

# Developing Reflective Teachers: The Experience of Two Modules in the Teacher Training Programme at the National Institute of Education, Singapore

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The Singaporean education system is undergoing many changes in order to develop schools and nation which cultivate learning and education. A crucial success factor to these initiatives is the teacher. Singapore needs reflective teachers who can continually reflect upon their own practices to find better ways of teaching as well as maintain their purpose and direction amid a sea of changes. This article describes attempts during the years of 2002 to 2004 to develop trainee teachers into more reflective teachers at the National Institute of Education (NIE), focusing specifically on the experience of two revamped pre-service teacher education modules. The experience suggests that a social constructivist approach, in which trainee teachers discuss and debate critical issues impinging on their professional practice, is more successful than the traditional 'tell and regurgitate' approach, in developing reflective teachers.

Key Words: trainee teachers, teacher education, reflection, social constructivism

The 21<sup>st</sup> century promises a future of intense global economic competition and shifting competitive advantages, a future where knowledge is fast becoming the most precious asset of production, sidelining capital and labour (Drucker, 1993). The Singaporean education system, together with other education systems the world over, is attempting to respond to the demands of the global economy in a

knowledge age. There is constant talk by political leaders of the need to re-examine old ways of thinking and doing things, and of the concomitant need for creativity and innovation. The 'Thinking Schools, Learning Nation' vision, which was launched in 1997 by Senior Minister Goh Chok Tong, who was then the Prime Minister, focuses on developing all students into active learners with critical thinking skills, and on developing creativity and entrepreneurship within schools. The previous Minister for Education Teo Chee Hean has said:

Our students need to learn to be adaptive, flexible and creative... (they) must believe in their own capacity to create knowledge and to solve problems rather than wait for some external "expert" to provide them with the solution... we need to develop the *thinking* student (Teo, 2001).

The education system is therefore currently in a state of flux. Many initiatives were introduced as a response to the vision of developing thinking schools and a learning nation. In particular, since 2000, an ability-driven education paradigm has been adopted for the education system in

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contrast to the old efficiency-driven one. Under this paradigm, instead of a one-size-fits-all education package, teachers now are expected to identify the diverse talents and abilities of individual students so as to maximally develop and ‘harness’ their unique potentials. The emphasis is on the development of creative and innovative young people in their respective fields.

A fundamental factor that is crucial to the success of this policy initiative is the teacher. No longer is it therefore sufficient that the teachers in our schools deliver prescribed bodies of knowledge and skills as efficiently as possible to as many students as they can, a sure-fire recipe for the late 20th century that underpinned Singapore’s rapid economic success in many ways. Teo has pointed out that:

to meet the educational challenges of the 21st century, our teachers will need to go beyond their traditional roles of information-giver and even facilitator, and be positive role models of the learners themselves - continually reflecting on their own practices, sharing good ideas and seeking out best practices, constantly challenging themselves to find better ways of approaching a task or solving a problem (Teo, 1998a).

In Elliot’s (1996) model of the ‘new professional’ teacher, the acquisition of knowledge about the profession should proceed interactively with reflection on real practical situations. There are two pressing reasons why there is a need in Singapore to develop the *reflective* teacher:

- While the Ministry of Education (MOE) can develop policy initiatives, it is the individual teacher who must ultimately determine what the policy means to the students in the classroom and how each student may be developed. In an ability-driven education paradigm, teachers must interpret policy initiatives and customise programmes to most benefit their students. According to Teo, “our education professionals must be confident and proactive enough to want to cook their own food instead of waiting for the central kitchen to serve up a complete meal” (Teo, 1999).
- Moreover, teachers must be reflective so that they will always find purpose and direction amid a sea of changes and not implement changes merely for the sake of change or because of top-down policy directives. Teo has said, “Our education system is changing to meet these new demands, and to better prepare our students for the 21st century. But in this sea of change, some things remain the same. As

teachers, your most important contribution is to be a source of inspiration, to be guide and mentor to our young. You must seek to nurture the whole child, by focusing on his character development, by whetting his sense of motivation, and by bringing out his capacity to learn” (Teo, 1998b).

The new professional teacher is therefore one who should reflect on his or her practice through critical thinking about issues impinging on his or her professional life. He or she thinks critically about what education policies really mean in context and continually seeks to educate his or her students better and in more holistic ways. In such an educational paradigm, teachers must be carefully trained to be reflective practitioners. Thus, teacher education programmes play a significant role in preparing teachers who are familiar with reflective practices.

This article describes attempts during the years of 2002 to 2004 to develop two cohorts of National Institute of Education (NIE) trainee teachers into a new generation of reflective practitioners. The NIE has been, and still is, the sole provider of pre-service primary and secondary teacher education programmes in Singapore over the last forty years. This article focuses specifically on two modules – *The Social Context of Teaching and Learning* (hereafter referred to as SC) and *The Teacher and Society* (hereafter referred to as TS). The first of these modules is compulsory for all trainee teachers in the one-year Postgraduate Diploma in Education programme that enrolls individuals who possess a Bachelor degree. The second was, up until 2002, compulsory in the second year of the Bachelor of Science (Education) or Bachelor of Arts (Education) degree programme but is currently one of four electives in the BA/BSc programme. Both modules address societal issues in education such as National Education, equality of educational opportunity, and the implications of globalisation on education.

In the 2002-2003 academic year, the respective module coordinators of these two modules (incidentally, the second and third authors of this article) decided to revise the mode of conducting and assessing the modules in order to better develop reflective teachers. This article introduces the philosophy and theoretical underpinnings of the two modules before describing their learning structures. It then presents some comments from the trainee teachers on their learning experiences in the modules before discussing some areas of improvement for the modules.

## **The Social Constructivist Approach**

The professional education of individual teachers begins at the NIE but does not end when they graduate. All beginning teachers will still have to 'learn the ropes' at the particular school they subsequently join, mainly through the formal and informal interactions among staff in the school. Ideally, teachers, in formal and informal school situations, should co-construct with colleagues and their students their understandings of how they should teach, manage their classes, build rapport with students and other stakeholders in education, and contribute to various school activities. There are two important differences between this approach towards teaching and learning and the traditional mode of 'teacher-telling', passive student learning and subsequent 'regurgitation' of subject content. Firstly, learning is an active process of constructing, rather than acquiring, knowledge. Whatever gets into the mind of an individual has to be constructed by the individual through knowledge discovery (Piaget, 1960). This is the constructivist position of knowledge. Secondly, knowledge is created through interaction with people. The social orientations of constructivism, commonly linked to Vygotsky (1978), emphasise the cultural and social context in which learning takes place. From this perspective, knowledge is not something people possess somewhere in their heads but rather, something people do together (Gergen, 1985). Knowledge is created through the interaction of learners, never in a social vacuum. It is our contention in this article that this approach, taken together with reflection as an important vehicle of learning, is as important in teacher education as it is in classrooms and schools, especially in a societal and global milieu that is rapidly, and probably daily, being transformed by new knowledge and technologies, and where knowledge and technologies become obsolete within the space of a few years.

## **The Role of Reflection in Teacher Education**

As one of the aims of the SC and TS modules is to develop the reflective professional teacher, the two module coordinators recognised that the traditional lecture mode of delivery and passive mode of learning would not encourage trainee teachers to learn the skills and practice of actively thinking and reflecting on the educational issues presented in the two courses. If pedagogy in the courses remained the same as it had always been, students would most likely fall back on the more familiar skills of memorisation and regurgitation of factual material (constituting 'the right

answer'). Rather, it was decided that the trainee teachers would benefit more from being encouraged to think about problematic issues and dilemmas for themselves, and to discuss them in depth with tutors as well as fellow trainees, thereby learning to construct meaningful knowledge on these issues for themselves.

Basically, reflection may be defined as an active and deliberate process of thinking which addresses practical problems, taking into account underlying beliefs and knowledge before arriving at possible solutions in a sequence of inter-connected ideas. Reflection results in the careful consideration and implementation of professional action, as contrasted with routine action which may derive from impulse, tradition or authority (Hatton & Smith, 1995). The notion of reflection was discussed by Dewey (1933), who drew on the ideas of earlier thinkers such as Plato, Aristotle and Confucius. Schon (1983, 1987) asserts that professionals should learn to frame and reframe the often complex and ambiguous problems they face. They need to make reasoned judgements about these problems, test out their interpretations of the situation, evaluate the options and then modify their actions while on the job.

Therefore, in the SC and TS modules, teacher education is not seen as an individual endeavour in regurgitation, but rather, as a process that is anchored in a social constructivist and reflective learning model, where knowledge is created through an interactive and consensual interpretation of shared reality. Trainee teachers in both the SC and TS modules are given novel opportunities to reflect on and co-construct professional knowledge. They are provided with appropriate teaching material and reading resources, as well as the facilitation by tutors in supportive and interactive small group tutorial structures.

The SC and TS modules provide opportunities for the trainee teachers in these courses to explore and reflect upon professional issues of concern, both individually and in groups. Such issues include the impact and consequences (intended and unintended) of different educational policies such as streaming and National Education (dealing with issues of citizenship education and promoting social cohesion in an ethnically diverse society), as well as practitioner issues such as managing relationships with parents. Opportunities for individual reflections on these issues, incorporating students' personal experiences and observations of school life, are written up independently either before (for SC) or after tutorial discussions (for TS). Groups of 4 to 5 students take turns to present seminars on selected topics for further class reflection and discussion. The groups presenting the seminar

have to summarise and reflect on their understanding of the topic in a joint report, which is assessable.

Tutors facilitate the weekly seminar groups of between 15 and 25 trainee teachers. Instead of playing the traditional role of ‘infallible experts’ (Elliot, 1996), who dish out established ‘truths’ and ‘principles’ (otherwise known as ‘the right answers’), the tutors’ role is to ensure that the trainee teachers are engaged in thinking through emergent issues in the seminar. The tutors meet with each of their respective presenting groups prior to the class seminars and provide feedback on proposed seminars. The tutors encourage the groups to examine what may be regarded as ‘unchangeable’ situations in school in critical new ways.

In many cases, the trainee teachers arrive at the realisation that education and schooling matters are anything but clear-cut. This is a necessary step towards developing critical reflective practitioners. Fullan (1993, 1999) argues that it is only through reflection at the personal, group and organisational levels that teachers will begin to question their own practices and think differently about teaching and learning. The two modules considered here are thus designed to provide reflection at the first two levels as an initiation into the discipline of reflective practice.

The seminar group is a shared structure that both modules leverage on to draw students from different subject specialisations and socio-educational backgrounds to form small learning teams, focused on the task of reflecting on and debating key educational issues. This mirrors the evolving situation in schools where interaction and discussion are forming the new basis for students to generate innovative solutions to problems. In this sense, the SC and TS modules deliberately create opportunities for trainee teachers to network with other trainees, most of whom are strangers to one another at the start, in order to explore issues and develop strategies through synergistic thinking.

### **The Social Context of the Teaching and Learning Module**

The SC module is covered through a combination of on-line lectures and weekly small group (class sizes ranging between 15 and 20) seminars. While it provides the trainee teachers with factual knowledge about key national education policies and programmes, more importantly, the trainee teachers are expected and encouraged to engage in individual reflection and class discussion on these policies and programmes. The module also covers issues such as teachers’

relationships with parents of students and teacher professionalism.

Instead of ‘live’ large-group lectures, individual trainee teachers have the responsibility of downloading lecture content at their own pace and time from an NIE website. They are also provided with a list of suggested readings for each of the five topics in the module. Each of the topics is covered not only through an on-line lecture but also through a small-group seminar session lasting two hours each time.

A group of between three and five trainee teachers facilitates each seminar group meeting after receiving advance notice of which session they are in charge of. The trainee teachers who organise the seminar each week are expected to identify specific questions on the issues and lead their classmates in discussing and debating these questions. In addition, each of the members of the audience is expected to come to class having written a 500-word pre-assigned reflective essay that is pertinent to the topic under discussion. This reflection is not a regurgitation of lecture material. Instead, trainee teachers are expected to provide their own insights on the issues at hand. This encourages the trainee teachers to reflect on the issues independently before coming together for a collective discussion. In this way, reflection is both an individualised process of mind, culminating in this case in an individual essay, as well as a continued process of seeking alternative opinions or perspectives from the tutor and fellow classmates. Such “interactive reflection” allows different views and perspectives to emerge so that individuals are enriched beyond the limitations of their personal reflections.

The topics in the SC module can be fairly controversial because there is ample scope for moving beyond narrow prescriptive pedagogy and engaging instead in lively, at times heated, discussion about educational ideas. For example, how does one balance the need for developing talents with upholding social egalitarianism? Are there structures and policies that hinder greater equality along gender, ethnic and social class lines? The module provides trainee teachers a rare opportunity to hear candid opinions from one another about issues that matter to them and what these issues mean to each individual.

The conduct of the SC module represents a breakthrough from the past models of teacher training that have been framed so that learning becomes an individualised pursuit. Lecturers preach what they think are ‘truths’ to learners who in turn regurgitate and apply them in individualised examinations and assignments. The SC module is thus in line with a recently emerging school of thought that places self-

organising interactions, with their intrinsic capability to produce emergent coherence, at the centre of knowledge creation. Through these complex responsive processes, knowledge is created and transformed through networks of human interaction (Stacey, 2001). The SC module requires beginning teachers to question deeply held assumptions they hold about how schools operate and how teachers can bring about reforms in the process of teaching and learning. The trainee teachers make such assumptions explicit and allow themselves and their classmates the opportunity to question them.

### **The Teacher and Society Module**

Up until 2002, the TS module was a mandatory module for all second-year trainee teachers enrolled in the four-year Bachelor of Arts and Bachelor of Science (Education) programme at the NIE. Over the past few years, this module has undergone some fundamental changes in order to incorporate stronger elements of reflection and critical thinking. Initially, this module was conceived as one that exposes trainee teachers to a set of basic ideas related to the idea of society and change, the notion of the person, conceptions of the 'good' or 'virtuous' life, and what one needs to know to be a good teacher. The current version of the course, which was first run in the July to November 2002 semester, encourages trainee teachers to take a critical stance in considering central issues and dilemmas of education in Singapore, and to construct knowledge through activities designed to help develop a better understanding of the broader context of teaching. Selected current educational issues that trainee teachers are encouraged to grapple with at this stage of their training include 'Education: The Great Equalizer?', 'Public and Private Schooling', and 'Globalisation and the Knowledge Economy'. The following section shows a detailed example of a specific topic and questions posed for discussion.

Education: The Great Equalizer?:

Discuss to what extent you think equality of educational opportunity and outcomes has been achieved in Singapore. Do you think these two 'equalities' can co-exist?

How successful do you think our meritocratic educational system has been in 'closing the gap' between students from different social backgrounds? That is, to what extent do students of different social backgrounds have equal opportunities to succeed in the Singapore education system?

As a beginning teacher, what are some practices you could introduce to make your school and classroom more equitable?

Mass lectures once a week, supplemented by required and recommended readings for each topic, allow some prior transmission of content before each seminar session, with each class consisting of a maximum of 25 trainee teachers. Similar to the SC module, each class is divided into 5 presentation groups which work together on one of the topics. Each seminar group facilitates a seminar on the chosen topic and all members share the responsibility of facilitation. At the end of each seminar (between one and a half to two hours), the rest of the class conduct a peer evaluation, based on prescribed presentation and content criteria, which counts towards the grade awarded to the group. Knowing that they will be evaluated by their peers as well as the tutor provides an additional impetus to careful planning and preparation of the seminar. The seminar proceedings, as well as an account of the group's preparations and research, are also compiled and submitted as a formal portfolio for the tutor's evaluation and grading.

In addition to these forms of assessment, two other components include short individual reflections (about 500 words) on four other topics, and class participation. There is no final examination for this module. Incidentally, the question of 'fairness' in peer evaluation is addressed in that the tutor's evaluation comprises 50% of the total peer evaluation component. In addition, allowing students a three to four-day period in which to reflect on personal learning points before submitting a paper requires them to take full advantage of both the seminar and readings. For many, this new mode of learning may be uncomfortable initially because of its unfamiliarity in not providing the 'right' answer. However, the relative benefits for learning are considered to far outweigh this initial discomfort.

### **Feedback from Trainee Teachers**

Feedback this year from the trainee teachers was very positive, especially in terms of the module structure encouraging reflection and critical thinking about the highlighted issues and how these impact on them as future teaching professionals, as well as challenging them to engage in active self-directed learning. Some examples of what the trainee teachers thought about the SC and TS modules are presented below:

"I feel that the module has opened my mind to be able to think, respond and develop critical thinking which are needed in the challenging teaching profession. The chance given to

present a seminar was a good opportunity to test our interpersonal skills, teamwork, rather than just sitting for exams, which I feel (results) in passive learning.”

“The discussions and group research were enriching and helped us share and contribute ideas and solutions.”

“I personally enjoyed the group work, sharing of ideas, brainstorming and thrashing out of ideas. It deepened my learning, especially of topics about which I’m uncertain.”

“In essence, this module is very concise and challenged all of us to do self-learning. We are able to reflect and understand the implications of the system, (with regard to) changes for our roles as teachers.”

“It is the most relevant (and enjoyable) module on aspects of teaching that I’ve taken so far. The tutorials were enlightening, especially during discussions.”

“The module opened my eyes to many grey issues in teaching, and time was given for us to think how we are to apply what we learn.”

“A lot of fiery and heated discussions and views exchanged. Thoroughly enjoyable as it spurred us to explore the issues more in depth.”

### **Areas for Improvement**

This mode of course delivery is also a new experience for tutors, many of whom are comfortable in the ‘old’ paradigm of instruction. Therefore, some tutors may find their new role as facilitators, rather than sole instructors, rather awkward to begin with. Some may find it difficult to restrain themselves from intervening during the student-led presentations and discussions. Others may find that evaluating class participation while at the same time trying to monitor the ‘flow and processes’ of learning an unfamiliar territory. If there is agreement that class participation should be assessed, clear rubrics for this may help to establish a more objective standard among different tutors and classes in future.

Trainee teachers in the two modules have responded to the new structures by creatively using a variety of activities and strategies during the SC and TS seminars. These include small group discussions, role-plays, debates, games and simulations, as well as direct ‘telling’ using powerpoint slides and videos. It has been pointed out, however, that although the group seminar presentations have, as a result, certainly become more interesting than the ‘one-way lecture’ approach,

more thought needs to be put into the module in terms of designing the content for greater ‘relevance’ to the actual school context. A key issue here is that the trainee teachers need to be more aware of current realities in the school setting as well as feasible solutions that they, individually and collectively, can realistically implement given the limitations and constraints that exist in daily school contexts. Most of the trainee teachers have, at this point, had minimal practical teaching experiences, such as short-term relief or contract teaching, and base much of their conceptual and practical understanding of teaching on their own school-going days. As such, the modules may have to include a larger element of ‘first-hand’ experience sharing by successful veteran teachers on how they have personally retained their initial ‘passion’ for teaching in spite of the demanding nature of their work. Indeed, the final lecture in the TS module incorporated this with a guest speaker, and positive student feedback on this aspect seemed to reflect a need for more emphasis to be given to this area.

For the TS module, with a cohort size of approximately 200 trainee teachers, it may be useful to consider placing lectures online. If links to other resources and readings are made accessible, this form of instructional dissemination, coupled with online forums and discussions, may allow for even more active student learning. In both SC and TS modules, there is a question as to whether enough time is allocated for the trainee teachers who come from diverse personal schooling backgrounds to discuss and debate issues in depth. However, in the face of large annual cohorts of trainee teachers, there is also the question of whether there are sufficient resources to allow for a longer group seminar. There is no quick and easy solution to address this issue.

### **Conclusion**

In a global knowledge-based economy, Singapore’s education system must respond nimbly to changing times and demands. There are many new initiatives to nurture within students creativity and an entrepreneurial spirit. Notably, there is a shift towards broad-based education and an emphasis on innovation and enterprise (Tharman, 2004), and a call by Prime Minister Lee Hsien Loong to “teach less and learn more” (Lee, 2004).

These changes in the education system present an exciting opportunity for educators to rethink their understanding and approach to education. However, this requires teachers in schools to reflect deeply about their practices. Therefore, as professional staff of the sole teacher

training institute in Singapore, NIE faculty members need to develop trainee teachers into reflective practitioners. They need to develop teachers who can reflect critically about important issues in education so as to remain on course in an uncertain and changing world. They need to carefully re-examine past practice in teacher education so as to re-structure the curricula, methods of instruction as well as relevant modes of assessment, if need be. The changes made in the SC and TS modules, designed to promote individual and collective learning in an authentic and interactive context through reflection and group discussion, will go some way towards the development of reflective teachers in Singapore. In the long run, an increased understanding of the social nature of professional learning and critical reflection, gained through the experiences of the SC and TS modules, will enable NIE to enhance the quality of teacher education and develop professional teachers who can thrive in an educational landscape that promises more radical changes.

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