



A Teacher Education Model for the 21st Century

A Report by the National Institute of Education, Singapore

Executive Summary

NIE as a university-based teacher education institution has a strong foundation in terms of the structure and substance of its teacher education programmes. Like many high-performing teacher education providers in the world, NIE's model provides theoretical foundation to produce the "thinking teacher" whilst concurrently having strong partnerships with key stakeholders and the schools to ensure strong clinical practice and realities of professionalism in teacher development. Our strength also lies in a strong base in subject matter and pedagogical content knowledge, as well as a strong connection to educational research. The adoption of the university-based model demonstrates that teaching is a profession, where the development of teachers is underpinned by evidenced-based learning, and where teachers require the award of a degree as a pre-requisite for joining the profession.

Previous reviews affirmed both the structure and substance of NIE's teacher education programmes. In the light of changing needs in Singapore's education system and developments in the global educational landscape, this current review builds on existing strengths to bring teacher education onto a higher plane of excellence, drawing on the perspectives of stakeholders and putting the 21st century learner at the very heart of our educational goals. **'21st century learners call for 21st century teachers'** is the impetus for the Programme Review and Enhancement (PRE) 2008-2009. Based on extensive literature review, understanding of existing and emerging trends, local profile, changing landscape in policies and initiatives, and research data, we explored possible and viable avenues for enhancements – the culmination of these efforts is a new **Model of Teacher Education for the 21st century (TE²¹)** at NIE .

The NIE TE²¹ is a transformative endeavour that will guide the design, delivery and evaluation of NIE's programmes in order to provide the best education to our aspiring and serving teachers to become 21st century teaching professionals. It is a key initiative under the teaching strategy of the NIE 3:3:3 Roadmap (the 5-Year Strategic Plan 2007 – 2012) and a concrete response to the educational challenges brought forth by the current global landscape as well as anticipated future needs. Thus far, 21st century has been characterised by knowledge-driven economies, rapid information exchanges and fast-moving

communication technologies which have created new demands on education systems worldwide. In the 21st century landscape, education must focus on nurturing the whole child – morally, intellectually, physically, socially and aesthetically. Students need to acquire new knowledge, skills and dispositions to ensure their survival and success as individuals, as members of the community, and as citizens of our nation. To achieve this, we must develop teachers who are able to undertake greater responsibilities as they are at the forefront of educating our youth. It is now universally accepted that the quality of the teaching force determines the quality of education. As we raise the standards for our children, our 21st century teachers will also need the right values, skills and knowledge to be effective practitioners who will bring about the desired outcomes of education.

Enhanced Partnership with MOE and Schools

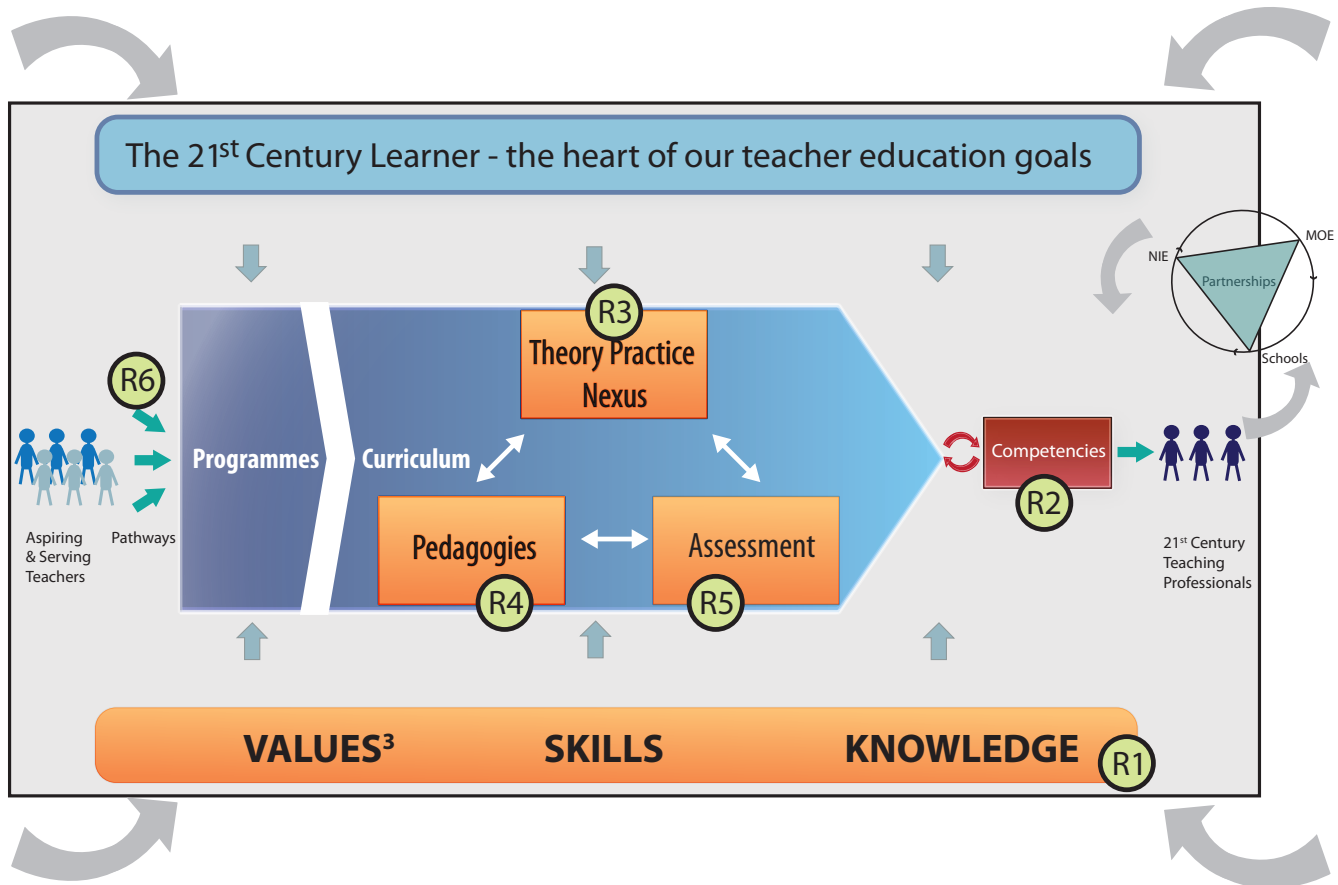
The robust partnership between NIE, MOE and schools is a key driver of NIE's internationally recognized teacher education programmes. To strengthen the tripartite relationship along the whole continuum and reinforce the theory-practice nexus, NIE advocates an "Enhanced Partnership Model" to leverage on the proven strengths of NIE's university-based approach while emphasizing much closer collaboration with MOE and schools than what currently exists.

The commitment from all key stakeholders – NIE, MOE and schools is required in transforming teacher education to produce 21st century teachers. The Enhanced Partnership Model is one of the key levers that will determine the successful implementation of the proposed TE²¹ recommendations. This model provides the collaborative framework of shared values and goals in the interest of teacher learning and education research, while recognising the need for mutual respect for each partner's roles, beliefs, perspectives, experiences, expertise and knowledge. The enhanced partnership between NIE and schools is particularly significant in strengthening the theory-practice nexus. Together with MOE, a strong tripartite relationship will promote solidarity of intentions and efforts to provide teachers with the best support for their work in 21st century classrooms.

TE²¹: Towards a strong teaching force for the 21st century

The new TE²¹ Model puts forward 6 broad recommendations (R1 to R6 referred to below) that are intended to enhance the key elements of teacher education, including the underpinning philosophy, curriculum, desired outcomes for our teachers, and academic pathways. (Figure 1)

Figure 1 : NIE Teacher Education Model and the 6 key recommendations



Strengthening the NIE TE²¹ Model - Mapping the Recommendations

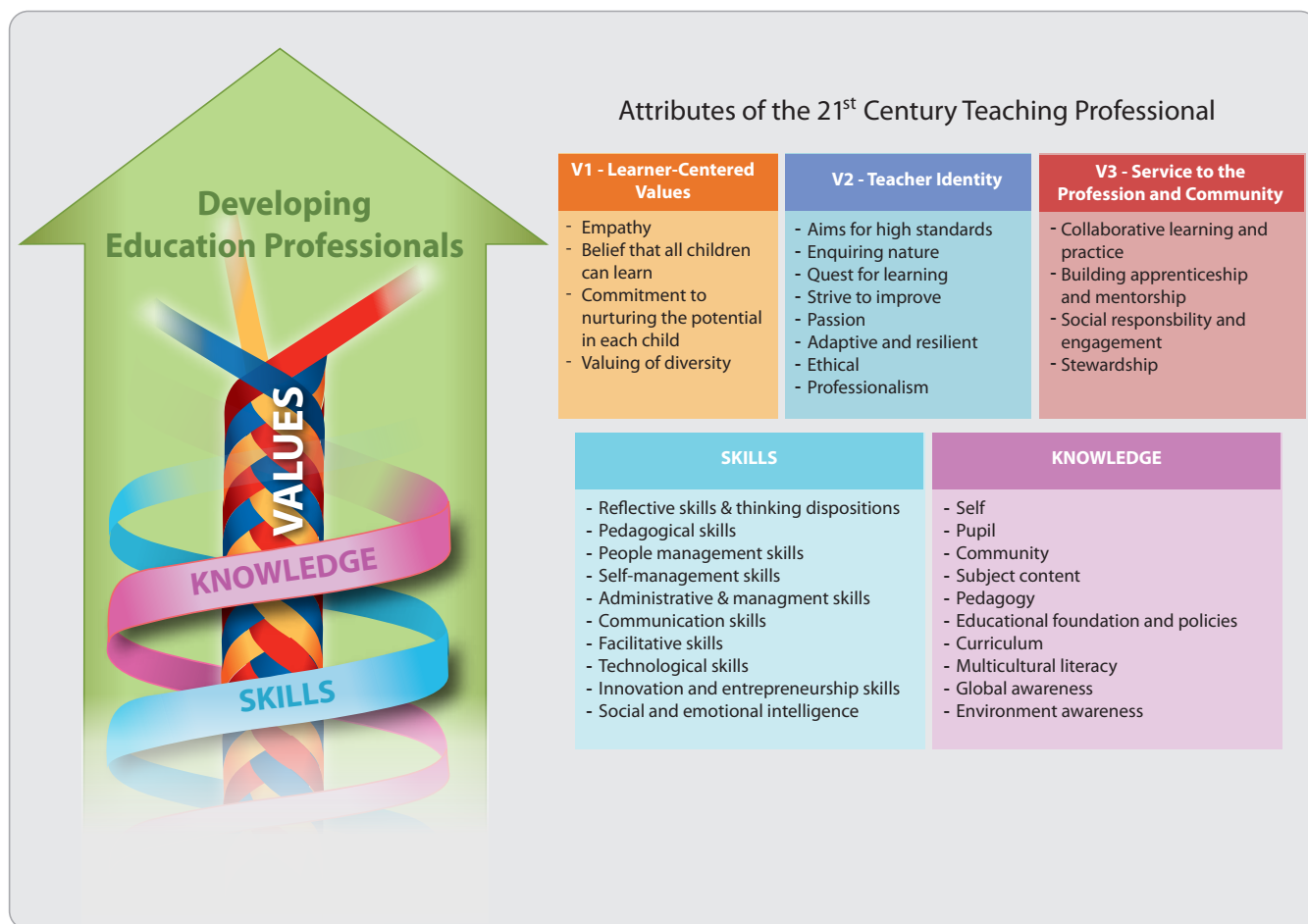
- R1.** New V³SK
- R2.** Graduand Teacher Competencies
- R3.** Strengthening the Theory-Practice Nexus
- R4.** Programme Refinements and An Extended Pedagogical Repertoire
- R5.** Assessment Framework for 21st Century Teaching & Learning
- R6.** Enhancing Pathways for Professional Development

These enhancements reflect a holistic approach to strengthening teacher education at NIE across the continuum, from ITP to TPD in a manner that is current, relevant and responsive in meeting the needs of our schools.

R1: New Values³ (V) Skills (S) and Knowledge (K) Model

The V³SK represents the underpinning philosophy of teacher education at NIE. It guides for the design, delivery, and enhancement of NIE's programmes and courses, to develop teachers who possess the positive attitudes, necessary skills, depth and breadth of content knowledge. (Figure 2)

Figure 2 : New Values,Skills and Knowledge (V³SK) Model



These are the essential prerequisites in meeting the challenges of the 21st century classroom. The V³SK model focuses on three value paradigms: Learner-centred, Teacher Identity and Service to the Profession and Community. Learner-centred values puts the learner at the centre of teachers' work by being aware of learner development and diversity, believing that all youths can learn, caring for the learner, striving for scholarship in content teaching, knowing how people learn best, and learning to design the best learning environment possible.

Teacher identity values refer to having high standards and strong drive to learn in view of the rapid changes in the education milieu, to be responsive to student needs. The values of service to the profession and community focuses on teachers' commitment to their profession through active collaborations and striving to become better practitioners to benefit the teaching community. The V³SK model also underscores the requisite knowledge and skills that teachers must possess in light of the latest global trends, and to improve student outcomes.

R2: Graduand Teacher Competencies (GTC) Framework

The GTC Framework articulates a set of professional standards, benchmarks and goals for NIE graduands. The GTCF, which outlines the 21st century skills, is a

holistic integration of the revised V³SK model and the MOE competencies framework for beginning teachers, using the three performance dimensions – *professional practice, leadership & management and personal effectiveness*. (Figure 3)

Figure 3 : The Graduand Teacher Competencies Framework

Organisation of the GTCs

Performance Dimensions	Core Competencies
Professional Practice	<ol style="list-style-type: none"> 1. Nurturing the child 2. Providing quality learning of child 3. Providing quality learning of child in CCA 4. Cultivating knowledge: <ol style="list-style-type: none"> i. with subject mastery ii. with reflective thinking iii. with analytic thinking iv. with initiative v. with creative teaching vi. with a future focus
Leadership & Management	<ol style="list-style-type: none"> 1. Winning hearts & minds <ol style="list-style-type: none"> i. Understanding the environment ii. Developing others 2. Working with others <ol style="list-style-type: none"> i. Partnering parents ii. Working in teams
Personal Effectiveness	<ol style="list-style-type: none"> 1. Knowing self and others <ol style="list-style-type: none"> i. Tuning into self ii. Exercising personal integrity iii. Understanding and respecting others iv. Resilience and adaptability

By aligning the GTCs with the professional standards set by MOE, a common language will be established and graduands will continue to develop these competencies beyond ITP. The GTCF will be embedded in NIE's programmes and courses, and will also be used in evaluating student teacher outcomes. It provides mentors

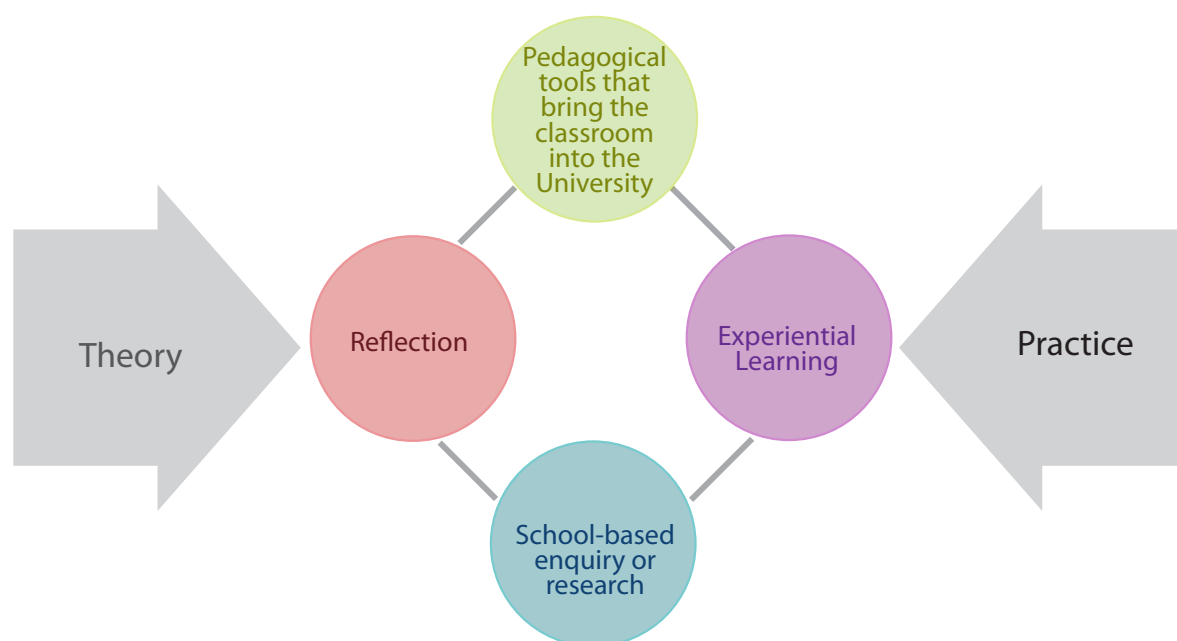
with a good developmental framework to work with, and student teachers with a common baseline to work towards. It also serves as a scaffold that supports student teachers' growth and development. Finally, the framework provides clear expectations for stakeholders in terms of the competencies of NIE graduands.

R3: Strengthening the Theory-Practice Nexus

The theory-practice (T-P) gap is widely accepted as a prevalent shortcoming of teacher education programmes. There is a need to achieve balance between theoretical knowledge and practice-based learning. A strengthened

T-P nexus in teacher education programmes allows teachers to leverage on both types of knowledge to effectively transition in schools. The more common approaches of bridging this gap are reflection, experiential learning, school-based research or inquiry projects and pedagogical tools that bring the classroom into the university. (Figure 4)

Figure 4 : Theory-Practice Nexus



Given these approaches, NIE will undertake a number of initiatives to further strengthen the T-P relationship in its programmes:

- The mentorship process will be strengthened, particularly in practicum and beyond, and by greater infusion of NIE-school interactions. Mentorship in both ITP and BT induction period will be reinforced by establishing a Structured Mentorship Preparation Programme to equip School Coordinating Mentors (SCMs) and prepare them for their enhanced roles and responsibilities. The programme will take a developmental approach with Basic, Intermediate and Advanced levels.
- The practicum will be strengthened by enhancing the current role of the SCMs before, during and after the practicum and ensure a continuum of mentorship from practicum to beginning teacher induction period. Professional Learning Inquiry Sessions (PLIS) to be led by SCMs will be introduced as a component of the practicum.
- NIE-School interactions will be infused in NIE's

programmes on the basis of the four common approaches of bridging the T-P gap – reflection in action, school-based inquiry or research, using pedagogical tools to create a 'simulated' school environment and experiential learning. The interactions will be done in a more systematic and meaningful manner at both the course and programme levels.

- NIE will explore with MOE the secondment of practitioners from schools to NIE, especially those who have potential to be SCMs. They will be attached to NIE to teach ITP and TPD courses as part of their professional development.
- The Enhanced School Experience for PGDE will be structured to allow student teachers to fully benefit from it. The ESE will provide student teachers with an induction to the school culture and environment, opportunities to observe experienced teachers and to co-teach, as well as provide a structure for observing and reflecting on these experiences. These activities would optimise the time spent in schools with key takeaways that would directly benefit them during the course of the programme in NIE.

- The Reflective Teaching Model will be used to provide a common framework to help teachers consolidate their experiences and guide them in systematically reflecting on their practices. SCMs will also be exposed to the model which can be used during PLIS and the new Portfolio assessment approach.

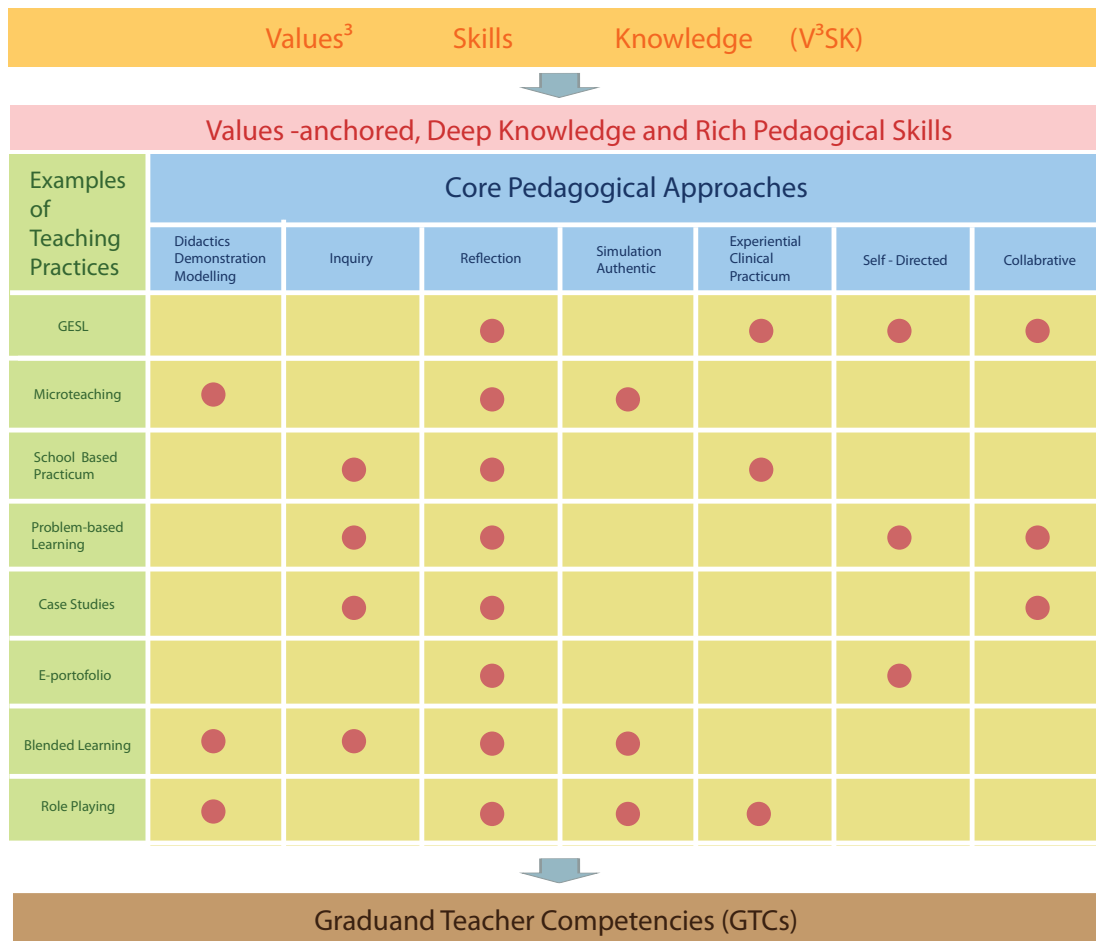
A new phase of partnership between NIE, MOE and schools is timely as the Teaching Track has made significant advancement in recent years, and a sizeable number of Senior Teachers and Masters Teachers have been appointed and trained. Riding on the crest of this more mature system, schools are in a good position to take on a bigger, more active role in the mentoring of student teachers before, during and after practicum, and beginning teachers during the induction period. This transformation will call for a new customized mentor training programme by NIE, and refinement of the practicum process with the introduction of PLIS. There will be deeper engagement of professional practice involving SCMs, and greater emphasis on reflective teaching.

R4: Programme Refinements and An Extended Pedagogical Repertoire

It is acknowledged that teacher education programmes need dynamic development to establish both important core, as well as the most up-to-date content. Therefore a mechanism for greater sharing and articulation needs to be put in place. There is also an increased recognition of the changing nature of content – in terms of accessibility, advancement and conditions for bringing about new learning. Hence the recommendation by the review task force is to incorporate programmatic changes where relevant. At the same time, pedagogies and assessments need to change given the changing nature of knowledge, learning, profile of learners and the new environment.

NIE will establish a strategy and framework for Pedagogies to ensure that appropriate and effective pedagogies are used in the curriculum, with the objective of equipping teachers with the instructional strategies needed for classroom teaching. (Figure 5)

Figure 5 : Map of Pedagogical Approaches and Practices in Teacher Education Programmes



In modelling best practices for teachers to translate into classroom practices, NIE will also ensure that effective pedagogies are scaled up across the institute, and

will invest in creating teaching facilities that support pedagogical approaches which achieve the desired teaching and learning outcomes. (Figure 6)

Figure 6 : Integrating facilities design and technology to simulate school learning environments which facilitate innovative pedagogies



Primary English Language (PEL) Classroom



Teachers' Language Development Centre (TLDC)



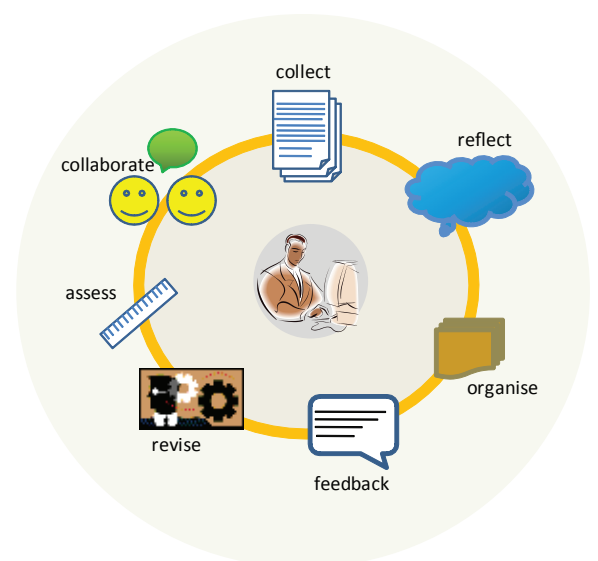
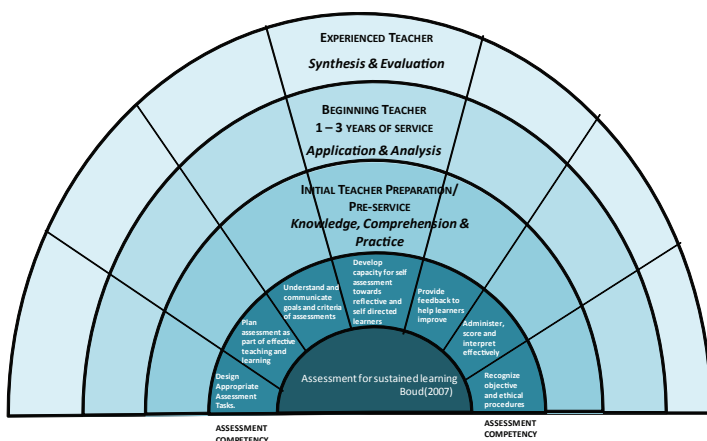
New Collaborative Tutorial Room

R5: Assessment Framework for 21st Century Teaching and Learning

Enhancements to assessment practices will complement the range of pedagogies to be adopted in NIE. The establishment of an Assessment Framework for teaching

and learning will address the need for producing teachers who have high assessment literacies and who are able to adopt the best practices in the classroom to effectively evaluate student outcomes. (Figure 7)

Figure 7 : Assessment Framework and new Portfolio approach



Under this framework, key processes that will enable both NIE educators and teachers to adopt innovative assessment practices both *of* and *for* learning will be identified and scaled up.

A defined set of assessment literacy outcomes to be developed will consist of key elements of assessment competencies for effective teaching and learning in school. By specifying entry-level requirements, the framework supports the concept of learning as a continuum that begins in an ITP setting and continues with life-long professional education and experience.

The introduction of e-portfolios is a move in a new direction and approach to the assessment and validation of graduates' achievement of the GTCs, and is aimed at developing the reflective teacher. For ITP, the assessment focuses on the development of student teachers from the start of their candidature in NIE through to the end of the practicum. For TPD, 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.

R6: Enhanced Pathways for Professional Development

To attract the best and brightest to make teaching a profession of choice, the stature and professionalism of teachers will need to be improved. To this end, two new academic learning pathways are being proposed to enable highly qualified student teachers to obtain a Master's degree within a shorter timeframe.

NIE will be using a staged approach for the implementation of the following pathways:

- 2-year full time PGDE-Master's programme (figure 8)
- 4+1 accelerated Bachelor-Master's programme for the top 10% of the cohort (figure 9)

Figure 8 : 2-Year full-time Master's programme with a PGDE exit option

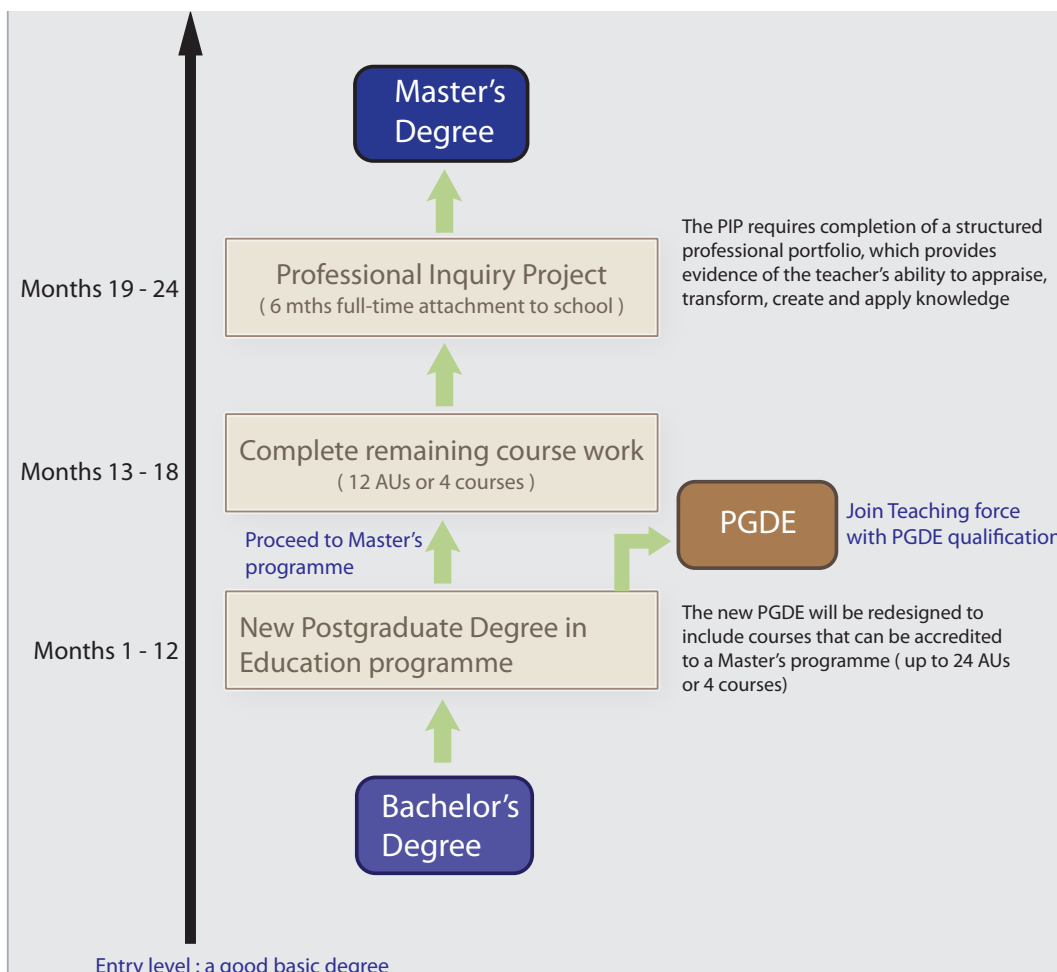
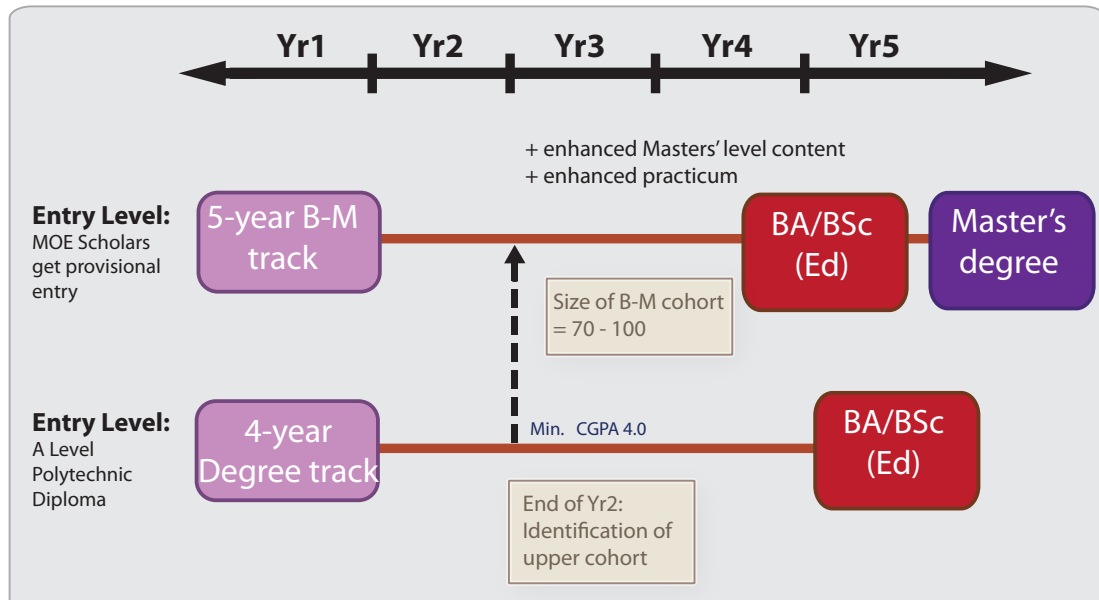


Figure 9 : 5-Year Bachelor-Master's Degree programme



Transforming for the 21st century – Walking the Talk

The success of NIE TE21 Model ultimately lies in the effective implementation of the recommendations put forward and the sustainable impact of any programme innovations and new developments in curriculum, pedagogies, and assessment. To gear up for the transformation process ahead, NIE as a community has to turn inwards and reflect on the necessary change of mindsets, approaches, systems and technologies that are required to turn best intentions into action, and achieve a concerted synergy of excellence across the institute. This institutional change has to be achieved through the following initiatives:

- Evidence-based, research-informed improvements to teaching and learning
- Academic Quality Management
- Faculty professional development
- Infrastructure and systems to support learning

This transformative endeavour where *21st Century teachers call for 21st Century teacher educators* requires strong reserves of self belief and supported by the appropriate resources to reach the destination 2012 as mapped out by the 3:3:3 Roadmap.



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