TEACHER EDUCATION FOR THE 21ST CENTURY:
Developing teachers who are thoughtful, reflecting and inquiring
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The 21st century is characterized by a rapidly changing, technology-based economy, and an increasingly diverse and complex world. In this landscape, education has to be structured to meet the current needs while anticipating emerging trends and challenges for students. Teacher education is a key for the development of educational opportunities and successful teachers must be professional leaders who are thinkers and researchers, and not merely technicians and transmitters of knowledge (Cochran-Smith & Lytle, 1999, p. 16).

The World Education Research Association (WERA) is a collaborative effort of major national, regional and international research associations, which aims to advance educational research as a scientific and scholarly field. Member associations work together to address issues such as building capacity and interest in education research and promoting its application around the world. The WERA-International Research Network (WERA-IRN) titled ‘Teacher Education for the 21st century: Developing Teachers Who Are Thoughtful, Reflecting and Inquiring’ was formed to create an international platform for teacher educators to share and learn about practices of teacher education programmes with a strong inquiry component.

The approaches to initial teacher preparation across cultures and continents may vary but all good teacher education programmes put the learners at the heart of their educational goals, and place great emphasis on strengthening theory-practice nexus, crystallizing teacher identity and developing teaching competencies. The quality of teacher education affects the
quality of education and efficiency and quality of pupil learning. Hence, teacher education should be informed by the latest trends in teacher education and backed by the evidences from research. The participating countries in the WERA-IRN on Teacher Education thus take a critical look at the strengths and weaknesses of their programmes in order to learn from each other and develop teachers for the 21st century.

The National Institute of Education (NIE) is the sole teacher preparation and accreditation institute in Singapore. It has a university-based teacher education model that provides the theoretical foundation to produce ‘thinking teachers’, whilst concurrently having a strong clinical practice through robust partnerships with key stakeholders and schools. The design and delivery of its programmes are guided by the underpinning philosophy of building Values3, Skills and Knowledge (V3SK). The positive values, the necessary skills such as inquiry, effective research and problem-solving skills, etc. and the depth and breadth of content knowledge, are deemed necessary in developing a learner-centred teacher to meet the challenges of the 21st century classroom.

The V3SK model focuses on three value paradigms. The first paradigm is ‘learner centeredness’, where the learner is at the centre of teachers’ work, requiring awareness of the learner development and diversity, believing that all students can learn and learn to design the best learning environment possible. The second paradigm is building a ‘strong sense of teacher identity’ by having high standards, a strong drive to learn and being responsive to students’ needs. The third paradigm is ‘service to the community and the profession’, focusing on teachers’ commitment to their profession through active involvement with the fraternity and striving to become better practitioners.

The strengths of teacher development programmes at NIE lie in a strong research, theory and practice nexus. This nexus allows teachers to bridge the gap between theory and practice through reflection, experiential learning, inquiry-based approach and pedagogical tools, etc. These approaches help teachers to make an effective transition to school and enable them to adapt to changing school environments.

For the success of teacher education system in any nation, it is important to position teacher education programmes and teacher education research in a way that both are beneficial for the stakeholders and schools. In Singapore, NIE recognizes the importance of partnership with the Ministry of Education and schools in teacher education. It has formed a strong tripartite relationship with the Ministry and schools, which is marked as a key cornerstone for the success of teacher education programmes in Singapore.

Similarly, teacher education programmes at the University of Waikato in New Zealand seeks to have a strong coherence between theory and practice and focuses on developing teacher competencies and a strong knowledge base for effective practices. A Collaborative University School Partnership (CUSP) was developed to groom effective, thoughtful, reflective and inquiring teachers. Like NIE, its main impact was on the development of a strong sense of teacher identity in order to bridge the gap between theory and practice. This approach recognizes teachers as individuals who need to build their own professional identity that will ultimately influence their practices. Teacher education programmes in New Zealand put emphasis on strong relationships between students and teachers for effective teaching, and between school

**Member associations work together to address issues such as building capacity and interest in education research and promoting its application around the world.**
Teachers’ thinking, reflection and practical knowledge together underline the philosophy of the teacher education programme of Taiwan, i.e. ‘reflection by think-ing and learning by doing’. The emphasis of this programme is on the development of the attributes and competencies in student teachers to work in a team and to create a stimulating working environment for the students. High standards of curriculum knowledge and subject matter pedagogy along with extensive field experiences are some of the components of teacher development programmes in Taiwan. The mentoring role is enhanced for preparing student teachers with learning models, observation and reflection. To help student teachers know their strengths and weaknesses, various assessments are used. This helps student teachers to overcome their weaknesses and improve their skills to deal with complex situations in the classrooms.

Teacher education programmes at the University of California Santa Barbara (UCSB) in USA also include concurrent courses and fieldwork within an inquiry-based programme to bridge the gap between theory and practice. Their main focus is on the development of teacher competencies, knowledge and skills. Several states in USA have also implemented the licensing of teachers as professionals by introducing a Professional Certification of Effective Practice and the National Performance Assessment (edTPA) to improve teacher quality. These programmes face challenges for accountability and improvement at Federal and State levels but despite challenges, these programmes have shown nation-wide positive impact on teacher preparation programmes. The impact of accreditation assessment of teachers has been found to increase the articulation of coherence across programme practices, structures and roles, content of courses and foci of fieldwork supervision.

Teacher education programmes at the VIA University College (Teacher Education) in Denmark puts emphasis on the development of effective teachers by developing teacher competencies. Teacher education is organized according to three progressively advanced competence objectives divided into didactics, classroom management, relations and cooperation to develop teacher competencies and skills. These programmes focus more on the relationships of teacher and students, on building mutual understanding, caring and recognition of good behavior. The development of competencies takes a central place and the development of knowledge and skills becomes an essential part of teacher competency development in Denmark.

The Swiss teacher education programmes at The Zurich University of Teacher Education have research-oriented and practice-focused approaches. The development of student teachers’ research-oriented stance focuses on three areas, namely gaining a perspective regarding a phenomenon/problem, acquiring basic skills required for collecting and analyzing data by using research methods and strategies on learning processes including transfer to their own teaching (Kamm & Bieri, 2008). Action research is one of the most powerful methods for supporting student teachers’ research-oriented stance and reflective attitude. Another unique feature of these programmes is the development of the teacher educators’ practical competencies/skills rather than research competencies alone, because teachers have to survive in the classroom. In this approach, teachers need to analyse their professional practice in or-
der to reflect on their practice on the basis of theoretical knowledge (Schön, 1991) and to learn the principles of inquiry-based learning as part of teachers’ professional development (Horn & Little, 2010).

The teacher education programme of Japan emphasizes the development of the teachers’ empathy and the socio-emotional aspect of teaching. Teacher education in Japan is an “open-system” based on an Occidental model, meaning that University faculties and departments other than College of Education provide initial teacher education. As a result, no nation-wide quantity or quality control is present for Initial Teacher Education programmes. The Ministry of Education provides approval to initial teacher education providers, but this form of approval system is based primarily on external factors such as school facilities, staff, curriculum and practicum plans. The screening of new teachers is based on prospective teachers’ humanity, social-communicative skills and practical teaching skills. Thus, teachers’ humanity and socio-emotional aspects of teaching are more emphasized than teachers’ competencies in the Japan teacher education programme.

From reviewing the exemplary teacher education programmes shared at the symposium, several common characteristics have emerged. Firstly, there is the preoccupation with linking university-based teacher education courses to actual classroom practice in schools in an effort to constantly enhance the theory-practice nexus. This is usually done via the clinical field experience that takes place on-site in schools. However, beyond the clinical field experience, there is great emphasis on providing many opportunities for reflection, and for learning through practice. In doing so, these programmes also take an inquiry-based stance towards teacher education. The inquiry-based approach encourages student teachers to conduct action research on their practice, which then serves as a basis for reflective practice. The ultimate focus of all these programmes is the enhancement of teaching practice. Finally, the development of values and core competencies in terms of knowledge and skills is seen as key to preparing teachers with the baseline competencies to survive as beginning teachers.

The sharing at the WERA-IRN Teacher Education Symposium has served to provide a platform for conducting a cross-country comparison of teacher education programmes offered internationally. The sharing provides an opportunity to tease out commonalities that exist across the different teacher education programmes even though each of these functions within very different cultural contexts. The end goal of such sharing is to learn from good international practices with the aim of adapting these innovations to suit the teacher education context of one’s own country/jurisdiction.

REFERENCES:


WERA-IRN SPEAKERS’ INFORMATION

Professor Oon-Seng Tan
Professor & Director, National Institute of Education, Singapore

Biography:
Professor Tan Oon Seng is Director of the National Institute of Education (NIE), Singapore. Professor Tan was previously Dean of Teacher Education at NIE where he spearheaded the Teacher Education for the 21st Century (TE21) initiative as a major milestone innovation for teacher education both nationally and internationally. He also heads the Singapore team for the Global Education Innovation Initiative (GEII) helmed by the Harvard Graduate School of Education. He is also convener of the World Educational Research Association (WERA) International Research Network on Teacher Education “Teacher Education for the 21st Century: Developing teachers who are thoughtful, reflective and inquiring”. Professor Tan was President of the Educational Research Association of Singapore (ERAS, 2005-2008) and President of the Asia-Pacific Educational Research Association (APERA, 2008-2010). He was also the Vice-President (Asia and Pacific Rim) of the International Association for Cognitive Education and Psychology (IACEP, 2008-2011). He is Editor-in-Chief of the Educational Research for Policy & Practice (ERPP) journal published by Springer. He is also the Lead Editor of the Asia Pacific Journal of Education (APJE) published by Routledge. Concurrently, he is on the board of directors for NIE International (NIEI) and also for the Singapore Centre for Chinese Language (SCCL). Professor Tan’s areas of research include cognitive psychology, problem-based learning and teacher education. Prof Tan was a winner of The Enterprise Challenge (TEC) Innovator Award from the Prime Minister’s Office of Singapore for co-pioneering a project on Innovation for the Knowledge-based Economy. In 2014 National Day, he was conferred the Public Administration Medal (Silver) by the President of the Republic of Singapore. He has been a keynote speaker in major international conferences in the United States, Europe, Australia, New Zealand, Japan, South Korea, China, Hong Kong, the Arab states and Southeast Asia. His keynotes include the National Science Foundation (NSF) Education & Human Resource (EHR) Distinguished Lecture in Washington, D.C., American Educational Research Association Annual Meetings presidential sessions, the Royal Swedish Academy of Science international symposium, and international education summits. He has also been a consultant to many government bodies, international organisations and global companies.
Biography:
Elsebeth Jensen is educated as a teacher in 1987, candidate in pedagogic in 1998 and Ph.D. in 2007. She has worked as a teacher from 1995 to 2010 and since then, has been a leader at the teacher education in Aarhus. From January 2011, she has been the Director of Studies for Teacher Education at VIA University College, which operates in four different cities: Aarhus, Silkeborg, Skive and Nr. Nissum. VIA educates 25% of all teachers in Denmark.

Biography:
Jens Rasmussen, PhD, is Professor in Educational Sociology at the Department of Education, Aarhus University. His research areas are teacher education, curriculum development and comparative educational policy studies, particularly at primary and lower secondary level. He has been a Fulbright Visiting Professor at College of Education, University of Georgia, and a Visiting Professor at Institute für Bildungswissenschaft, University of Vienna. Among his recent research projects are comparative studies of teacher education and teacher recruitment in the Nordic countries, content in teacher education in Canada, Denmark, Finland and Singapore, and the national curricula for the basic school in selected countries. He is a member of national and international committees on teacher education development and is the National Curriculum Development Advisor of Vietnam.
Biography:
Russell Yates is currently Deputy Dean, Faculty of Education at the University of Waikato, Hamilton, New Zealand. He has been a member of the Faculty of Education since 1991 and has held various positions in the Faculty, including seven years as Chair of the Department of Professional Studies in Education.

Russell has a varied teaching background. He spent more than 20 years as a primary school teacher and principal, working in both rural and urban schools. He worked as an Adviser to Rural Schools in the Department of Education. Within the Faculty of Education, Russell’s teaching and research interests are in school leadership, school and teacher development, rural education and online learning. He has taught in compulsory teacher education courses focusing on classroom practice, as well as taught leadership courses. Recent leadership publications have focused on the process of changing culture with organisations. Russell was involved in the development of the first online teacher education programme in New Zealand and coordinated the programme for ten years. He has retained an interest in the programme and has published in the field of online teaching and support.
Biography:
Professor Yasuyuki Iwata was born in Tokyo, Japan and now he is Professor and Deputy President for International Affairs in Tokyo Gakugei University (TGU). He has been working at the Curriculum Centre for Teachers, a nation-wide research centre attached to TGU since 2000. His major academic concerns are historical studies of teacher education curricula and systems, especially those of pre-service education in Japan and East-Asian areas. He used to be a secretary-general of the Japanese Society of the Study on Teacher Education (JSSTE, 2002–2005) and has been in charge of the 1st East-Asian Conference on Teacher Education Research (March 2008, Tokyo) as a main organizer. In addition, he used to be a professional advisory member for the Central Council of Education (2004–2006) and has contributed to policy making on teacher education in Japan.

In recent years, he has been organizing some research projects (both internal Japan and international ones) about teacher education curricula, quality assurance, research methodologies, and so on. He also has been working as a coordinator of an international collaborative research project on quality assurance of teacher education among universities of the East-Asian area, conducted by the International Consortium of Universities of Education (ICUE) with 43 institutes for teacher education in Japan, Korea, Mainland China, Hong Kong and Taiwan.
Biography:
Christine Bieri Buschor currently holds the position of Head of the research group “Professional Development” at the Zurich University of Teacher Education. After studying German, French and history at the University of Zurich, she worked as a secondary school teacher. She then studied psychology and educational sciences at the same university. While writing her dissertation on young adults’ cross-curricular competencies, she concurrently worked as a researcher in the field of school development and school improvement. Afterwards, she entered the field of teacher education and taught educational psychology in the department for future kindergarten teachers at the School of Education in St. Gallen. For the past years, Christine has been working as a lecturer and researcher, having supervised PhD and Master’s students at Zurich University of Teacher Education. Her research interests include research-based teacher education, professional development, educational leadership, measurement of personal, social and profession-related competencies and vocational choices. Throughout her research, Christine has looked closely at students’ pathways and choices by combining different methodological approaches.
Biography:
Esther Kamm currently holds the position of Head of Secondary Education at the Zurich University of Teacher Education. She first studied Teaching for Secondary School at Zurich University and worked as a secondary school teacher for several years before restarting her studies in Educational Sciences and Sociology, again at the University of Zurich. In her dissertation she investigated structural change in tertiary education and cultural change in universities for applied sciences. After having taught Pedagogical Psychology and Sociology for future professionals in the field of special needs education, she held the position of Head of Secondary Education at the Nordwestschweiz University for Applied Sciences in Basel. Due to her function in the field of teacher training for Secondary I level education, her interests lie in curriculum development and the professional development of future teachers at this level, as well as biographies and pathways into a teaching career.
Biography:
Dr Tine Sloan is currently Director of the Teacher Education Program in the Gevirtz Graduate School of Education at the University of California, Santa Barbara, USA. The programme prepares elementary, secondary, and special education teachers. She is also a Commissioner on the California Commission on Teacher Credentialing, the body responsible for setting certification and accreditation policy for the state. She served on the development team for the Performance Assessment for California Teachers (PACT), hosted the first three implementation conferences, and co-authored the implementation handbook used by the PACT consortium.

She also serves as a senior consultant to the Stanford Center for Assessment, Learning, and Equity (SCALE), the organisation that spearheaded development of the edTPA, a teaching performance assessment used in 26 states. Her primary research interests revolve around teacher education, particularly with respect to use of performance assessment in candidate and faculty learning, and the use of performance data for program improvement. Her courses focus on issues in human development, educational psychology, teacher education, and assessment. All of her work is framed by her primary interest in understanding and advocating for the well being of children in educational contexts. Prior to her post at UC Santa Barbara she was a member of the NIE faculty in Singapore.
Biography:
Dr Huang Jia-Li graduated from the Department of Education at National Taiwan Normal University in 2003; majored in teacher professional sociology and educational history; and is now Professor, National Taiwan Normal University, and Director, Division of Intern Programs and Supervision, Office of Teacher Education and Careers Service, NTNU, and the Deputy Secretary-General of Teacher Education Association of the Republic of China. She serves on the advisory committee of the central and local government and is also a member of the Consortium for Universities of Education in East Asia.

Dr Huang has published over 60 journal papers, book chapters and conference papers about teacher education, especially about teacher professionalism, teacher credentials, teacher education evaluation, teacher qualification exams, internships, beginning teachers, and teacher quality. Her recently studied topics are standards-based teacher education, teacher ethical reasoning, and teacher education evaluation. She was involved in writing “Teacher Education White Paper of the Republic of China in 2011–2012” (2013). She has published “The Management of Teacher Quality and the System of Teacher Credential” (2008), “The Ideas and Practice of Standards-Based Teacher Education” (2013), and “International Teacher Education and Teacher Quality” (2012) co-edited with Yang Shen Keng (Lifelong National Chair Professor of Ministry of Education) and is working now on “Cloud Computing and Teacher Education” co-edited with Wu Chin Chi (President of Teacher Education Association of ROC and Chancellor University System of Taiwan Education).
Education has increasingly been recognised as an important investment in the long haul and the quality of education impacts nation-building, people’s capacity for adaptation, value-creation, and innovation. Education today is not just about preparing people for the future. Instead, it is about inventing the future because what we do with our generation is establishing the mindset change that can create what is to come. In today’s highly globalised world and society, it is important for education to provide a platform from which students gain multiple and different perspectives in order to develop their own multiplicity of views and to be acquainted with the many different ideologies and paradigms in order to remain nimble and flexible in our thinking and reasoning skills. Knowledge in this new landscape is now more commonly about being able to synthesise and integrate information and learning offered by different disciplines (multi-disciplinarity). It is about being open to learning. This requires an education system that adopts a holistic approach to developing the whole person to his/her full potential. It has to evolve from one that is content-focused to one that is student-centric.

In Singapore, having achieved recognition in internationally benchmarked tests such as the Trends in International Mathematics and Science Study (TIMSS) and the Progress in International Student Achievement (PISA), we still ask ourselves “Does it mean we really have competent people for the 21st century?” The learning environment today has changed tremendously. How are we using the learning environment to encourage motivation, independence, and collaboration amongst our learners?

**A UNIVERSITY-BASED TEACHER EDUCATION**

Teacher education in Singapore is a university-based model and grounded in the
pragmatics of preparing the holistic learner. Across many parts of the world, there are a lot of debates on how best to prepare teachers. There are movements such as Teach for America, Teach First in Britain, and Teach for Australia, which perceive that the craftsmanship of the teacher is best prepared from a school-based perspective. On the other hand, there are those who advocate that if we want a critical thinker and an adaptive teacher, teacher education must be based within a university setting. However, the common perception by policy makers is that the university focuses a lot on research and theories. Therefore, it is important that universities argue for and become the voice of what is at the core of teacher professionalism and articulate why it is necessary for teacher education to take place within the academic confines of the university setting. What makes the university so important is the fact that there is an active exchange of ideas through symposia and seminars that can generate research and help seed the next innovative idea. Teacher education as it stands now is ripe for generating all sorts of research on a wide range of topics. When we talk about the teacher, we want to characterize the teacher today as one who is always improving practice. One of the things being done in the National Institute of Education (NIE) is the e-portfolio where student teachers write about their experiences and reflections as they go through their journey of pre-service teacher education. In all areas of studies, such as their educational and curriculum studies, student teachers document and reflect on their learning so that they see how they can apply their knowledge to the practice of teaching in the future.

EMPHASIS ON VALUES

NIE initiated a Teacher Education Model for the 21st Century (TE21) focusing on three key attributes of the twenty-first century teaching professional, namely Values, Skills, and Knowledge, conceptualised as VSK. The VSK has three value paradigms. The first is learner-centredness, where the learner is placed at the centre of all our educational endeavours. The learner is the one who constructs learning and we create an environment to co-construct with the learner. Hence, it is essential for NIE to continue to build strong partnerships with schools in order to better understand the learners and the learning environment in the realities of the school setting. The second value paradigm is teacher identity. This refers to having high standards and a strong drive to learn in view of rapid changes in the education scene and to being responsive to students’ needs. The third value component is service to the community and the profession. How do we actualize professional learning? Within teacher education at NIE, opportunities and programmes are created where student teachers can begin professional collaboration even whilst they undergo pre-service education. An integral part of the programme is service learning where student teachers learn to serve as they serve to learn by engaging in community work with an organisation of their choice.

Equally important is the need to perennially re-examine, reframe, refresh, and re-enact the knowledge and skills required in order to stay relevant with the times. At NIE, we try to ensure that new and exciting pedagogies are being practiced in order to cater to diverse learners and for the purpose of engaging these learners. Assessment practices are also constantly moving away from the assessment of learning to assessment for the purpose of enhancing learning. Lifelong learning across the continuum of teacher professional development is being emphasised and while in-service, abundant opportunities are provided for teachers to build their professional competencies and to forge strong links with the teaching fraternity.

It is about being open to learning.
TEACHERS AS MEDIATORS AND DESIGNERS OF THE LEARNING ENVIRONMENT

The end goal of education ought to be to nurture a critical mass of individuals who possess higher order thinking skills with the vision to create the future. In the knowledge-based economy today, where knowledge progresses at breakneck speed, there is a need for educators and educational institutions to be cognizant of the rapid changes in knowledge so that the content that is being delivered does not quickly become obsolete or irrelevant. Added to the rapid pace of technological advances in the knowledge-based economy, there are also more complex issues to deal with such as newer mutations of viruses, different modes of terrorist attacks, unprecedented environmental disasters and the growing complexity in political and socio-economic issues that confront us today. What every person entering the workforce needs is the ability to adapt oneself to the ever-changing demands of our workplace and society and to think on one’s feet especially when presented with a situation that is unfamiliar. Educators therefore need to consider if what we are teaching truly prepares our students for the workplace of today.

Therefore, the real challenge for educators is to be able to design learning tasks and environments that help students to learn quickly, think on their feet and to eventually become great problem solvers. Teaching and learning in today’s context have taken on a paradigm shift, from one of making content knowledge visible to one of making teachers’ thinking visible to learners via pedagogical modes that support and model thinking, process and problem-solving skills. Also crucial is the shift towards making students’ thinking visible through mediating the learning environment and providing learners with lots of opportunities for active, collaborative and self-regulated learning.

The role of educators today, therefore ought to be as mediators, for learning to take place and as facilitators of the learning environment. The challenge, then, is not in mastering the art of knowledge dissemination but in motivating our students to engage in independent and lifelong learning. The demand for the ability to synthesise read information quickly, to write cogently and to communicate effectively will always be on the rise in the global workplace and society.

Equally important is the need to perennially re-examine, reframe, refresh, and re-enact the knowledge and skills required in order to stay relevant with the times.

TEACHING AS A CALLING

Teaching in the 21st century is about nurturing a future generation of strong thinkers, innovative problem-solvers and responsible and active local and global citizens. Such high demands call for those entering teaching to do so as answering a calling, rather than merely being occupied in a job. These teachers must have a unity of purpose in terms of aspiring to impact the next generation with deep passion and commitment and must want to develop the requisite competencies to achieve this mission. This also calls for teachers to develop a strong sense of teacher identity in terms of being proud of upholding their profession. The essence of considering teaching as a calling is that it is this deep calling that motivates them to seek out constant opportunities to level up their knowledge and skills and to better their standards of practice so as to be able to offer the best quality of learning to their students. In sum, teachers who have a deep sense of calling will strive to have a multifaceted impact on their students and aspire to imbibe them with the necessary values, character and competencies required for survival in the 21st century environment.
TEACHER PROFESSIONALISM AND AUTONOMY

It comes as no surprise that teachers who have a deep sense of calling and purpose will want to constantly improve on their professionalism. Put simply, professionalism is about autonomy and empowerment. What this boils down to is that teachers ought to have the flexibility and autonomy to make decisions that help improve their students’ learning. They should also be empowered to decide about what and how best to teach. To allow teachers to develop as professionals, we must prepare them rigorously, give them the right tools and allow them the time, space and trust to carry out their jobs well.

TRIPARTITE PARTNERSHIP

Albert Einstein said, “There’s nothing more insane than doing the same thing over and over again and expecting a different result.” Teacher education has always been subjected to critique that we are always doing the same thing. For years our change has not been dramatic. One key factor in all these changes is the fact that we cannot undermine the importance of a right governance structure because in our experience working across systems, we find that a lot of resources are often wasted as a result of a lack of congruence of goals among the different stakeholders. The tripartite relationship between NIE, the Ministry of Education (MOE) and the schools, has been seen to be a key cornerstone for success. With this partnership, the Singapore education system emphasizes clarity of purpose, confluence, congruence, and alignment of purposes across stakeholders and other educational champions. Policy coherence and implementation consistency is reinforced through NIE’s commitment to evidence-based policy development and through the honing of pre-service teachers’ pedagogical skills occurring in schools.

Under the tripartite partnership, also known as the Enhanced Partnership Model, teacher education courses take place within the academic confines of the university setting while the schools take on a partnership role especially in terms of providing clinical on-site experience in the form of the practicum postings and other school attachments aimed at helping to bridge the theory-practice nexus. Another role that schools can play is to allow for experimental pedagogies to be tested out on-site in realistic classroom settings.

However, the research agenda of university academics is often very different from some of the key concerns of policymakers and schools. The criteria of what constitutes scholarly work and what constitutes a good intellectual piece can be very different from what can help address the immediate and proximal needs of the school. In view of this, we need to rethink how we position ourselves in terms of engaging in university research in such a way that stakeholders, including the schools, feel that our research is potentially impactful to the schools. This alignment is very critical to the success of any teacher education system-wide.

CONCLUSION

Singapore has continuously been mindful of the importance of conducting programme review, evaluation, and research to inform the policy and practice of its teacher education programmes. At NIE, research programmes constantly look at the changes, developments, innovations and best practices that are taking place in teacher education all over the world because these have been recognized to be significant in preparing student teachers to function in changing and new environments. Coupled with a strong teacher education programme that emphasises values, skills and knowledge, a close theory-practice nexus and a strong partnership with stakeholders, NIE strives to develop thinking teachers who are deeply committed to the quality of their students’ learning and who are driven to constantly pursue opportunities that can help them to improve their practice.
This presentation is about the Danish education system and about a research project that VIA University College in Denmark is involved in. There are seven universities providing teacher education in Denmark and VIA University College educates about 25% of all teachers in Denmark.

In August 2013, a new bachelor’s degree for Education (Bachelor of Education) was launched. It is a four-year course and student teachers have to meet 240 ECTS\(^1\) points — 60 ECTS points must be completed each year. The objective of the B. Ed. Programme for primary and lower secondary school teachers is to prepare teachers for teaching in primary and lower secondary schools and to provide a basis for continued professional development. The course aims to provide the student teachers with the knowledge and skills necessary to function as academically, didactically and pedagogically competent teachers in the Danish public school system (called Folkeskolen).

The structure of this programme consists of the following four main elements:

- The teacher’s foundational competences (60 ECTS points).
- Main subjects (140 ECTS points)
- Teaching practice (30 ECTS points)
- Bachelor of Education project (20 ECTS points)

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\(^1\) ECTS is a standardized European Credit Transfer System created by the European Commission and aimed at higher education. One ECTS point represents 30 hours of student workload.
Table 1 shows the examination structure for the B. Ed. Programme. The teaching practice is organized according to three progressively advanced competence objectives, where each is divided into the following areas of competence: didactics, class management, and relations and cooperation.

**TEACHER EDUCATION IN DENMARK**

In Denmark, educational values and the values around teachers’ authority has been changing for the last 15 years. In the past, teachers could use their power in schools as they deemed fit. For example, to achieve certain behaviours in students, teachers were allowed to use corporal punishment.² They used discipline and focused a lot on the child’s behaviour, on correcting them and adjudicating them. Teachers had role-dependent authority but in the last few years, there has been a movement towards working with inclusion within the classroom and working using dialogue (instead of discipline), focusing on the relationship between the teacher and the students, moving towards empathy and caring of students, working with the concept of acknowledging good behaviour and reflection. This authority is termed as personal authority because it is authority that requires internalisation. The teachers have to integrate theory and practice so that the authority will be a part of their teacher personhood. This personal authority will then be exemplified when they enter the classroom.

In the theory and practice of teacher education, the development of competencies has a very central place. Teacher competency development comprises the development of knowledge and skills essential for functioning in classrooms. Developing competencies comprise of three parts: knowing what, knowing how and knowing why (reflection). Each main subject is described by four competences and up to eight corresponding goals/outcomes for each knowledge and skill domain.

Since there is no standard curriculum for teacher education, there is no defined content that teacher colleges have to cover. However, there are prescribed competencies that student teachers must develop. The challenge comes when the examination must measure the student teachers’ competences and where traditional assessment methods might not be suitable, as the assessment must assess student teachers’ output-based areas of competence.

Hence, the student’s mastery of the

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2 This has changed over the last 50 years. From 1967 it has been forbidden for teachers to hit children in schools.
teacher competences is based on three different levels:

- At the most basic level, the student is expected to be able to reproduce and identify relevant knowledge and skills, and explain basic processes.
- At the intermediate level, the student is expected to be able to establish connections and analyse known educational situations and challenges through the application of acquired knowledge and skills, and on the basis of this, act accordingly.
- At the advanced level, the student can reflect on and evaluate new educational situations and challenges that demand independent assessments and alternative ways of action in pedagogical practice.

At the highest level, the college demands student teachers to be able to think for themselves and analyse and come out with new solutions to problems encountered in classrooms.

**MISSION AND VISION OF VIA COLLEGE (TEACHER EDUCATION)**

The mission and vision for teacher education of VIA is shown in Figure 1.

![Mission and Vision of VIA College (Teacher Education)](image)

**Figure 1: Mission and Vision of VIA College (Teacher Education)**

The values encapsulated in the outer rim of the circle that the college embraces for all teacher education programmes are:

1. Future Orientation — It is important for teacher education to think about the future and also to take part in creating the future.
2. Sustainability — Teachers should be role models to show the students the need to take care of the Earth.
3. Democracy — It is important to uphold democracy as teachers.

The two green triangles describe the content that will be covered in the teacher education programmes. They are, in the upright triangle,

1. Subject knowledge and didactics
2. Learning teaching and learning processes and
3. Relational work — Teachers have
to learn to cope with work and develop good relationship with students, parents and other stakeholders in school.

In the inverted triangle, the strategies of how the college wants to work with the student teachers are stated. These are:

1. Co-operation with practice — The college works very closely with the schools and teachers in schools to overcome the gap between theory and practice.
2. Communities that commit — Student teachers learn to work in groups. Working in groups allow for student teachers to learn relational skills and to work as a team.
3. Investigating and exploring ways of working — It is very important that student teachers not only implement instructions but are able to think for themselves.

**RESEARCH PROJECT**

Dr Jensen is involved in a research project entitled ‘Students’ Competences for Relational Work, Empathy, Awareness and Presences in Lower and Secondary Schools’. The project is carried out in collaboration with Aarhus University, Faculty of Arts, Department of Education and several Public Schools in the surrounding areas of Aarhus. There are about 60 student teachers, 10 teachers from the University College and about 20 teachers from the schools taking part in the project. It is a 7-year project and it is currently in its second year at implementation. The project explores how student teachers’ relational competences in teacher education are developed.

The team teaches competencies to the teachers from the teacher education college and schools then to the student teachers. Training is conducted two or three times in a semester. Student teachers are expected to use what they have learnt while on their practicum postings in schools. In the study, the team had to conduct a training programme where they had to first educate their own teachers in college along with the teachers in the schools because not all teachers were comfortable with their own personal development. However, it is necessary for those involved in teacher education to be trained and to be good role models of the competences that the team wants to train student teachers in. The training sessions and systematic work building awareness, presence, empathy and relational competences strengthened the student teachers’ abilities to establish a positive learning environment for the children in schools.

The second aim of the project is to investigate the content knowledge within the concept of relational competence. Relational competence is defined as a professional’s ability to see the individual child on his own terms and attune the behaviour accordingly without giving up leadership as well as the ability to be authentic in contact with the child. It is the professional’s ability and desire to take full responsibility for the quality of the relationship (Juul & Jensen, 2005). The team trains the teachers and student teachers in many different ways. For example, for teachers to teach students to be relaxed, focused and to concentrate during lessons, the team first needs to ensure that the teachers can do it themselves. The team participated in the training with the teachers and student teachers. Feedback is given by the student teachers after they have tried it out during practicum and also from teachers at school who took part in the course. In addition to the team’s participation in the training...
course, researchers work alongside the team to observe and conduct interviews with teachers and student teachers to evaluate the effectiveness of the training. Full results of the study are not ready for presentation yet, given that the project is only in its second year of implementation but early stages of the project show great promise for success.

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TEACHER EXPERTISE: HOW TO STRENGTHEN THEORY AND PRACTICE LINKAGE IN TEACHER EDUCATION

PROFESSOR JENS RASMUSSEN
Aarhus University, Denmark

INTRODUCTION
In Professor Jens Rasmussen’s presentation, he presented his research study called ‘Expert in Teaching’. This study looks at how teachers matter or more precisely how effective teacher preparation can lead to producing more effective teachers, with special attention paid to the intention of connecting coursework more directly to practice in pre-service teacher education. The overall objective of the study was to strengthen the relationship between theory and practice in teacher education, through the development of better models for bridging the teaching at college and the internship teaching, or between college-based teacher preparation and clinical practice in schools.

BACKGROUND OF THE STUDY
The study was organized as a longitudinal research and development project that was supported by the Danish Ministry of Education. It followed student teachers during their first two years of a four-year teacher education programme during the years (2008/09 to 2009/10) after another teacher education reform was introduced in 2007. The study included four teacher training colleges at two university colleges. In total, about 100 students and 5-10 practicum schools at each teacher training college were involved in the study.

For some years before 2007, teacher personality had been in focus. However, with the reform in 2007, much attention was directed to teacher competences. The view was (and is) that it is much easier to develop teacher competences and to change ways of doing than it is to change personality traits. Emphasis then was, in the reform and in the study, on professional development and on how to strengthen the relationship between the preparation and training provided at college and training provided at practicum schools. Also, there was emphasis on how
both college-level teacher preparation and school-based clinical practice can both support and contribute to the development of student teachers’ professional knowledge, skills and competences.

A weak connection between the theoretical preparation at college and practice teaching in schools was generally acknowledged. Hence, the aim of the study was focused on developing better solutions to the problematic, weak, or even sometimes totally missing, link between teaching at college and teaching internship. The actions taken by the four different teacher education colleges to prepare student teachers for their internship varied from college to college.

The view was (and is) that it is much easier to develop teacher competences and to change ways of doing than it is to change personality traits.

Before the internship, colleges mainly used two different approaches in teaching: a problem-oriented approach, and an empirical approach. Firstly, for the problem-oriented approach, the problems the student teachers worked with and studied had to be of importance to their own professional development, for example, how to practice differentiated teaching in a diverse classroom, how to organize different activities in the classroom, or how to practice classroom management. Secondly, in the empirical approach, student teachers were encouraged to work actively with a systematic collection of empirical data during their internship. These two approaches can be and often was closely related.

During internship, tripartite meetings among a college teacher (College Supervisor), the practice teacher and the student teachers were organized. Student teachers were encouraged to use log books as a tool for data collection and for recording their experiences. After the internship, the teaching in all the colleges focuses on different kinds of reporting from the students. The reporting was closely related to the problem-oriented approach and the empirical approach as the colleges aimed to build a close relationship between the pre- and post-internship experience. The student teachers could report their data and experiences in log books, portfolios or practicum reports.

As operational goals for the study, operational indicators for teacher expertise were taken from the criteria expressed in the national curriculum for practice teaching. These criteria were organized as overall goals for all four years of the teacher education programme, as common goals for practice teaching during the four years, and as goals for each year.

The study further developed the definition of teacher expertise by adding three different forms of knowledge to the national criteria. These forms of knowledge were:

1. Scientific knowledge about teaching
   It is knowledge about teaching that is produced outside the educational system, outside the school with a different frame of reference from that employed by the educational system or the school itself. Scientific knowledge is characterized by the distinction between true and false statements and an aspiration towards generalized or generalizable research results. Also, scientific knowledge has the ambition of understanding and explaining a phenomenon without necessarily commenting on how to intervene in educational practice.

2. Professional knowledge about teaching
   It is knowledge which is produced within the educational system, within the school, about
the school and for the school. Professional knowledge is characterized by a distinction between instructive and non-instructive statements regarding teachers’ practice. It acts as the educational system’s (the school’s) own way of correcting professional practice according to a self-generated set of criteria for determining success or failure. Professional knowledge is developed with the aim of solving concrete problems in local contexts, it mainly comprises context-specific knowledge and its function is to explain practice in order to enable intervention aimed at improving practice.

3. Practice knowledge about teaching
It is knowledge that practitioners generate by and for themselves with the goal of facilitating a more effective practice. Practice knowledge is characterized by a distinction between what works and what does not work in practice and whether it does so in a reasonable or acceptable manner, for example, ethical terms. It is also experiential knowledge and its function is to contribute to an improvement of the concrete everyday teaching practice.

Criteria were put together to distinguish between three forms of knowledge that leads to a conceptualization of teacher expertise that consists of two dimensions, namely the height and width of teacher expertise. The three different knowledge forms express the height of teacher expertise and the goals specified in the national curriculum express the width of teacher expertise.

The forms of knowledge constitute taxonomy — not based on the assumption that one form of knowledge is better or more important than the others, but on the assumption that the different forms of knowledge can be more or less reliable. Normally the form of knowledge with the highest degree of generalizability is considered more reliable than context-bound knowledge. Thus it is advantageous for the practitioner to let his or her practice be guided by not only practice knowledge but also more generalizable knowledge. The student teachers are expected to work with the different goals at the different levels (a research-informed level, a how-to-do level and a hands-on level), at college as well as at practice schools, but of course with different weight or emphasis.

**FINDINGS**
The study showed that the problem-oriented and the empirical approaches were successful because these approaches contributed to connecting coursework directly to practice because they both revolve around the same topic or problem.

The study also showed that none of these two actions can stand alone. The problem-oriented approach and the empirical approach proved to be more efficient when they were aligned with the student teachers’ reports after internship, and when it was known by the student teachers from the beginning of the course that they were expected to focus on the same problem all through the three stages: from introductory work with scientific and professional knowledge at college, professional knowledge and practice knowledge at practice schools, and all three forms of knowledge related to their own experiences with practice in the student reports back at college again.

The study also showed that the students’ collection of data as a basis for their...
practicum reports is crucial to their ability to work as qualified teachers in the future.

The tripartite meetings were seen as an important connecting point between college teachers, practice teachers and teacher students although difficulties were found in the way that the three parties maintain their different roles in teacher education. The college teachers maintained their roles as teachers with an obligation to introduce relevant theoretical knowledge; they did so hesitantly and uncertainly. The college teachers found it difficult to perform their expected role at the meetings as the party with the most theoretical knowledge. This might be explained by a — likely misunderstood — reluctance to be seen as more educated (clever) than the two other parties in the meetings. Equality is high on the agenda in Denmark. Denmark is one of the world’s most equitable countries — and the culture is such that promoting oneself is unwelcoming. The practice teachers, in their retracted role performance, seemed not to live up to their roles as teacher educators.

The success of tripartite meetings stands and falls, the study showed, with each of the three parties taking the maintenance of their roles seriously. From the transcript analysis of the tripartite meetings, it became clear that there was quite a big variation between the goals expressed in the national curriculum and that those understood by individual teachers. The goals that were included or excluded varied from college to college, but in all, gave clear and useful data for the research study.
OPEN SYSTEM AND QUALITY CONTROL FOR TEACHER EDUCATION IN JAPAN

Before the advent of World War II, normal schools (a term commonly associated with schools/colleges providing teacher education among East Asian regions such as China and Japan) were the main Initial Teacher Training (ITT) providers, especially for primary school teachers in Japan. Japan has 47 prefectures and normal schools had been located in each prefecture. Normal schools in Japan were the only ITT providers where genuine teacher licenses for primary school teachers could be obtained. Unfortunately, such a closed system produced teachers who were undiscerning and who possessed limited knowledge.

After WWII, there was a common criticism of normal schools and the way for the establishment of the open system for initial teacher training had been paved under the teacher education policy in Japan. Normal schools in Japan have turned into universities of education or faculties of education in comprehensive universities, both run by national government but located in 47 prefectures. Moreover, under the policy of open system, some private/municipal universities have started to provide the ITT programme as well as those former normal schools.

Under the open system, any institute with the approved programme can provide initial teacher training. There are currently two types of ITT providers under the open system in Japan: the first consists of the former normal schools, which are funded by the national government and they provide specialized courses for ITT. The other consists of other institutes such as private, municipal or even national universities. In these institutes, ITT courses are optional. Currently in Japan, there are only 44 institutes (all 4-year universities) that provide
specialized courses for teacher education. Students of this kind of institutes have obligations to get certain teacher license(s). The majority, numbering approximately 1400 (including junior colleges, 4-year universities, MA/MEd level graduate schools and other approved institutes), consists of other institutes that provide optional ITT courses. It is no surprise then, that these institutes also produce the majority of new teacher’s licenses. In 2011 for example, 43.8% of primary schools, 65.4% of junior high schools and 73.8% of senior high schools’ new teacher’s licenses were issued by these institutes. While specialized teacher training institutes produced the majority of primary school teacher’s license at 46.6%, junior and senior high schools’ new teacher’s license holders stand at only 23.3% and 16.7% respectively.

While Tokyo Gakugei University is regarded as the top university for teacher education, it remains along with the other specialized initial teacher training providers, the minority in Japan. This is due to the fact that there are too many ITT providers across various levels in Japan. After the 1970s, more than a hundred thousand new K-12 license holders were produced each year. This trend, however, is not matched by overall teacher recruitment. In 2008 for instance, while 110,689 new K-12 licenses holders were produced (including the holders with 2 or more licenses), only 46,206 new teachers were recruited. As such, the open system has given rise to the problem of continuous over-production of new teachers. This is compounded by the problem of a decreasing birth rate in Japan. In addition, the deregulation of ITT providers (under the neo-liberalistic education policies in the 21st century) has caused the flood of ITT providers, especially those for primary school teachers. Thus Japan poses as a major problem for it was done so without any nation-wide quantity and quality control by the central government. It is therefore relatively easy to obtain a teacher’s license. As such, the problems of overproduction of teachers and the lack of any form of national quantity and quality control have led to devaluation of the teacher’s position as well as of specialized ITT providers.

On the other hand, the education administration system has been changed after WWII. Each prefecture in Japan is run by a local government. Within the individual prefectures, the local board of education (LBE) is in charge of the management of all education matters in that area. Under the situation mentioned above, prefectoral level LBEs have had serious problems for arranging teaching practice of flooding prospective teacher license holders until now, while they have strong power for teachers’ recruitment and personnel matters.

**Recent Teacher Education Reform Policies in Japan**

Teachers have been commonly regarded as academically trained professionals equipped with specialized skills to teach. However, in Japan, much like the other East Asian countries such as Taiwan, Mainland China and Korea, the image of a teacher is one deeply imbued with Confucian ethics and values. Teachers in East Asian countries are commonly held as role models for younger people. Therefore, teachers should be reputable individuals who are totally developed in the humanities and who exhibit exemplary behaviour.

The two images of a teacher as a professional and as a role model stem from two differing university models, namely the Oriental (Chinese) and Occidental (European) cultural background. The Oriental model has its origins in a pre-modern concept of Shuyuan (書院), which places emphasis on young people to nurture and attain a holistic development both in academia and the

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*Teachers in East Asian countries are commonly held as role models for younger people.*
development of the person, i.e. humanities or personhood.

Since the beginning of modern education in Japan, universities have been established based on the principles of the Occidental model. The Occidental model is underpinned by a formalized division into faculties and departments where specialized academic knowledge, wisdom, research and education take place. Consequently, this has given rise to and shaped the image of teachers as professionals with specialized skills and competencies. This system, based on formal professionalism, however, is not too favourable in nurturing holistic development of individuals. This mismatch then, constitutes the Japanese dilemma of teacher education.

The recent changes in Japanese policies pertaining to teacher education can be traced to the two cabinet changes during recent elections. Before 2009, the Liberal Democratic Party (LDP) was the ruling party. However, between 2009 and 2012, the Democratic Party of Japan (DPJ) came into power. Since the last election in December 2012, the LDP won and became the leading power again.

Unfortunately, both political parties had very different ideas when it came to education policies. For instance, under the rule of the DPJ, the cabinet announced the upgrading of the educational qualifications of teachers from the basic Bachelor’s level to a Masters (MA/ME) level in the attempt to regain the reputable image and prestige of the universities. The role of universities for teacher education was thus reaffirmed. When LDP took over again, however, the education policies established by the DPJ were overturned and went in the opposite, seemingly anti-modern direction. The LDP emphasized teacher training at schools or local boards of education, as well as the recruitment of teachers from various sectors such as private companies. The role of universities in teacher education and training thus became secondary and severely marginalised under the LDP policies.

**Reflective practice should be the key component in the ITT curriculum in the universities. Prospective teachers are guided to reflect on their experiences and practices in schools, to consider the background and context and proactively incorporate these insights into their teaching practice.**

**QUALITY ASSURANCE OF TEACHER EDUCATION IN JAPAN**

As mentioned earlier, there is currently no nation-wide quantity or quality control for the ITT programme in Japan, unlike the national exams for teacher qualifications held in Taiwan or the periodical evaluation for ITT providers in Korea. Instead, ITT providers in Japan have total control when it comes to the quality assurance of the new license holders from their programmes. In other words, ITT providers in Japan are the only responsible organizations for quality assurances of new teachers’ license holders. Hence, the local government along with their local boards of education from the 47 prefectures wield significant power in education matters. For instance, when it comes to employment matters, each local board of education has its own way and criteria for teacher screening and recruitment. This extends to all matters such as in-service training, promotions and management of teaching practices among others.

There exists an approval system for ITT providers by the Ministry of Education that has been growing in prominence as a form of nation-wide control. However, this form of approval system is based primarily on external factors such as the school’s facilities, staff, curriculum and practicum plans. The quality of the contents of the teacher training programme is still largely left unchecked and is considered secondary to the teacher’s qualifications. In addition,
through these external regulations, the academic freedom and independence of the universities have also been threatened.

At the same time, the local boards of education are growing more powerful. When it comes to the screening process of new license holders, the prospective teacher’s personhood, socio-communicative skills and practical teaching skills are especially emphasized. In addition, some local boards of education are now organizing their own teacher training programmes. For example, the Tokyo local board of education has been managing the Juku for teaching training since 2004. Juku, meaning ‘the place where the way of teaching is taught individually’, is a special training course and most are privately organized. Often in these courses, the teacher’s personhood and the emotional aspects of teaching are of foremost importance, whereas worryingly, the teacher’s competencies are not emphasized as much.

CONSIDERATIONS ABOUT TEACHERS’ FUTURE COMPETENCIES
There is a misconception that practical skills are more important for good teachers. However, there is a difference between practical skills and competencies. The local boards of education in Japan usually require their teachers to possess qualities and skill sets that are itemized and packaged according to their standards. This approach is a very top-down, visible and easy fix. It is, however, inadequate in producing and promoting teachers of high quality. Teacher competency, on the other hand, while often varied and more difficult to measure or standardize, is also important in producing high quality teachers. This requires a rigorous and specialized training, which universities offering initial teacher training programmes can provide. Practical experience in schools is not enough as this would only result in the reproduction of knowledge and material that is inadequate in addressing contemporary issues and the changing nature of problems experienced in schools today.

Reflective practice should be the key component in the ITT curriculum in the universities. Prospective teachers are guided to reflect on their experiences and practices in schools, to consider the background and context and proactively incorporate these insights into their teaching practice. This process requires the wisdom of specialized teacher educators. However, the shifting power balance from the initial teacher training providers from the universities to the local boards of education poses a significant challenge in accomplishing that task and it is an issue that teacher education in Japan must address.

Often in these courses, the teacher’s personhood and the emotional aspects of teaching are of foremost importance, whereas worryingly, the teacher’s competencies are not emphasized as much.
NEW ZEALAND is a small country with a population of just over 4 million people. The landscape of the New Zealand education system has been characterised by changes in direction determined by the views of the government of the time. An example of this is shown by the fact that prior to 1990, the approach to teacher education in New Zealand took what might be termed a rather ‘traditional’ approach, with only six Teachers’ Colleges, spread throughout the country. Through the 1980’s and early 1990’s reforms of the public service saw significant changes to the way schools were managed and teachers trained. The process of self-managing schools was also being instituted at that time and this also impacted Teacher Education. Professional development, which had been within the control of local education boards, was now placed within the aegis of Teacher Education.

During the 1990s, New Zealand saw a liberalization of the education system, resulting in as many as thirty-seven Teachers’ colleges, at one point in time. This is far different from what the situation is in Singapore, where only three key players are involved — the Ministry of Education (MOE), National Institute of Education (NIE) and Schools.

However, from the late 1990s through to this century, there has been a change in the New Zealand government’s focus. The education system is currently seeing much more governmental intervention, with the government contributing their views on how and what teacher education and development should comprise of.

THE APPROACH — HOW TEACHERS IN NEW ZEALAND ARE BEING DEVELOPED

The teacher development programme at the
University of Waikato is largely characterized by Darling-Hammond’s (2006) work, and seeks to have a strong coherence between course work and clinical practice. The 3 basic elements of our approach comprise of: strong relationships with schools, strong curriculum knowledge and a culturally located and responsive pedagogy. These elements are critical for programs that seek to create “stronger (and) more effective” (2006, p.300) teachers who are thoughtful, reflective and inquiring.

At the University of Waikato, students have 20 weeks of practicum experience over a three-year teacher education period, as mandated by the teachers’ council. The practicum period is spread over three blocks — four, six and eight, and students do them separately.

Once student teachers complete their three-year undergraduate programme, they go through two more years in the schools under supervision by experienced teachers before being formally registered3 as teachers.

**The 3 basic elements of our approach comprise of: strong relationships with schools, strong curriculum knowledge and a culturally located and responsive pedagogy.**

The University of Waikato has always believed in developing teachers with strong curriculum knowledge who are able to develop and practice strong pedagogy and are able to function as teachers who relate to their students and meet their needs in a changing world. How best we can prepare our teachers for these students is ultimately what motivates our teacher education programmes.

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3 In New Zealand, the Teacher Registration Board is an independent teacher professional body that requires all teachers to be registered.

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**STRONG RELATIONSHIPS WITH SCHOOLS**

The University of Waikato believes that strong relationships are critical for effective teaching. We believe that it is important that our students build and maintain good relationships with the students they teach, their colleagues and also their families. One reason for this is because by getting to know this collection of people (Whanau), our students will then be able to identify the factors of influence that are imposed on their students. Students are influenced and moulded by their families and schools need to build strong relationships with students’ parents and families.

**STRONG CURRICULUM KNOWLEDGE**

Another integral factor in our programme is strong curriculum knowledge. There are 7 learning areas in the New Zealand Curriculum and students at the University of Waikato study all 7 areas. This comprises English (and an additional language), The Arts, Health and Physical Education, Mathematics and Statistics, Science, Social Sciences and Technology (Ministry of Education, 2007).

What our student teachers learn is strongly linked through their practicum experience, as they are guided to integrate their coursework with their practicum experience in schools where the New Zealand Curriculum4 is being taught.

**CULTURALLY LOCATED AND RESPONSIVE PEDAGOGY**

New Zealand’s population has become increasingly diverse, with as many as 37 different ethnicities at one time, in a school. With the Maori population not having strong achievements in education, levelling up achievement across all ethnic groups has become a major focus in New Zealand education. Fortunately, with increased

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4 The New Zealand Curriculum applies to all schools for students from age 5, to 17 or 18 years of age.
government intervention on Education, the Maori Minister of Education is determined to change the lot of the Maori students and the government has been putting a great deal of pressure on the schools to level up educational achievement across all ethnic groups.

**CURRENT CHANGES — RAISING THE QUALITY OF TEACHERS**
Currently, to become a primary school teacher, students enter at an undergraduate level and graduate as teachers at the end of their three-year bachelors’ degree course.

However, the University of Waikato is looking at increasing the quality of teachers by moving to a post-graduate pre-service teacher education that will require students to have a bachelor's degree before enrolling into a teacher education programme.

New Zealand’s population has become increasingly diverse, with as many as 37 different ethnicities at one time, in a school.

The shift, though not uncommon in many parts of the world, will be a first for New Zealand. Significant issues of affordability will arise, but the shift to postgraduate teacher education and preparation is part of the increased efforts to improve the quality of teachers and produce teachers who are thoughtful, reflective and inquiring.

**CASE STUDY — COLLABORATIVE UNIVERSITY SCHOOL PARTNERSHIP (CUSP) PROGRAMME**
The University of Waikato has developed a programme in response to the changing climate of teacher education in New Zealand. The Collaborative University School Partnership (CUSP) is a programme aimed at developing teachers who are not only effective in teaching but who are also thoughtful, reflective and inquiring.

There are nine partnership schools that work with the programme and a total of 160 students aged five to twelve years old are involved each year. Our student teachers have weekly engagements in these schools for four days per week. The increased engagements in schools have made significant differences to teacher development, compared to the Mixed Media Programme that only required students to go into schools one day each week.

Each week, faculty from the University of Waikato, the school’s staff and the student teachers meet. This might be in the classroom with a teacher from the school, or with a University staff. It is during these weekly engagements that student teachers make the clear link between theory and practice, and a strong relationship between theoretical courses and classroom practice is built.

As a result of this collaborative partnership programme and in meeting with the Teacher Registration Board requirements, the school staff have been made associate lecturers within the University and some of them have their Master’s degree studies funded by the university.

**IMPACT OF CUSP PROGRAMME**
The impact of the CUSP programme on the student teachers has been quite apparent. Our student teachers are better able to relate theory to practice. They are better able to articulate the linkage between what goes on in schools each week and what they have learnt in the theoretical component of their teacher education programmes. These discussions occur during weekly engagements and very much revolve around questions like “What does literature say about this?”, “What have you seen in your practice?”, “Where are the common elements?” and “How do they work?”

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5 The Mixed Media Programme allows students to become teachers even though they are unable to attend regular classes on campus, but has since been moved to a campus-based program (Faculty of Education, 2013).
Moreover, by keeping weekly journals, our students are able to reflect on their own practice. It has become an interesting exercise to read what students write about what they see going on and what they think might go on in the classroom.

The programme has also increased and improved relationships between student teachers and faculty. We placed three student teachers in each classroom to work together and we have not had any issues around tensions between student teachers for over two years now. The importance of maintaining good relationships is something that our student teachers clearly embody.

The final impact of our programme on the student teachers is their ability to develop a strong sense of teacher identity. They are more quickly identifying themselves as teachers. They can readily identify what teacher presence entails and are able to say with conviction that “I am a teacher, and these are the things that are required of me, and this is the way I can and should act as a teacher”.

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THE WORK REPORTED IN THIS PRESENTATION IS CONDUCTED AT THE ZURICH UNIVERSITY OF TEACHER EDUCATION, WHICH IS ONE OF THE LARGEST UNIVERSITIES OF TEACHER EDUCATION WITH APPROXIMATELY 2,600 STUDENT TEACHERS AT THE PRIMARY AND SECONDARY SCHOOL LEVELS AND MORE THAN 6,000 PARTICIPANTS IN CONTINUING PROFESSIONAL DEVELOPMENT. THE SERVICES PROVIDED BY THE UNIVERSITY INCLUDE EDUCATION, TRAINING, RESEARCH (INCLUDING INTERNATIONAL PROJECTS), AND CONSULTING.

CONSEQUENCES OF THE REFORM FOR SWISS TEACHER EDUCATION IN 1990
As a result of a major shift in Swiss teacher education in 1990, teachers are now educated at the university level with a more academically-oriented curriculum. Furthermore, the curriculum is not only more research-oriented but also more focused on practice. Prior to the reform, reflection was mainly incorporated in the practical training component (practicum). Since the reform, reflection is strongly embedded within the entire curriculum.

At the Zurich University of Teacher Education, student teachers are very much involved in practical studies from the beginning. They spend one day a week in the so-called ‘cooperation schools’ during the first year. Additionally, they gain practical experience through training/internships in schools, the length of which lasts from two to seven weeks. More importantly, they are required to reflect on their teaching experiences, including biographical aspects and their motivation for joining the teaching profession. The strong focus on the theoretical and the practical aspects is in line with Lee Shulman’s argument that teacher professionalism includes both theoretical and practical knowledge (Shulman, 1991).

SUPPORTING SWISS STUDENT TEACHERS: A REFLECTIVE ATTITUDE AND RESEARCH-ORIENTED STANCE — THE CASE OF ZURICH UNIVERSITY OF TEACHER EDUCATION

PROFESSOR CHRISTINE BIERI BUSCHOR AND PROFESSOR ESTHER KAMM
Zurich University of Teacher Education, Switzerland
SUPPORTING STUDENT TEACHERS’ RESEARCH-ORIENTED STANCE

The work of developing student teachers’ research-oriented stance focuses on three areas (Kamm & Bieri, 2008). It aims to help student teachers:

- gain a perspective regarding a phenomenon/problem,
- acquire basic skills required for collecting and analyzing data by using research methods and strategies, and
- reflect on their learning process, including a transfer to their own teaching (e.g., problem-solving, project management).

As teacher educators, we face several challenges in the process of helping student teachers develop a research-oriented stance. Firstly, these aims might conflict with students’ needs at the initial phase of teaching. Teachers have to deal with a high amount of uncertainty. They therefore need to develop practical competencies/skills rather than research competencies because they ultimately have to survive in the classroom. Secondly, studies show that student teachers seek a practical form of education (Denzler & Wolter, 2010). It is, however, important that student teachers experience research-based knowledge as it is essential to draw on this when dealing with practical situations. Thirdly, students and lecturers, coming from different fields, have different concepts of research. Therefore, the term ‘research’ needs clarification.

DIFFERENT INTERPRETATIONS OF RESEARCH IN TEACHER EDUCATION

We not only have to clarify what we mean by using the term ‘research’, but also have to find a way to bridge the gap between research-orientation and practice. We use the following types of research ranging from acquisition of knowledge to conducting research with the target group (Altrichter & Mayr, 2004):

1. The first type refers to acquisition of knowledge from research and studies that are relevant to teaching, for example from large scale assessments such as the Trends in International Mathematics and Science Study (TIMSS) video study, in order to reflect on the criteria for teaching quality.
2. The second type provides methodological competencies in order to understand teaching.
3. The third type comprises participating in research projects guided by experienced researchers.
4. The fourth type is related to understanding cases by means of comparison, for example expert and novice teachers.
5. The fifth type refers to conducting action research in terms of cycles of inquiry in the classroom. The aim is to combine theoretical research-based knowledge with practice.

CONDUCTING ACTION RESEARCH WITH STUDENT TEACHERS

Action research is not a new concept but it is still one of the most powerful methods for supporting student teachers’ research-oriented stance and reflective attitude. In action research, teachers:

- analyse their professional practice,
- reflect on their practice on the basis of theoretical knowledge (Schön, 1991), and
- learn the principles of inquiry-based learning as part of teachers’ professional development (Horn & Little, 2010).

ACTION RESEARCH IN OUR TEACHER EDUCATION PROGRAMME

Based on the action research cycle proposed by researchers such as Altrichter and Posch (2007) and Stringer (2008), an example to illustrate how action research works in our teacher education programmes is described:
A prospective teacher recognised that in her class, students did not work well in groups. She therefore decided to understand how to implement collaborative learning successfully. After researching the theoretical background in current literature, she decided to focus on two areas: the role of the teacher as well as the collaborative learning group. Afterwards, she planned how to analyse these two areas and decided to use a video analysis and student questionnaires. She then took action. During the analysis (action), she realised that some aspects needed to be changed. For instance, the task given to the students was not challenging enough (the problem could have easily been solved by one student). In addition, clear goals and roles needed to be defined during the phase of group building. She also recognised that her perception of her own role as a coach needed to be adapted. She then decided to give more feedback based on observation. Learning outcomes were then defined and she decided to introduce collaborative learning over a longer period of time, focusing specifically on the definition of clear roles for the students in the groups, practicing these roles, and actively practicing her role as a coach. Finally, she decided to collaborate with a colleague in order to receive feedback on her coaching role by means of observation. Meanwhile, she has started another reflective cycle.

More importantly, they are required to reflect on their teaching experiences, including biographical aspects and their motivation for joining the teaching profession.

THE BENEFITS OF STUDENT TEACHERS’ ACTION RESEARCH

We evaluated one of our courses in the Master’s programme where student teachers conducted their own action research project in the classroom over a longer period of time. Twenty student teachers were asked to reflect on their experiences with an open-ended question: “How did you perceive the benefits and challenges of engaging in action research?” The student teachers’ answers show that action research benefited them in the following areas:

1. They acquired knowledge over a longer period of time.
2. They linked theory and practice, and adapted theoretical knowledge.
3. They developed a research-oriented stance.
4. It also had an impact on the interaction between the teacher and students.

PRACTICAL PROGRAMME IN AN INTEGRATED MODEL OF TEACHER EDUCATION

Practical training at Zurich University is similar at all levels of teacher education (pre-primary, primary and secondary). This means that practical training programmes deal with the same main topics in the practical phases with the same structure and same amount of European Credit Transfer System (ECTS) points at all levels. From the very first term, students gain practical teaching experience in the classroom at a cooperation school, which is also referred to as a “teacher assistantship”. It comprises of eight internships that are integrated in the six semesters for the Bachelor of Arts (BA) programme or the nine semesters for the Master of Arts (MA) programme.

OVERVIEW OF THE PRACTICAL TRAINING AT SECONDARY LEVEL EDUCATION

Next an overview of the practical training at secondary level education throughout the nine semesters or terms is explained. Training begins with an introduction to methodology, classroom management and individualised forms of teaching in the first year.
During this period, the suitability of student teachers will be assessed. The core element is our extended practical teaching experience, a half-term internship. The main assessment for a student teacher is their practical teaching experience in a classroom as a novice teacher. During the period of the internship, the novice teacher must complete a course of education at the University of Teacher Education in Zurich.

**Half-term — Internship**
This extended practical teaching experience phase takes place in the 4th term for pre-primary and primary education and in the 6th term for secondary level. It is accompanied by a module on teaching quality and divided into 5 stages (Baer et al., 2010).

**Phase I — preparation (4 weeks)**
In the preparation phase, students re-activate their knowledge of teaching quality from the courses they followed in their previous studies. They then become familiarised with the characteristics of quality teaching and analyze video lessons of empirical studies. Ethical issues are also covered, for example, students learn how to ask for parents’ permission for their children to be filmed for training purposes. Lastly, student teachers have to learn how to handle a video camera.

**Phase II — practical teaching (4 weeks)**
Student teachers record two lessons of their own teaching including one teacher-centred and one student-centred lesson.

**Phase III — reflection and further preparation (3 weeks)**
Student teachers return to the university and analyse all of their videos, in groups of three, and review six videos per group. They undertake a rating of every observed lesson in accordance with a list of criteria for good teaching practice. The discussion rule states that the student teachers featured in the video are not allowed to comment on or explain their original intentions. Instead, the student teachers must listen to the peer feedback. After having analysed the lessons, student teachers become aware of the strengths and weaknesses of their teaching practice. Then, student teachers choose one question they wish to answer or an area that they want to improve. Thereafter, by studying both the theoretical and the empirical results, they endeavour to improve upon their shortcomings. Normally, there are around 20 similar topics chosen by students. Here, professors need to help students find the relevant literature required as a form of coaching. In the next step, a literature review must be written. Following this period of investigation, a new lesson is planned for the next stage of the practical teaching experience.

**Phase IV — practical teaching (3 weeks)**
In this phase, student teachers plan one lesson that includes their chosen focus and they video-record this lesson.

**Phase V — final reflection and self-evaluation (1 week)**
In the final week, student teachers draw conclusions about all they have learnt concerning their chosen topic in the area of quality in teaching. Finally, they write a report based on an individual question in teaching, using relevant theory and reflecting upon their practical teaching experience.

**CONCLUSION**
We focused on the issue of how we can
support student teachers’ research-oriented stance and reflective attitude. Our two examples — action research and video study — showed common criteria. It suggests the importance of the following areas:

- connecting practical experience with theory to bridge the gap between the two
- an individually-chosen focus (a question or problem) based upon the student’s own teaching practice
- evaluation and feedback by others, so called “critical friends” in action research or peer-feedback in the video-study element of the module teaching quality. Student teachers not only learn in a cooperative setting, but also take responsibility for their own professional development by defining their focus of improvement. Self-evaluation is employed as some form of evidence-based inquiry.

Both examples above support the idea of the reflective practitioner and try to simulate, in some sense, a life-long learning process.

REFERENCES


This presentation focused on preparing thinking teachers from Taiwan’s perspective. It provided some background information about this field as well as some ways to promote student teachers’ thinking. Before sharing Taiwan’s experience and perspective, Professor Huang briefly discussed what it means to be ‘thinking teachers’. For that purpose, Professor Huang cited Schön who stated in his 1983 book *The Reflective Practitioner: How Professionals Think in Action* that “the best professionals know more than they can put into words. To meet the challenges of their work, they rely less on formulas learnt in graduate school than on the kind of improvisation learned in practice.” In his book, Schön showed precisely how “reflection-in-action” works and how this vital creativity might be fostered in future professionals. Another aspect of thinking teachers operates from the assumption that teacher-connectedness and other behaviours are guided by a personally held system of beliefs, values and purposes. This kind of theory may be called ‘a teacher’s acquired knowledge’ or ‘implicit theory of practical wisdom’. It is a kind of knowledge belonging to individual teachers, which is not described in words but manifested in teachers’ beliefs or in their behaviours. Professor Huang uses the term ‘practical wisdom’ to describe the situation in which a teacher chooses the right way to do the right things. Practical wisdom, being a total technique, is a way of being concerned with things and principles of production, as well as a way of being concerned with internal principles. It is also a way of being concerned with one’s life and with the lives of others, and with one’s surroundings as purview of practice. It can be a disposition or habit through which we feel and act as teachers.

Teacher thinking is just the beginning of reflection, problem-solving and doing
research. Eventually, teachers will accumulate practical wisdom. Due to the importance of student learning, teacher thinking needs to be treated as the cornerstone of reflection. The habit of teacher thinking is one of the key dispositions to cultivate during pre-service teacher education whose goal is preparing teachers’ thinking habits. On this point, there are two aspects of teacher thinking to bear in mind. One aspect has been referred to as favourite process perception, reflection, problem solving, research and the manipulation of ideas. According to this metaphor, teachers use a body of specialised knowledge such as curriculum, teaching methods, subject matter and total behaviour together with other information resulting from their experience of working with their students in numerous contacts and with different materials. Another aspect is the foundation upon which to make decisions. Stakeholders including parents, administrators, advisers, curriculum development agents and politicians, determine the conditions in which teachers work. Teachers may encounter numerous expectations that may be in conflict with each other, as well as with the belief of an individual teacher. Furthermore, classrooms where teachers face daily are a busy place at any one moment and teachers have to deal with a series of instances to keep the class working quickly, postpone or redirect other children’s request for attention and to carry out a particular activity in groups or as a class. Teachers may need to encourage cooperative work and perhaps obtain greater students’ satisfaction through more intense preparation.

Another aspect of thinking teachers operates from the assumption that teacher-connectedness and other behaviours are guided by a personally held system of beliefs, values and purposes. Teachers need to use their knowledge and practical wisdom to cope with the constant challenge of complex situations. Teachers must often respond immediately and enthusiastically through repeated practice and reflection on practice. Teachers need to develop more specialised and knowledgeable skills that might be applicable to another situation. The process of implementation is accompanied by much thinking, and not just by innovation alone. It is imperative to provide supporting resources, including people to support student teachers’ development, and that a system is needed in order to facilitate the reflection process. A curriculum has been designed to initiate change, to motivate teacher candidates themselves, and to nurture student teachers’ thinking habits. It is also necessary to describe the possibility of a more common situation where thinking or reflection or action can take place and to identify an alternative level at which teachers might operate during such a process.

Teacher thinking, reflection and practical knowledge can be a circle that can be regarded as reflection or reflecting by thinking and learning by doing. There are a few points that need emphasizing here. First, teacher thinking is a habit that professional teachers must acquire. Second, teacher thinking needs to encourage teachers’ innovative action to succeed and grow. Third, teacher thinking is as important strategy for teachers to accumulate their practical wisdom. Fourth, the habit of teacher thinking is cultivated from practical experience. Fifth, the habit of teacher thinking should start from the outset of pre-service teacher education.

Professor Huang continued to talk about the way to prepare teacher thinking at pre-service teacher education in the Taiwanese context. The ways to promote student teachers’ thinking can be divided into two levels: One is at the governmental level; the other is the university level. At the governmental level, Taiwan is striving to raise teacher professional standards. As in Singapore, US, UK and Australia, where high standards
of teacher education are maintained in the context of globalisation, teachers’ professional standards are also rising in Taiwan.

In typical teachers’ professional standards outlined at the induction stage, for example, teacher candidates are required to keep reflecting on their educational stance and gain new experience from trying different solutions to foster aggressive learning attitudes. Second, field study is required by the new regulation of educational professional curriculum in teacher education from 2013.

Take National Taiwan Normal University (NTNU) for example. At first, they decided on the educational professional curriculum and content knowledge. They paid a lot of attention to practical experience. There are three kinds of practice that teacher candidates are required to experience. One is field study for 54 hours. According to the NTNU regulation, teacher candidates are recruited in their second year and start to take 26 professional educational credits every semester in the later part of their university study. Teacher candidates are required to take part in 54 hours of field study according to the new regulation including school visits and simulated teaching. Those who are awarded scholarships (about 8000 NT dollars, approximately equivalent of 260 US dollars per month from the government) are also required to take another 36 hours to experience school life through field study. During their university education, teacher candidates go through three stages of sitting in class during their sophomore year, and acting as teaching assistants as well as being involved in teaching and administrative work during their junior year. They are required to undergo teaching practicum during their senior year of university. A week to a month of sitting in class or mini-teaching (for about 20 minutes) or teaching a class at secondary school is required, depending on the professor’s arrangements. Some professors arrange for teacher candidates to visit different schools across Taiwan. Due to the current regulations for teacher education in Taiwan, teacher candidates get their teacher qualifications after taking a half-year educational practicum in school and passing the examination.

Teacher candidates experience four parts of school life such as teaching practice, classroom management, administration, and professional development. They are required to spend at least 13 hours during their field study in schools where they are assigned cooperative teacher assistants. The responsibility of the cooperative teacher is to help teacher candidates become acclimatized to the school life such as how to design coursework, arrange activities, prepare teaching materials, deal with student matters, and observe tutors’ communication with parents. These aspects of school life are in fact quite similar to those in other countries. The system of teacher candidates learning in school during their educational practicum in Taiwan is similar to that in Singapore. As mentioned previously, teacher candidates can gain real-life school experience through field study. However, without guidance, this experience can potentially leave teacher candidates feeling depressed when experiencing a reality shock. Therefore, it is important to appoint the right people to guide student teachers with their field experience in schools. These include school teachers as the cooperative teachers and university professors as the supervisor to support student teachers in learning how to teach.

Besides support from cooperative teachers and supervisors, there are also self-help guides for student teachers to engage in self-directed learning while out in schools on field experience. These guides have the following features. First, they create directions to follow such as learning models,
observation and reflection. Second, several issues are mentioned in the guides, which make student teachers aware of how to assess situations. Third, these key points also acquaint teacher candidates with standards of the teacher education induction stages. It is important to help student teachers to know what kind of situation should be the key practice to reflect upon and why they need to accumulate practical experience in order to form the implicit knowledge for the building of practical wisdom.

However, without guidance, this experience can potentially leave teacher candidates feeling depressed when experiencing a reality shock.

To help student teachers to know the strengths and disadvantages of their ability, a teacher situation judgment test (TSJT) is being developed to understand teacher candidates’ cognitive ability and judgment performance. Situation judgment test (SJT) is a major method used as a tool to select prospective teacher employees. The purpose of the SJT is to identify individuals whose tacit knowledge indicates their potential for performance. According to numerous research results, the SJT is a cognitive ability test and a good and valid predictor of future job performance. TSJT is used in Taiwan to predict wider dimensions of a teacher’s job performance in classroom management, learning, counselling, relationship with colleagues, and relationship with parents. Each dimension is related to expert experience with construct validity. After the test, teacher candidates can discover their strengths and disadvantages in five dimensions. They can then pay more attention to their disadvantages and develop their strengths. This is the current situation of teacher education in Taiwan where the goal is to prepare thinking teachers.
This presentation is about work that is both coming from Dr Sloan’s position as a teacher educator and as a policymaker. In addition to being the Director of the teacher education programme at the University of California Santa Barbara (UCSB), she also serves on the California Commission on Teacher Credentialing. It is the state board that sets teacher certification standards and policy, and oversees all accreditation of institutions that offer credential programmes in California.

The programme at UCSB is housed within the research-intensive University of California (UC) system. It is a one-year post-baccalaureate programme that is an integrated Master’s plus teacher certification programme, and as a result, is very inquiry-based. They only run one cohort per year in order to offer a developmental sequence of learning-to-teach experiences. Field work spans the entire academic year and is concurrent with course work in order to ensure integration of the two, as a means to support inquiry into teacher candidates’ developing practice. This means a full-time commitment, whereby teacher candidates spend their days in K-12 schools and come to the university in the afternoons and evenings for courses.

In responding to the attack on teacher education programmes happening in the US today, Dr Sloan shared what US Secretary of Education Arne Duncan shared at the Teachers College in 2009. He talked about the mediocrity of the schools of education in the US. He said,

By almost any standard, many if not most of the nation’s 1,450 schools, colleges and departments of education are doing a mediocre job of preparing teachers for the realities of the 21st century classroom.

Dr Sloan said that in many respects, Secretary Duncan is right. There is a huge spectrum of quality when it comes to teacher education programmes in the US, which
has caused problems for the field and resulted in many different kinds of responses. For example, one response is the National Council on the Accreditation of Teacher Education (NCATE) Blue Ribbon Panel with recommendations on making clinical practice the centre of teacher education. Other responses are a variety of new standards for teacher education (e.g., Interstate New Teacher Assessment and Support Consortium (INTASC), Council for the Accreditation of Educator Preparation (CAEP)). Another involves a variety of evaluations conducted by a variety of agencies (e.g., NCATE, CAEP, State accrediting bodies, and media sponsored reviews such as National Council on Teacher Quality (NCTQ)), all of which vary in quality and rigor. Amid all of this is the prevailing problem of a lack of alignment between teachers, policymakers, and schools of education — something she hears about as a strength in Singapore. In the US, there is often a tremendous misalignment, in large part as a result of teachers and teacher educators not being involved in the policymaking decisions. Though teachers are as interested as any group in reforming education, they often feel that current reforms “are being done to them, not with them. They feel they are being dictated to from on high, by people who have never spent a day teaching in a public school classroom” (Mike Rose, Professor of Education, UCLA).

The lack of trust in teacher education has resulted in an accountability thrust that is shifting the definition of effective teaching from 1) successfully delivering the curriculum — “we got through the material” — to having a positive impact on student learning — “how have I affected student learning?” and 2) from license as entitlement for finishing a curriculum to an obligation to demonstrate the proficiency the curriculum intends. The business of teacher education isn’t just about finishing a set of curriculum. It’s about demonstrating that we are ready to teach.

We also have to come to grips with what is our profession. Too much about our profession is being dictated by people who aren’t involved in our profession. In addition to an Ethical and Moral Commitment, and Standards of Practice, there is a Professional Certification of Effective Practice. Many professions do have certification exams that qualify you to be licensed in a profession and that is definitely where the US is turning to now with regard to teacher education.

**PERFORMANCE-BASED ASSESSMENT**

One response to certification exams is a movement to employ performance-based assessments of teaching competence. One such exam is the edTPA (Teacher Performance Assessment Of Teaching), and another developed ten years prior in California, the PACT (Performance Assessment for California Teachers). The edTPA, developed by the profession for the profession and led by the people at Stanford University, is very much based on the Performance Assessment for California Teachers. Currently, it is being piloted in 29 states, with 430 institutions and about 12,000 candidates using it.

A number of states have also developed policies around its use for licensure, states such as California and New York. Since 2008, all teacher candidates coming out of California teacher education programs must pass this performance assessment in order to be certified to teach.

Several types of certifying exams have been used by states in the past. Some of them had been primarily multiple-choice based exams that are sort of testing teacher knowledge. With the edTPA and PACT, the assessment is actually a slice in time.
of teaching. Teachers develop about 3-5 hours of lessons. They turn in their entire lesson plans along with the instructional materials they use and write a commentary about the decisions they made and ensure that their plans are definitely focused on their students. They submit videos of their teaching. There is also an assessment task where they gather and analyse student work, identify three focused students (ensuring that one of them is an English learner) and again write a commentary about that work. Throughout, they are analysing teaching effectiveness and there is a big focus on academic language development.

**RUBRICS**

Within the edTPA there are 15 rubrics that are used to score several dimensions of teaching that include planning, instruction, assessment, reflection, and academic language. The important thing to note is that there are descriptors of practice at each level of these rubrics. This has become important to the TPA work, as there is now a common language being developed around teaching based on these rubrics and based on understanding certain levels of sophistication for different dimensions of teaching practice. In terms of how sophistication of teaching is characterized across the spectrum, in general, at the lower end of the rubric are teachers who focus on the whole class and not differentiating well among students; at the higher end are teachers who are able to differentiate their instruction for all students in the classroom (e.g. students with special needs). There are additional criteria that guide the levels of sophistication captured in the rubrics. All PACT rubrics and tasks can be accessed from their website: www.pacttpa.org.

**IMPLEMENTATION OF A TEACHER PERFORMANCE ASSESSMENT (TPA)**

In California, new policy mandates required programmes to implement a TPA. The question then for programmes was whether they would simply comply with the mandate or use the TPA as a lever for inquiry and program improvement.

Throughout the implementation of PACT, the faculty researchers at UCSB studied the implementation process. Over time, they studied certain dimensions including faculty learning, candidate learning, and leadership processes. They have a number of data sources including interviews, artifacts from the programme, faculty free-writes, and observations of the kinds of things teachers are engaged in. They look at their work mostly from a socio-cultural frame and in a number of different ways.

Before PACT, UCSB was well-known for having a very high quality programme. However, its work improved with the use of PACT. Researchers documented changes in programme curriculum, evidence that candidates are learning to teach well — in some areas better than before PACT, closer collaborations between course instructors and supervisors, greater knowledge of the whole programme on the part of faculty, etc. There are several publications that discuss these findings, but the following presentation focuses on the three things researchers paid attention to in understanding the organizational changes that took place and can take place: the Tool, the Organization, and the People.

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**The business of teacher education isn’t just about finishing a set of curriculum. It’s about demonstrating that we are ready to teach.**

**TOOLS**

An assessment tool functions as a lens and will privilege some elements of performance and not others. The good thing about PACT and edTPA is that it privileges things in general the faculty felt strongly about. The other thing to consider about assessments in teacher education is that most assessments are often course-specific, or sometimes run across 2-3 courses. PACT and edTPA
are different in that they are programme-
wide and require candidates to take what
they were learning from their courses and
their fieldwork, and integrate it in ways that
none of their previous tools had done. This
created a new problem for the programme
in terms of how to prepare candidates for
this new assessment. There was a need to
embed formative experiences into the cur-
riculum prior to candidates doing the as-
essment experience. In California, the
assessment has very high stakes. If candi-
dates do not pass, they will not be certified.

The other big issue with the tool is that it
was created externally. As with most teach-
er educators in the US, they were used to
having the autonomy to create their own as-
sessments, and now this autonomy is being
threatened. Many teacher educators come
from the K12 schools and many of them are
“refugees” from the K12 schools. The K12
schools had a lot of accountability policies
imposed on them and this accountability
suddenly entered the realms of teacher edu-
cation as well.

In sum, regarding the assessment tool,
three problems posed leadership challeng-
es: What gets privileged and what doesn’t,
how to integrate a new type of holistic tool,
and how to maintain people’s sense of au-
tonomy and agency with a tool that starts
out external to the programme.

ORGANIZATION STRUCTURES
Throughout the implementation process
there was a need to pay attention to
the organizational structures that both
facilitated and hindered the work. One
thing they found very helpful in the
programme change process was thinking
about the objective of activity. The fact
that teacher education programmes can
oftentimes be very course-or fieldwork-or
practice-specific. The question became how
to expand the object of activity to promote
collaboration across practices. Because
PACT and edTPA are programme-wide
assessment, it was important that faculty
had programme-wide opportunities to learn
and collaborate around the work.

There were many structures in place that
prevented collaboration from happening
across practices. One was the institutional
structures around personnel policies, pro-
motion and tenure. Promotion and tenure
in UCSB is based on research. TPA (Teacher
performance assessment) work was not in
the job description and entails a lot of work
to both embed formative experiences and
score the portfolios. Scorer training is time
consuming each year, and each portfolio
can take 2-4 hours to score.

Another structure to consider was
the fact that typically teacher educa-
tion work is situated in different physical
and organizational localities, e.g. at K-12

Throughout it, they are analysing teaching
effectiveness and there is a big focus on academic
language development.
each programme meets those standards in different ways. Because of the integrated nature of the PACT and edTPA, if courses and fieldwork are structured quite separate from one another, the ability for candidates and faculty to think about that integration is difficult. This does serve to confront one of the enduring problems of teacher education in the US - the separation of course and fieldwork. At UCSB, the course and fieldwork run concurrently, and therefore create important opportunities to make links across the two.

In sum, the following are some issues they chose to focus on with respect to organizational structures: 1) **Leadership actions**: To expand the object of activity beyond individual practice, it was necessary to get everybody at the same table. It was important to consider the kind of things that would capitalize on people’s motivations, individually and collectively. 2) **Personal workload policies**: In attending to the fact that the TPA requires a different kind of work — and a great deal of work — one strategy was to suspending normal activity in order to allow people to focus on the TPA. So one week per year, supervisors do not go into schools and courses are suspended for that week so that everyone can focus on the TPA work at hand. 3) **Communities of practice**: This refers to people who spontaneously get together as teacher educators do, to plan, think and work. It was important that the work became public so everyone did not just stay within their small groups. It was also essential to involve the K-12 partners in the local evaluation process.

**PEOPLE**

The final consideration in the implementation process is the most important — the people involved in the work. As mentioned earlier, the work was seen as a threat to people’s autonomy and there is significant emotion and identity attached to this work. This is very important to remember.

The other key to this for leadership became managing the dynamics between individual and collective motivation. Individual motivation is important to pay attention to because it is what people bring. Leadership needed to recognize the expertise each person had, because with a holistic, integrated tool like PACT and edTPA, the work is facilitated by experts helping others develop expertise. For example, the UCSB experts in academic language did and do a lot of professional development around academic language for all faculties. In addition to individual motivation is the notion of collective motivation. This was important because leadership and researchers noticed the most productive changes resulted in faculty identifying with the collective programme. This meant that the way faculty eventually thought of their role and their practice was in relation to the whole. For example, supervisors are paying attention to specific academic language strategies. Supervisors and instructors have had thousands of conversations around this, and developed some pretty strong shared understandings of how candidates can be introduced to this work in courses, develop it in student teaching, bring their experiences back to their coursework, and evaluate the success of their candidates’ learning and practice. There is a new sense of belonging. People are happy to be a part of this.

**DATA**

At the centre of all of these efforts around Tools, Organizations and People, is the need for data, which was the key in changing the programme. Initially, it was felt that the teacher candidates were going to do very well using the new rubrics as UCSB was a high-level programme with very stringent admission standards and with very qualified...
candidates or students. In reality, these candidates did not do as well as anticipated. This was not evident until the data was put on the table for all faculty to see, and for all to work with collaboratively to analyze and develop ideas for programme change.

One important element to the process of data analysis was the use of the rubrics. The candidates’ edTPA and PACT work showed much evidence in terms of how candidates were integrating what they were learning in the programme with what they were teaching. The rubrics assisted in making sense of the candidate’s data, and at the same time, the rubrics assisted faculty in developing a common language to talk about this practice. This elevated levels of collaboration, when they could really understand one another.

Certainly as instructors or supervisors, we always look at what our candidates are doing. The difference with PACT is that all were looking at the same student’s work together. It was the collaborative conversations around student work that really made the difference. There is evidence that teacher candidates are able to teach well, and excel in some areas more than others. There is now a common language of communication, a more cohesive and streamlined programme, closer collaborations and the faculty have greater programme ownership. A culture of inquiry has been built and that is defined by communicating with shared understandings in conversations grounded in evidence. What candidates are saying about the programme is also highly positive.

This presentation has been about a response to the context of living in the US and is an example of the ways that teacher education faculty are inquiring and using data for their work in the same way that they want their teacher candidates to be doing. They are, therefore, walking the talk.