21st Century Teacher Education: A Singapore Case

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Development of Teacher Education at NIE
Review of ITP Models

University-based vs. School-based Models
Rational of the 2 main models explained from a historical perspective

University-based
• Arose from the need to recognize teaching as a profession, where teachers require the award of a degree as a pre-requisite for joining the profession

School-based
• Founded on perceptions that university trained teachers were removed from the real setting of the schools. In the US, most school-based institutions were however created as a response to the extreme shortage of teachers

University-based vs. School-based Models
• The two models on a continuum

<table>
<thead>
<tr>
<th>UNIVERSITY-BASED</th>
<th>SCHOOL-BASED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>Grow-your-own</td>
</tr>
<tr>
<td>Partnership</td>
<td></td>
</tr>
</tbody>
</table>

Programme designed and developed by university, with schools as service providers (for practicum)
Programme designed and developed collaboratively
School takes lead in design and development, university accredits
Comparative Analysis of the two models

University-based Model

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strong foundation in subject matter</td>
<td>• Theory-practice gap</td>
</tr>
<tr>
<td>• Close connections to educational research</td>
<td>• Limited connections to school contexts</td>
</tr>
<tr>
<td>• Strong foundation in pedagogical content knowledge</td>
<td>• Dangers of simplistic formulas for teaching</td>
</tr>
<tr>
<td>• Gaining a broader perspective</td>
<td></td>
</tr>
<tr>
<td>• Interaction between faculty, researchers and peers</td>
<td></td>
</tr>
<tr>
<td>• Open inquiry approach to professional education knowledge</td>
<td></td>
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</tbody>
</table>

School-based Model

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Promotes teaching-centred practices</td>
<td>• Practice-theory gap</td>
</tr>
<tr>
<td>• Develops reflective practitioners</td>
<td>• Lack of pedagogical content preparation</td>
</tr>
<tr>
<td>• Multi-cultural immersion experiences</td>
<td>• Lack of traditional coursework and theories</td>
</tr>
<tr>
<td>• Site-based learning</td>
<td>• Lack of connection to education research</td>
</tr>
<tr>
<td>• Experienced-based learning</td>
<td>• “Comunicentric” Bias</td>
</tr>
</tbody>
</table>

ITP Model adopted at NIE

- University-based practitioner model is being evolved into Enhanced Partnership Model (EPM) to meet the needs of Teacher Education of 21st century
- Enhanced Partnership Model enhanced collaborative relationship with MOE and schools and address the main weakness of the theory practice gap in the university-based model incorporating case based methods, experiential learning and authentic assessment
Balanced policy: Globally informed, Locally contextualized

Balanced across dimensions: time and big-picture factors

Teacher Education of the 21st Century
NIE Programme Review & Enhancement 2009 – 4 Key Drivers

**21st century Learners call for 21st century Teachers**

**FOR STUDENTS - 21st century literacies & skill sets anchored on values**

**FOR TEACHERS - 21st century developmental needs & MOE initiatives**

Research findings on classroom practices in Singapore

**21st century Teachers call for 21st century Teacher Educators**

NIE needs to model best practices in teaching & learning to improve quality of teaching in the classrooms

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The NIE TE21 Model and Key Recommendations

**21st century Learner – the heart of teacher education goals**

**VALUES**
- Aspiring Teachers
- Pathways
- Developing Professionals
- Competencies

**SKILLS**
- Programmes
- Curriculum
- Pedagogies
- Assessment

**KNOWLEDGE**

Strengthening the NIE TE Model – Mapping the Recommendations

- **R1** New V/SK
- **R2** Graduand Teacher Competencies
- **R3** Strengthening Theory-Practice Nexus
- **R4** Extended Pedagogical Repertoire
- **R5** Assessment Framework for 21st Century Teaching & Learning
- **R6** Enhancing Pathways for PD

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The underpinning philosophy of teacher education at NIE which guides the design, delivery and enhancement of NIE’s programmes and courses.

The enhanced V³SK focuses on expanding the values perspective as a three dimensional paradigm that will permeate NIE’s programmes and curricula.

Learner-centred, Valued-centred

Professionalism of ethos, pathos and logos
Key Programme Initiatives - Research

**Research**
- Build NIE’s competence and capacity as a centre of excellence and innovation in educational and content research
- Ongoing assessment at organisational and individual levels
- Differentiated tracks for research and teaching to encourage research models be translated into pedagogical approaches for teacher education and K-12 settings

![Figure: Strategic research, development and innovation (RD&I) framework for NIE](image)

Outcomes of the NIE 3:3:3 Roadmap

**Teacher Education**
- A holistic teacher-centric continuum, integrating pre-and in-service professional development
- Evidenced-based curricula backed by research
- Internationally benchmarked excellence
- ICT-enabled pedagogies
- Globalised education in a multi-cultural setting

**Research, Development and Innovation**
- Strategic RD&I framework to focus on priorities and stay relevant to global research issues
- Academic freedom to pursue diverse research interests
- Expansion of NIE’s postgraduate research and fellowship
- Broader funding base
Outcomes of the NIE 3:3:3 Roadmap

A Modern, Efficient, Transparent Corporate Entity
- Maintain a tripartite relationship with NTU and MOE
- Strong international linkages with alumni, private sector, international organisations, and global centres of excellence
- Compliance with international best practice for transparency, accountability, and good governance
- Improvements to physical and ICT infrastructure

Serving the Global Educational Community
- Vibrant, multi-cultural campus, with global linkages and international culture
- Increase contribution to global education
- NIE programmes will attain a level of excellence parallel to top universities

International Alliance of Leading Education Institutes
- NIE is a founding member with seven other world-leading education institutions in August 2007

Goals:
- Draws on collective voice on educational matters to raise the profile and quality of education with government, international agencies and public at large
- Grounds for collaboration to address current local and global issues
- Draws on expertise and research-based evidence to generate ideas, identify trends and develop future scenarios
- Enhance cooperation among partner institutions
Initial Teacher Preparation Programmes at NIE

• To prepare student teachers with strong educational foundation, pedagogies for effective teaching and specialized subject knowledge in at least one discipline
• Multiple pathways catered to student teachers of diverse backgrounds

Strengths of the Programme

➢ Strong integration between content and pedagogical preparation
➢ Design & development of programmes are backed by evidence-based educational research
➢ Strong tripartite link between NIE, MOE and schools
➢ Enhanced theory-practice linkage through a range of innovative approaches
➢ Holistic development through service learning
Uniqueness of Course Content at NIE

Initial Teacher Preparation programmes sustain academic rigour through:

- Linking evidence-based research to teacher education for continual enhancement
- Enhancing coherence of theory-practice links
- Emphasizing on school curriculum fundamentals
- Capitalising on the strong content-pedagogy dual focus in curriculum
- Providing foundation of understanding learners and how people learn best
- Providing platforms for staff to remain innovative and responsive to new and changing demands

NIE ITP Programmes and respective teaching tracks:

- Postgraduate Diploma in Education (1 yr)
  - Primary
  - Secondary
  - Junior College

- Bachelor of Art (Education) / Bachelor of Science (Education) (4 yrs)
  - Primary
  - Secondary

- Diploma (2 yrs)
  - Primary
  - Secondary
  - Special Education

Trained Teacher

Crossover after 2 years
### NIE ITP Programme enrollment numbers

<table>
<thead>
<tr>
<th>PROGRAMME</th>
<th>LEVEL FOR TEACHING</th>
<th>ACADEMIC UNITS</th>
<th>DURATION</th>
<th>ENROLMENT (2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGDE</td>
<td>Primary, Secondary &amp; Junior College</td>
<td>33 – 44</td>
<td>1yr (2yrs for PE)</td>
<td>1,561</td>
</tr>
<tr>
<td></td>
<td></td>
<td>67 for PE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BA (Ed)</td>
<td>Primary &amp; Secondary</td>
<td>122 - 135</td>
<td>4 years</td>
<td>941 (BA)</td>
</tr>
<tr>
<td>BSc (Ed)</td>
<td></td>
<td></td>
<td></td>
<td>703 (BSc)</td>
</tr>
<tr>
<td>Diploma in Education</td>
<td>Mainly for Primary</td>
<td>63 – 73</td>
<td>2 years</td>
<td>1027</td>
</tr>
</tbody>
</table>

### Programme Structure / Areas of Study

- **Content Knowledge**
  - Academic Subjects
  - Subject Knowledge

- **Pedagogy, theories & Skills**
  - Education Studies
  - Curriculum Studies

- **Language/Communication**
  - Language Enhancements & Academic Discourse Skills

- **Character Development**
  - Group Endeavours in Service Learning
  - The Meranti Project

- **Field Experience**
  - Practicum (Teaching Practice)
Academic Subjects

• This area of study covers knowledge of content and fundamental concepts and principles of the subject area.

• Applicable to undergraduates pursuing Bachelor degrees only.

<table>
<thead>
<tr>
<th>Arts-based subjects</th>
<th>Science-based subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Art</td>
<td>• Biology</td>
</tr>
<tr>
<td>• Chinese Language</td>
<td>• Chemistry</td>
</tr>
<tr>
<td>• Chinese Literature</td>
<td>• Family &amp; Consumer Science</td>
</tr>
<tr>
<td>• Drama</td>
<td>• Mathematics</td>
</tr>
<tr>
<td>• English Language</td>
<td>• Physics</td>
</tr>
<tr>
<td>• English Literature</td>
<td>• Physical Education &amp; Sports Science</td>
</tr>
<tr>
<td>• Geography</td>
<td></td>
</tr>
<tr>
<td>• History</td>
<td></td>
</tr>
<tr>
<td>• Malay Language</td>
<td></td>
</tr>
<tr>
<td>• Malay Literature</td>
<td></td>
</tr>
<tr>
<td>• Music</td>
<td></td>
</tr>
</tbody>
</table>

Subject Knowledge

• To equip student teachers with sufficient knowledge of subjects related to local syllabuses.

• Only for Primary school teachers.
Education Studies
Develops key concepts and principles in education for effective instruction and reflective practice

4 core courses:
- Social context of education
- Psychology for teaching and learning
- Pupil development / Classroom management
- Use of ICT

Curriculum Studies
- To equip student teachers with methods and approaches to deliver the curriculum of specific subjects
- The ‘Art’ of teaching
- Secondary school teachers: 2 subjects
- Primary school teachers: 3 subjects (in general)
Character Development - GESL

Group Endeavours in Service Learning (GESL)

- GESL connects student teachers with the community and provides the background knowledge and skills in service learning, community involvement projects (CIP) and project work (PW) thus developing a well-rounded teacher with a heart for others
- GESL is a local service-learning community outreach programme for all ITP student teachers
- Student teachers carry out service-learning projects with academic facilitators as mentors in groups of 20+/-
- GESL uses the experiential learning cycle as a pedagogy

GESL Projects provide student teachers with a medium to:

- Understand themselves better through the process of mutual teamwork
- Understand each other across ethnic, religious affiliations and gender
- Develop team skills related to project planning and execution
- Develop and exercise situational leadership skills
- Encourage innovation and creativity under conditions of resource and time constraints
- Encourage educational and social entrepreneurship in the form of understanding and meeting community needs
- Develop and understand project management skills
- Acquire a framework of group project work that may be applied in schools
Project Title: The “Green Generation” Concert – Youth for Conservation: Promoting a Green Generation

- In conjunction with the global Green Movement and World Environmental Day, team geNIE organized a green concert for a thousand people in collaboration with Singapore Botanic Gardens and the Jane Goodall Institute of Singapore, together with various NGOs such as Nature Society, Cicada Tree Eco-Place, SPCA and WWF. Through this project, they hoped to raise public awareness of the impact of human activities on biodiversity and climate change and to promote conservation.

GESL Project featured in the media

NIE trainees to teach foreign workers English

SINGAPORE – A group of trainee teachers from the National Institute of Education has been helping foreign workers learn English.

They make their way to the workers’ dormitory on Palma Rantau two nights a week.

And one lesson, it seems, is enough for the construction workers, who are working on the Reserve World Seminar 2009 project, to pick up simple conversational English.

How do they do it? Through song and role play, for example.

The sessions were initiated by a group of 23 foreign trainee teachers on their community service project.

Through a governmental organization Focus on Workers’ Guest House, the teachers were introduced to BWS, who were keen to have the workers learn English.

“Project Bridge” aims to equip foreign workers with basic English to express common needs and work-related issues.

Ms Jenny Tan, one of the trainee teachers involved in the project, said: “We adopt the translation method. In every lesson, we have a Chinese and Tamil translator. Any time the participants are unable to understand the vocabulary or sentence structure we’re teaching, we have a translator to translate into their language.”

The teachers will conduct the course over three weeks, reaching out to 100 workers.

Although the numbers may not seem significant for a dormitory with 4,000 workers, Ms Tan said it was a first step to enable some workers to interact with local communities.

“We hope that, through the project, the workers will be able to apply what we have taught them in their daily lives. And, the teachers will be able to learn their culture and behaviour,” she said.

But is one lesson sufficient?

“Can I have one chicken rice please?” asked Ms Ganesan, a 23 year old foreign worker from India, after his lesson. (SING MEA)
Character Development – The Meranti Project

Personal and professional development programme specially tailored for student teachers in the ITP programme

Objectives of The Meranti Project

Helping student teachers to develop better self-awareness (better tuning into self); providing a clearer idea of what National Education is all about and one's role in nurturing NE in innovative ways in the classroom; better ideas of working with diversity in the classroom, strategies for coping with being a teacher; and an affirmation of choosing teaching as a career.

Goals and outcomes

• To better understand personal motivation for wanting to become a teacher.
• To better know and understand the fundamental values & competencies that teachers hold/practice in the attempt to be the best teacher that they can be

Character Development – The Meranti Project

Programme highlights:

• Conversations with veteran teachers and students
• Exploring desired student outcomes
• Facilitating National Education in schools
• Life Journey

Key takeaways from participants:

• The importance of creating a culture of care, trust, and friendliness
• Teachers’ Vision and how to apply this in school
• Knowledge about the V³SK model and GTCs and how they can use these to chart their personal and professional development
## Practicum

- Teaching competencies are developed on site in schools
- Mentoring by Cooperating Teachers together with NIE professors/lecturers
- Developmental Approach

<table>
<thead>
<tr>
<th>Experience Type</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Experience</td>
<td>2 wks</td>
</tr>
<tr>
<td>Teaching Assistantship</td>
<td>5 wks</td>
</tr>
<tr>
<td>Teaching Practice 1</td>
<td>5 wks</td>
</tr>
<tr>
<td>Teaching Practice 2</td>
<td>10 wks</td>
</tr>
</tbody>
</table>

### Performance Dimensions

#### Core Competencies

**Professional Practice**

1. Nurturing the child  
   - AR
2. Providing quality learning of child  
   - CB
3. Providing quality learning of child in CCA  
   - AR, CB
4. Cultivating knowledge:  
   - with subject mastery  
     - CB
   - with reflective thinking  
     - CB
   - with analytic thinking  
     - CB
   - with initiative  
     - AR
   - with creative teaching  
     - AR
   - with a future focus  
     - AR

**Leadership & Management**

1. Winning hearts & minds:  
   - AR  
     - i. Understanding the environment  
       - AR
   - ii. Developing others  
     - AR
2. Working with others  
   - AR  
     - i. Partnering parents
     - ii. Working in teams  
       - CB

**Personal Effectiveness**

1. Knowing self and others  
   - CB  
     - i. Tuning into self
   - ii. Exercising personal integrity  
     - AR
   - iii. Understanding and respecting others  
     - CB
   - iv. Resilience and adaptability  
     - CB

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The competence expected of graduating teachers are specified in two focus levels:

- **Capacity building (CB)** – demonstrate achievement of the defined competence
- **Awareness raising (AR)** – aware of what the competence means but not yet able to fully demonstrate

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R3 : Strengthening the Theory-Practice Nexus – moving from knowing to doing

Reinforcing T-P linkage through 6 additional approaches

1. Structured Mentorship Preparation Programme
2. Strengthening Mentorship before, during & after Practicum
3. Greater infusion of NIE-School interactions
4. Secondment of practitioners to NIE
5. Reflective Teaching Model
6. Structuring the Enhanced School Experience

Strengthening current approaches which have been effective

Facilities design and technology are integrated to simulate school learning environments, which facilitate innovative pedagogies

Extending the Pedagogical Repertoire

Student Teacher Notebook Scheme
Facilitates immersion in a culture of pervasive and effective IT use early in their teaching careers. Ideal for gaining familiarity and experimentation with pedagogies that leverage on IT

Collaborative Tutorial Room
Design of classroom facilitates a collaborative learning environment. Features include cluster seating, 1-to-1 computing facilities and collaborative spaces – both virtual and physical writing space

Model classroom which uses current technologies for teaching or reading and writing

Uses flexible and functional learning spaces where technology is seamlessly integrated to create a purposeful learning environment

NIE/SPCS ©
R4: An Extended Pedagogical Repertoire

Values Anchored, Deep Knowledge and Rich Pedagogical Skills

- NIE educators must make a conscious effort to highlight the best pedagogical practices, and model and engage students in these modes of instruction.
- A Pedagogies strategy and framework will be established to ensure that appropriate and effective pedagogies are used in the curriculum and that learning environments are transformed in line with developments in the educational landscape.

R5: Assessment Framework for 21st Century Teaching & Learning

- NIE needs to produce teachers:
  - who have high assessment literacy levels
  - are able to adopt the best practices to effectively evaluate student outcomes
- Assessment Competency Framework provides a defined set of assessment literacy outcomes to bring about assessment of learning and for learning.

Exploring a new approach to assessment

- **Portfolio** is a new direction and approach to assessment & validation of a graduate’s achievement of competencies, and is aimed at developing the reflective teacher.
- For ITP, assessment focuses on the development of student teachers from the start of their programme through to the end of the practicum.
- For TDP, a professional portfolio will be one of the key components of assessment for the Professional Inquiry Project, which is a graduation requirement for the new Master of Teaching degree.
Sustainable Structure, Quality People, Innovative Process

Long-haul: scalability

THANK YOU