outcomes of networked learning are:

1. Development of identity and understanding of teacher-leadership through professional knowledge creation and sharing where participants learn from, with and on behalf of others;

2. Collaboration through networked learning for improved student learning and outcome; and

3. Learning through reflective practice where co-creation, codification and cascading of new knowledge leads to a change in professional knowledge and practice.

In networked learning, teachers can draw upon the interdependent fields of practitioner knowledge and public knowledge to co-construct new knowledge. This new knowledge then further extends practitioner and public knowledge. In a collaborative inquiry process, there is collective responsibility and teachers feel empowered by the difference they can make to one another and to the quality of teaching and learning in schools.

Many of our teachers are already involved in networks, either within their schools as part of a Professional Learning Community (PLC) or in their clusters and zones. The Academy of Singapore Teachers aims to connect with and leverage upon these existing networks. This may be done through the Subject Chapters which promote networked learning within subject disciplines. In addition, there are also networks that connect teachers by roles (such as the LT-ST Network. Yet other networks connect teachers by professional interests (such as the SEED professional focus group and N(T) professional focus group.)

Dear i.d.e.a²

These new networks at the Academy seek to connect with and leverage existing networks in the clusters and zones, facilitating learning that is dynamic and diverse, enabling greater ease with which new learning is scaffolded and good practices cascaded.

For more information about networked learning , please refer to:

1. Cochran-Smith, M., & Lytle, S. L. (1999). *Relationships of knowledge and practice: Teacher learning in communities.* Review of Research in Education, 24, 249-305.

2. Hatch, T., Bass, R., & Liyoshi, T. (2004). *Building knowledge in teaching and learning: The promise of scholarship in a networked environment.* Change, 36(5), 42-49.

3. Jackson, D., & Temperly, J. (2007). *Professional learning comunity to networked learning communities.* In L. Stoll, & K. L. Seashore, Professional learning communities - Divergence, depth and dilemmas.

4. McLaughlin, M. W., & Talbert, J. E. (2006). *Building school-based teacher learning communities: Professional strategies to improve student achievement.* NY: Teachers College Press.

5. National College for School Leadership, Networked Learning Communities - learning about learning networks. Retrieved from http://resources.curriculum.org/secretariat/files/Jan30InternationalIssue.pdf

6. Veugelers W. & O'Hair, M.J., (2005). *Network Learning for Educational Change.* Berkshire : Open University Press

7. Wenger, E. (1998). *Communities of Practice: Learning, meaning and identity.* Cambridge University Press, NY, USA.

i.d.e.a²

Dear i.d.e.a²

What are Subject Chapters?

Dear *i.d.e.a²*,

Some of my colleagues have been invited to attend Subject Chapters meetings. I believe this is new to many teachers. Why were the Subject Chapters set up at the Academy? How can I learn more about the Chapters and also to participate in its activities?

Enthusiastic Teacher

Dear Enthusiastic Teacher,

We are glad to learn of your keen interest in the Subject Chapters.

Subject Chapters are focal points for teacher development and professional sharing in the respective subject disciplines. Each Chapter focuses on subject mastery and pedagogical content knowledge. The Chapters draw in subject-specific expertise and complement the Academy's work in the other areas of professional excellence.

The key objectives of Subject Chapters are to:

- raise the professional standard in the respective subject disciplines
- serve as a focal point for teacher collaboration and networking
- build a culture of professionalism and pride in the teaching fraternity

We have started 13 Subject Chapters, namely Biology, Chemistry, Physics, Lower Secondary Science, Primary Science, Primary Mathematics, Secondary Mathematics, History, Geography, Social Studies (Secondary), Principles of Accounts, Home Economics and Design and Technology.

The Subject Chapters work closely with the other divisions in the Ministry of Education (MOE) to facilitate the implementation of curricular, assessment and pedagogical initiatives. Subject Chapters also link teachers with the Academy, MOE divisions and professional teacher associations.

Who are in the Subject Chapter Core Team?

These Subject Chapters are led or co-led by Master Teachers with representatives from schools and zones, AST, National Institute of Education (NIE), Curriculum Planning and Development Division (CPDD) and Educational Technology Division (ETD).

Dear i.d.e.a²

Who else work alongside the Subject Chapters?

Within Subject Chapters are the Lead Teachers and Senior Teachers Networks and Beginning Teachers Networks. The key objective is to bring together Lead Teachers, Senior Teachers and Beginning Teachers of the same subject to focus on teacher development and professional sharing. In addition, the Subject Chapters also work closely with the Zonal Centres of Excellence, Cluster Centres of Learning and Instructional Programme Support Groups (Junior Colleges).

How can teachers participate in Subject Chapter activities?

Subject Chapter activities are open to all teachers who teach that subject. These include zonal and national workshops, professional sharing and Master Classes. Details of the PD activities can be found in the respective subject chapter websites at http://www.academyofsingaporeteachers.moe.gov.sg. In addition, the Subject Chapters also hold dialogue sessions with teachers in the respective subjects.

Do feel free to drop us a line at MOE_Academy@moe.gov.sg if you have any suggestions or feedback concerning Subject Chapter activities.

i.d.e.a²

If you have any Professional Development related questions that you would like to pose, or if you have any insights to share in response to the issues raised, please email us at: MOE_Academy_Publications@moe.edu.sg.

We welcome your IDEAS indeed!