



Preparing to Lead



Singapore

Management & Leadership in
Schools Program and
Leaders in Education Program



CENTER ON INTERNATIONAL
EDUCATION BENCHMARKING
LEARNING FROM THE WORLD'S HIGH PERFORMING EDUCATION SYSTEMS

This report was commissioned by the Center on International Education Benchmarking® of the National Center on Education and the Economy®. For a complete listing of the material produced by this research program, please visit www.ncee.org/cieb.

This work may be cited as:

Ben Jensen, Phoebe Downing, and Anna Clark, “Preparing to Lead: Shanghai Continuing Professional Development. Case Studies for School Leadership Development Programs in High-Performing Education Systems” (Washington, DC: National Center on Education and the Economy, 2017).

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Preparing to Lead: Singapore Management & Leadership in Schools Program and Leaders in Education Program

Case Studies for School Leadership Development Programs in High-Performing Education Systems

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September 2017

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School Leadership Development in Singapore

Singapore leaves nothing about school leadership development to chance.

Through growth-based performance management, a school improvement model that clearly identifies roles and responsibilities for distributed curriculum leadership and strategic planning, and a leadership track for education officers, schools in Singapore are set up to build leadership capabilities among teachers that would normally be seen at the principal level elsewhere.

Today, the National Institute of Education (NIE) operates two world-class milestone leadership development programs for teacher leaders (sometimes called “middle leaders”) and aspiring principals at key moments along the leadership track. These programs have both been designed since 2000 to prepare teacher leaders and principals for their specific in-school leadership and management roles and responsibilities. The Ministry uses performance management data to select candidates for these programs.

But this has not always been the case.

In the 1970s and 1980s, the relationship between the Ministry of Education and school principals was tense and unidirectional. Principals were treated as policy enforcers rather than organizational leaders: they had little freedom to set vision or to shape culture at the school level.

This top-down culture changed significantly after the *Thinking Schools, Learning Nation* (TSLN) agenda was announced in 1997. TSLN restructured the relationship between schools and the Ministry of Education, and redefined both teaching (as a learning profession) and schools (as model learning organizations). The Ministry introduced a new school improvement process—the School Excellence Model—to cascade the TSLN agenda into all schools, and to help them to operate as self-improving professional learning organizations.¹

This had huge implications for how principals and teacher leaders were expected to act, and therefore the kind of development they required.

In the TSLN era, principals in Singapore act as “CEOs of professional learning organizations.”² Principals lead continuous school improvement across the whole school. Principals set the vision for their school, lead the change management process based on analysis of student learning needs, and ensure student-centric practices motivate all practices and behaviors within the school.

Leadership in Singapore’s schools is distributed: principals are leaders of leaders, and rely on the instructional and curriculum leadership of their teacher leadership team. Teacher

leaders in Singapore—including heads of departments, subject and year heads, and school staff developers—play a key role in strategic planning, curriculum leadership, and teacher professional development. Teacher leaders write the strategic plan against specific goals (i.e., the school staff developer writes the strategic plan for staff development; other heads of departments are allocated to the other key areas, such as academic outcomes). Principals and vice principals—referred to as school Senior Leaders—lead the teacher leader management team through School Excellence Model review and report writing.

To prepare the kinds of teacher leaders and principals needed to lead the School Excellence Model and national priorities for student learning (currently in the “Student-centric, Values-Driven Education”, or SVE, phase), NIE, in partnership with the Ministry of Education, designed milestone leadership development programs targeting these key positions and responsibilities on the leadership track.

NIE launched the new Leaders in Education Program in 2001, replacing the previous educational administration program, because a new kind of leadership development was required if school leaders were to be expected to lead professional learning organizations in the 21st century. The Management and Leadership in Schools program followed in 2007, designed to give teacher leaders a foundation in middle management. Teacher leaders take the MLS after one year in the role: newly appointed teacher leaders on the leadership track undertake “just-in-time” training through a Ministry-led induction program called Enhanced Leadership and Management Program.

Since 2009, Singapore’s Ministry of Education has also promoted professional learning communities to encourage teachers to be critically engaged and to build school leaders’ and teachers’ capacity to initiate school-based curriculum improvement.³

The two programs, Management and Leadership in Schools and Leaders in Education, are more integrated than commonly assumed. These programs share philosophies and adult learning principles (such as learning by doing), and can almost be thought of as two halves of the one overarching school leadership development program.⁴

Taken together, these two programs support teachers who are on Singapore’s leadership track through the various in-school leadership responsibilities they undertake, culminating in the principalship (See Figure 2).⁵ Another way of looking at it is that the Leaders in Education Program can only approach principal preparation through the lens of complexity because the Management and Leadership in Schools program develops specific management and leadership capacities in teacher leaders at an earlier stage on the leadership track.

These two leadership development programs are described as ‘milestone’ programs because of their sequencing against Singapore’s leadership track (See Figure 1). Teachers on the leadership track—including subject and year heads, heads of departments, and School

Figure 1 Milestone Leadership Programs Sequenced Along the Leadership Track Within Schools



Staff Developers—undertake the Management and Leadership in Schools program after being appointed to a teacher leader role. Vice principals undertake the Leaders in Education Program prior to being assigned to a principal post. The Ministry of Education selects and subsidizes participants of both programs.

Prior to taking the Management and Leadership in Schools program, newly appointed teacher managers also undertake a Ministry-led induction program called the Enhanced Leadership and Management Program (LAMPplus), which focuses on “just-in-time” skills development for them to deliver their department’s learning and teaching programs. To align these programs to policy intent and curriculum objectives LAMPplus also introduces teacher leaders to performance management, departmental culture building, and teacher development.⁶

Roles and Responsibilities of School Leaders in Singapore

Career tracks

Singapore is one of only a few systems in the world that operates career tracks for the teaching workforce. Singapore’s three career tracks reflect the fact that teachers have diverse aspirations and ways of contributing to excellence in education (See Figure 2).⁷

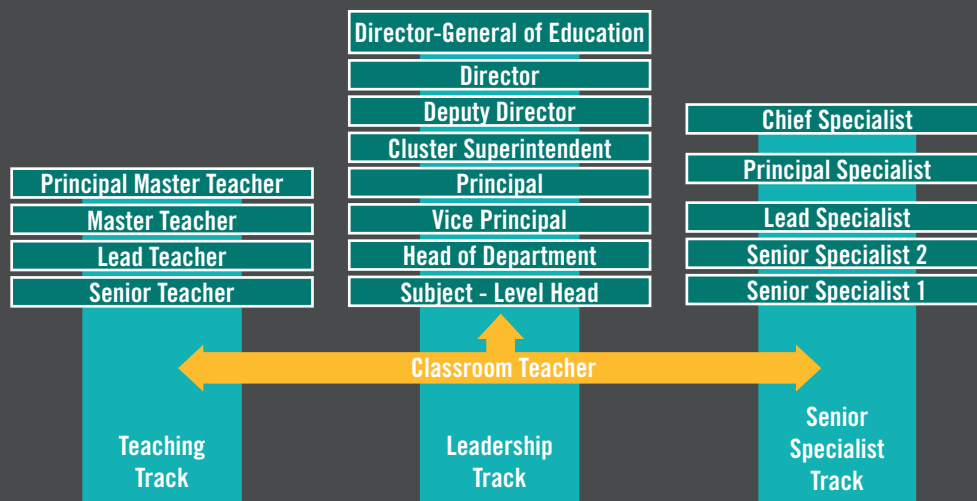
The **teaching track** provides professional development and promotional opportunities for teachers wanting to develop the pedagogical capacity of the teaching workforce. It culminates in the Principal Master Teacher position. The **senior specialist track** is for teachers wanting to further develop their expertise in specific areas, including curriculum and instructional design, educational psychology and guidance, educational testing and measurement, and educational research and statistics. This track leads to the Chief Specialist position. The **leadership track** is for teachers who want to take on leadership positions within schools and the Ministry of Education Headquarters, up to and including the Director-General of Education.

Teachers can move laterally (from, say, the teaching track to the leadership track) provided they satisfy the standards and criteria of the track they wish to move towards.

Teachers identified with leadership potential are appointed to the leadership track and assigned to a teacher leader role.

Teacher leaders are “key personnel” in the management and leadership team at their school (vice principals and principals are referred to as senior leaders).⁸ Heads of departments

Figure 2 Career Tracks for the Teaching Profession



Source: National Institute of Education, 2009

typically lead strategic planning and curriculum improvements at the departmental level for school improvement planning (under the School Excellence Model), and are responsible for keeping each department on track against school goals. Heads of Department are therefore targeted for formal leadership development at NIE, through the Management and Leadership at Schools program.

In 2006, to help implement reform priorities in schools, the Ministry established a new teacher leader role—the School Staff Developer—at the teacher leader rung along the leadership track. To incentivize uptake, the Ministry of Education pledged SGD \$10,000 to schools that installed a School Staff Developer by 2007.

The School Staff Developer is a teacher leader role equivalent to the Head of Department, which was introduced to help schools be “proactive” about teacher development. School Staff Developers are ‘catalysts’ for encouraging a collaborating learning culture among staff at the school. They are encouraged to plan and design professional development for teaching and non-teaching staff, champion staff learning, be a coach and mentor for school staff, be a resource guide, and be a ‘well-being sponsor.’⁹

Senior leaders—principals and vice principals—are expected to incorporate professional learning into their school improvement plans, and to collaborate with School Staff Developers in a meaningful way.¹⁰ In return, School Staff Developers:

- Create a “Total Learning Plan” for the school (including non-teaching staff, such as administrative and executive staff who support teaching and learning), setting the professional development for the year;
- Work with Heads of Departments to map teacher development needs;
- Design and deliver professional learning initiatives;
- Lead induction and mentoring for new and novice teachers;
- Support Senior and Lead Teachers who are mentoring others; and
- Source external expertise to target an individual teacher’s need.¹¹

The Total Learning Plan incorporates the school-wide learning focus, department learning focus and individual learning plans.

How are School Staff Developers trained?

School Staff Developers are typically Heads of Departments or senior teachers who will have completed or are eligible to undertake the Management and Leadership in Schools program at NIE. Some teachers are appointed SSDs without first being Heads of Departments, based on demonstrating the right disposition.

The Academy of Singapore Teachers, a teacher-led professional development organization established by the Ministry, operates an induction program for newly-appointed school staff developers. Through induction, participants develop their understanding of their roles and responsibilities as School Staff Developers. The course also enhances participants' knowledge and skills and provides an opportunity for them to engage in networked learning as a community.

The induction program is a 10-session course run over 10 weeks. The induction includes components on the learning processes, systems and structures, and policies that shape the role of School Staff Developers as a champion and leader of staff professional learning.

Newly appointed School Staff Developers learn how to guide and facilitate the target-setting process for individual development plans. They also lead the setting of professional development targets for the whole school, based on the school's strategic plans.

Heads of Departments may undertake further training and induction to work as School Staff Developers. In some instances, teachers who demonstrate the right disposition for developing others can be appointed directly as School Staff Developers, without being Heads of Departments first. This is a senior leader position responsible for ensuring that teacher professional development is aligned with departmental, school and national priorities. Together, School Staff Developers and Heads of Departments mentor and coach teachers in teaching and career development.¹²

Schools in Singapore also typically have two or three vice principals, depending on school size. Each vice principal may be given a particular portfolio based on school needs, such as student development, administration or academic affairs. Vice principals are key members of the senior management team.

Cluster Superintendents

Singapore's education system is organized around four zones: North, South, East, and West. Each zone is overseen by a Zonal Director, who is responsible for school improvement within that zone. Each zone includes seven to eight clusters, each of which houses 13 to 14 elementary and secondary schools and junior college/centralized institutes.

This structure plays an important role in Singapore's devolution of powers to the school level.

Clusters within the zones are overseen by Superintendents. The cluster Superintendent allocates central resources across schools, and can provide support for strategic planning, and reinforce Ministry of Education policies and priorities at the school level.

Cluster Superintendents moderate teachers and school leaders' performance management grades across whole schools before these are passed on to the Ministry. Cluster Superintendents will know the Current Estimated Potential of all teacher leaders in the cluster: they can transfer teacher leaders between schools within the cluster, and recommend that principals release their teacher leaders for other assignments and further professional development.

Cluster Superintendents have a close functional relationship with the schools and principals in their cluster. They undertake regular school visits at the 13 or so schools within their cluster, and meet monthly with the principals from the cluster to discuss school improvement planning, resource allocation and cross-school initiatives.

Enhanced Performance Management System

All teachers in Singapore undergo an annual performance appraisal process called the Enhanced Performance Management System (EPMS). The EPMS is a growth-focused appraisal mechanism designed to identify teachers' strengths and areas for improvement. It is used to target professional development opportunities for every teacher.

The EPMS has two core purposes: appraisal of staff performance, and determination of prospects for promotion.

For teachers on the leadership track, the Ministry of Education takes both their EPMS grades and their Current Estimated Potential evaluation for selection into the Management and Leadership in Schools program and the Leaders in Education Program.

These performance measures are used to determine teachers' readiness for further leadership development opportunities.

There are two stages to the EPMS. The first is an open stage, in which teachers work with an EPMS assessor to determine a personal performance plan for the year. This performance plan shapes teachers' professional development, including mentoring and professional learning opportunities.

The second stage of the EPMS is a closed process, in which the assessor (typically the principal, if the candidate is a teacher, or cluster Superintendent, if the candidate is a principal) determines the teacher's performance grade. This grade has implications for remuneration and promotion, though the Current Estimated Potential largely determines promotion prospects.

The EPMS provides a structure for assessing teachers' progress towards predetermined performance goals, in support of school improvement and their progression along the career tracks. For instance, teachers must be able to demonstrate in their EPMS cycle how they have translated departmental strategic goals (set by Heads of Departments) into the classroom. Heads of Departments, in their own EPMS, must demonstrate their success in cascading these strategic goals throughout their department.

The EPMS is effectively the same for all education officers, though the level of competency required is calibrated according to experience. For instance, while teachers and principals are both appraised against their impact on student outcomes, education officers at a lower grade (General Education Officer) are not required to demonstrate the competencies of those at a higher grade.

The EPMS processes are supported by My Professional Development Journey, a personalized software platform that enables teachers to monitor their progress against EPMS goals, and to find appropriate professional development opportunities to work on their identified areas for improvement (referred to as 'Ts') and their strengths.

This is one of the keys advantages of the EPMS: in recognizing teachers' strengths, and not simply areas for improvement, it encourages them to further develop their talents.

Based on their performance in their first years in the job, all classroom teachers are appointed to one of the three career tracks in the education service.

School principals are also active in identifying and nurturing talented teacher leaders. In Singapore, developing others is part of the principal's job. Serving principals are recognized and applauded for their success in 'grooming' teacher leaders who assume formal leadership positions in schools.

Current Estimated Potential

The EPMS is not the only performance management tool used for talent management on the leadership track. Teachers are also assessed through the Current Estimated Potential (CEP) protocol. The CEP is an aggregated leadership potential evaluation jointly derived by the school and cluster leadership teams, and has a significant bearing on teachers' promotional prospects.

Just what the CEP process looks like and the relative importance it is given varies between Ministries within Singapore's civil service. Education officers within the Ministry of Education suggest that the CEP has evolved beyond recognition from its origins as a talent management tool at Shell.

Unlike the EPMS results, which are open to teachers, the Ministry of Education is not transparent about CEP results with candidates. It is used internally to monitor the talent pool, and for decisions on promotions and assignments.

The CEP does not have a formula. It is a collective estimate initially determined at the school level by the leadership team (including the principal, vice principals and teacher leaders). Schools conduct a Work Review Session three to four times a year to assess the CEP of their teachers. The school leadership team determines CEP against key criteria that vary between schools but may include for instance:

- Individual traits and attributes (such as reflecting the values of the Ministry of Education);
- Professional mastery (student-centered teaching, curriculum, assessment and evaluation, and pedagogical instruction);
- Organizational contribution and awareness; and/or
- Effective collaboration (including team work and external collaboration).

To moderate the subjective nature of this process, CEP evaluations are revised at the system level by the cluster Superintendent, and again at the zonal level by the Zonal Director, who is responsible for school improvement at all schools across the clusters in that zone.

The CEP is a topic of debate within the education system. Some question the usefulness of a measure that does not consider the level of instruction an officer may have required to perform their job.

In general, though, education officers in Singapore regard the CEP as a useful, if limited, talent identification tool that helps the Ministry of Education match human resources to system needs and assess the health of the future leadership pipeline.

Teacher leaders' success in leading strategic planning informs both their EPMS and CEP scores. This has implications for their prospects for promotion to a vice principal position, selection into the Leaders in Education Program, and performance bonuses.¹³

Leadership Development Programs in Singapore

“The future of our nation lies in your hands.”¹⁴

—Address by the Minister for Education to newly appointed principals (2006)

Both the Management and Leadership in Schools (MLS) program and the Leaders in Education Program (LEP) have been designed to prepare school leaders to help schools contribute to the growth and development of Singapore’s knowledge-based economy.

Emphasis in these programs falls on preparing Singapore’s school leaders—whether principals, Heads of Departments, Subject Heads or Level Heads—to ensure the nation’s schools are self-improving, innovative, and adaptive.

Singapore’s milestone leadership development programs need to be understood together.

The two programs are more interlinked than is widely assumed by international observers. If the LEP develops principals as “CEOs” of professional learning organizations, the MLS prepares teacher leaders as autonomous “middle-up-down” leaders and managers’ earlier in their trajectory towards this peak in-school leadership position.¹⁵ Both contribute to school management and leadership teams, and must work autonomously, and collaboratively with each other and with the wider school community, including teachers, parents, children, Ministry of Education officials, and partnership organizations in the wider community.

The MLS and LEP are both full-time programs. The Ministry of Education selects and fully sponsors local candidates. Participants are therefore expected to be released from in-school duties and commitments for the duration of each program. This includes release from national service duties.

Both programs are partially conducted on-site at NIE and in placement schools, and include an international education system visit.

Who designs the programs?

NIE is the sole provider of teacher qualifications and milestone school leadership programs in the country. The Institute works closely with the Ministry of Education and the school sector (including the Academy of Singapore Teachers) on teacher and leadership development, research, implementation, and evaluation. This is often referred to as the ‘enhanced partnership,’ and means that policy, practice, and preparation are tightly integrated in Singapore’s education system.

NIE invests considerable resources in the design and delivery of the milestone leadership development programs. In 2016, more than 40 NIE faculty members were involved in teaching, designing, and assessing the MLS and LEP programs, up to and including the Head of Policy and Leadership Studies and the Associate Head of Leadership Learning.

NIE faculty bring diverse professional experience to the programs, and deliver instruction related to their own professional practice and research expertise. The Institute's reputation is a key factor in its commitment to excellence in school leadership development.

NIE also offers other leadership development programs that are not considered 'milestone' but that also contribute to leadership development for school and system leaders. These programs are outside the scope of this chapter, but information is available on the NIE website (www.nie.edu.sg).

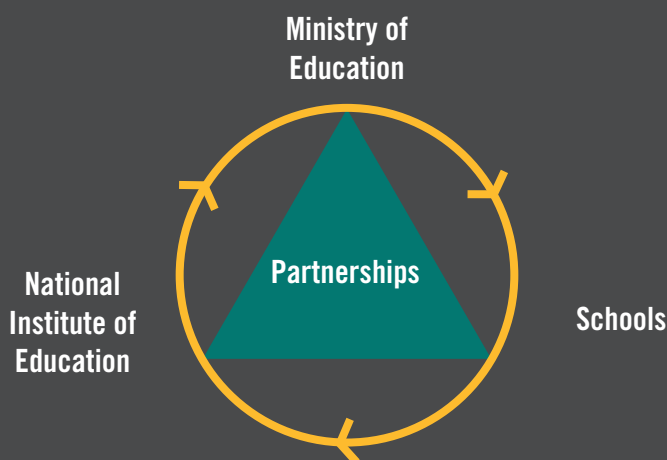
Who takes the programs?

*"We put considerable effort into selecting and developing school leaders, through the LEP and other means, on and off the job. We want the right individuals to run our schools... This fact alone makes Singapore quite different. From early in the career of an education officer, we seek to identify and develop those with an interest in taking on leadership positions and the right traits."*¹⁶

As the international trend in teacher leadership development programs shows, systems around the world are increasingly investing in developing the leadership identity of teachers earlier in their careers and in a more systematic way.

But Singapore is unique in using integrated performance management, leadership tracks, and sequenced milestone programs to identify and develop high-quality leaders from their

Figure 3 Singapore's Enhanced Partnership Model



Source: Adapted from the National Institute of Education (2009)

first years in the classroom and over the duration of their careers in schools. Educators in Singapore describe these components in balance as an “ecosystem” in which every part has a role to play that cannot be reduced to its own terms.

The key formal talent identification and management processes that the Ministry of Education uses to track and develop high-potential school leaders are careers tracks for Ministry personnel, the EMPS, and Current Estimated Potential.

The Ministry of Education uses these processes as selection filters for milestone leadership development programs at the NIE, and for promotion and assignment decisions.

Program 1: Management and Leadership in Schools (MLS)

“Through the MLS, we need to develop innovative curriculum leaders, who can lead advances in all dimensions of the teaching and learning process; and accountable personnel, who thrive on versatility, challenge, complexity and autonomy.”¹⁷

Launched in 2007, the Management and Leadership in Schools (MLS) program is designed for teacher leaders on the leadership track, including Heads of Departments, subject heads, and level heads.

Teacher leaders in Singapore have formal leadership responsibilities for curriculum and instructional improvement, and are involved in strategic planning and teacher professional development at the departmental level. They are a crucial part of the school leadership team.

The MLS for teacher leaders is profiled here for two reasons. First, it complements the Leaders in Education Program for aspiring principals, and has a bearing on how the LEP approaches principal preparation. Second, owing to the substantial role that teacher leaders in Singapore play in strategic planning, curriculum leadership, teacher professional development, and staff appraisal, the content of the MLS reflects what in other systems would be considered principal preparation. The MLS also shares philosophies and adult learning approaches with, and builds on the strengths of, the LEP.¹⁸ These programs are therefore best understood in relation to one another.

Program objectives and overview

Program objectives

MLS is a full-time, seventeen-week program for selected teacher leaders. It is sequenced after the Diploma in Departmental Management Programme and before the LEP at NIE.

The aim of the MLS is to expand these teacher leaders’ experience beyond their own subject areas, preparing them to take on direct leadership over teaching and learning at the departmental level and to support the school principal in school reform.¹⁹

The MLS is designed to help these teacher leaders achieve three specific objectives:

1. To create new knowledge in generative and collaborative learning, beyond a single discipline or subject;
2. To enhance expertise competence among teacher leaders, regarding their position next to the pinnacle of the leadership track; and
3. To enhance capacity to lead teaching and learning through the creation of learning teams, with a focus on continual improvement in the curriculum.²⁰

It is the first formal training for teacher leaders to develop their capacity to lead teachers from subjects other than their own. It is an important step in their development for school leadership, and is intentionally designed to aid their advancement along the leadership track.

Program overview

“Effective middle leadership cannot be achieved solely through teaching competencies and theories of leadership and management. It must integrate skills such as collective knowledge inquiry and professional conversations.”²¹

The role of teacher leaders in Singapore is highly collaborative. Heads of Departments are involved in teacher appraisal (through EPMS) and professional development for teachers within their departments. They also contribute to strategic planning with the school leadership team, and engage with broader stakeholders in the system.

The MLS program therefore aims to develop participants’ collective learning and capacity to hold professional conversations. These skills are critical to teacher leaders’ ability to successfully coach teachers within their departments to improve their practices in the classroom.

These skills are therefore targeted through direct modules (discussed below), but are also embedded in NIE’s general approach to teacher leader development.

At the end of the MLS, participants are expected to be able to

- “Demonstrate an up-to-date knowledge of theory relevant to departmental leadership and management, and effectively apply it to departmental personnel and activities;
- Reflect, think and reason independently about complex curriculum and instructional issues, and understand how innovative practice leads to gains in students’ educational achievement;
- Design, develop, implement, and evaluate curriculum activities in their field of expertise;
- Formulate strategies to support teachers’ motivation and satisfaction, and foster a climate of collaboration in the department;
- Identify and facilitate appropriate professional development activities that support departmental, school, and national priorities;
- Assess student learning and teacher effectiveness validly and reliably, and apply appropriate assessment processes within the department; and
- Understand the wider educational context, which includes national priorities and constraints in a multi-racial society.”²²

In many systems, these criteria would describe the level curriculum leadership and organizational management expected in principals rather than middle managers.

Program components

Preparation

The Ministry of Education selects and sponsors teacher leaders through the MLS program at the NIE. The Ministry uses EPMS scores and Current Estimated Potential appraisals, as well as principal and superintendent recommendations, to make selection decisions. To be eligible, teachers must be on the leadership track, have a Diploma in Education, and have at least one year's experience in a management position. For applicants who are not sponsored by the Ministry, the fee is approximately S\$10,000 per person.

Core module: Fundamentals of Leadership and Management

The MLS has one core course, Fundamentals of Leadership and Management. This course lasts 72 hours and is worth 6 academic units. It is delivered through varied methods, including ICT (i.e., online discussions of course content), group discussions, and lectures.

Figure 4 Intentional Design in the Management and Leadership in Schools Program

The MLS aims to: create new knowledge in generative and collaborative learning, beyond single discipline/subject; enhance expert competence among teacher leaders, regarding their next position on the leadership track; and enhance capacity to lead teaching & learning through learning teams with a focus on continual curriculum improvement

The curriculum project is a team action research project, sequenced so participants can practice innovative thinking based on modular learning. Teams of five work in schools with the principal to identify problem statements for student learning, from which they design an innovative 10-week curriculum.



Conceptual framework:

“To develop education leaders with the mindset and capacity to lead and manage change in a complex and evolving environment.”

Duration (17 weeks), timing (teacher leaders with 1 year experience) and sequence

Source: Adapted from National Institute of Education, Singapore 2016d.

This core course covers three key topics: leadership, management, and curriculum.

Leadership

The MLS approaches leadership from the perspective of the character of individual leaders: personal values, self-awareness, and moral and emotional capacity. This is balanced with an emphasis on the evidence and practices of distributed leadership within the context of Singapore’s schools.²³

For instance, in 2009, the Ministry of Education announced that professional learning communities would serve as the primary means of raising teacher quality and professionalism across schools.²⁴ Through a core module, MLS candidates therefore explore research by NIE faculty on the function of distributed leadership in Singapore’s professional learning communities.²⁵

Management

Educational management development in the MLS focuses on aligning resources—including human, financial, and technological resources—with the long-term strategic planning at the school as a competitive organization, and in the context of national priorities for education.

A core module, for instance, takes candidates through the relationships between leadership and management, and why ‘systems thinking’—ensuring their practices as departmental leaders contribute to whole-school improvement and leadership—is important for leading change and managing schools as organizations.²⁶

Curriculum

Preparing teacher leaders for their responsibilities for school curriculum design and improvement is core to the MLS. The program takes a holistic view of curriculum, encouraging candidates to think about the relationship between curriculum improvement and material selection, ICT, budgets, teaching, testing, and even school organization and stakeholder relations.²⁷

Specific areas covered in this part of the core course include:

- “Approaches to curriculum management and leadership
- Applying research and experience in instructional leadership
- Successful school improvement interventions
- The nature and practice of curriculum design
- Application of models for designing curriculum and instruction.”²⁸

Elective modules

Alongside the core course, MLS participants also select six electives relevant to their own leadership roles and specific school contexts. The electives are worth 9 academic units (1.5 per elective) and run for a total of 108 hours.

As with the core course, delivery for elective modules is varied. Depending on the module tutor, delivery can include ICT, case studies, a Curriculum Project, cooperative learning, small group discussions, and presentations.²⁹

Each year, the MLS includes around 30 elective options, depending on staff availability and demand. Some example elective modules from 2016 include:

- Instructional supervision for professional development
- Staff appraisal (i.e., EPMS procedures)
- Self-management and delegation
- Team building and conflict management
- Fundamentals in counseling
- Marketing strategy and planning for schools
- Issues in student management
- Alternative assessment for project-based learning
- Assessment rubrics
- School leaders and stakeholders in the community: working together for students' success
- Lesson study for teacher leaders
- Strategic planning
- Change leadership
- Professional development processes
- Making sense of reform: policy, process, and practice
- Interpreting education policy and school leadership
- Effective school leadership
- Introductory tools for school-based research
- Differentiating curriculum and instruction for diverse learners
- Teaching and learning talk in our classrooms: instruction for diverse learners

- Technology-enabled assessments
- Design thinking: developing 21st century skills and competencies
- The power of narratives in leading from the middle
- Intriguing learners with design, assessment and learning
- Flipped classrooms for teacher leaders in schools

There are also electives addressing core subjects—including science, mathematics, and mother-tongue language (Chinese and Malay)—at the primary and secondary level.

Teaching and learning activities

The MLS has mixed delivery and teaching and learning activities methods. These include:

- Face-to-face interaction with NIE faculty and MLS cohort (lectures and tutorials, group discussion)
- Virtual/ICT interaction (including webinars, online platforms and chat forums)
- Observational visits to schools and organizations from outside the education sector

However, the Curriculum Project, overseas study visit, and organizational and school visits are the key teaching and learning activities.

Visits to local organizations and schools

Throughout the Management and Leadership in Schools (MLS) program, participants undertake several visits to different schools and organizations from industries outside the education sector.

The MLS emphasizes learning that takes place in the workplace. The purpose of regular school visits is for candidates—in small subject-related teams—to see how “excellent” departments in different schools are managed by more experienced teacher leaders. Departmental strategic planning is a core responsibility for teacher leaders on the leadership track, and so school visits are highly relevant to the candidates’ roles after the program.

The purpose of visits to organizations from outside the education sector is to broaden participants’ perspectives and encourage them to challenge their mindset about school operations. In particular, they are exposed to industry leaders who have ‘spearheaded initiatives’ within organizations, and who can teach participants about how to ‘transform vision to concrete reality’ in an organizational setting.

These industrial visits also reflect the diversification of the education system and the spirit of the Thinking Schools, Learning Nation agenda. Schools in Singapore are not considered

the exclusive domain of teachers and students, but include a much broader community, including parents, professional associations, the Ministry of Education, and businesses. Through its leadership development courses, the National Institute of Education aims to prepare school leaders at all levels to deal with diverse stakeholders in a professional setting.³⁰

Action research project: Curriculum Project

MLS candidates undertake a collaborative Curriculum Project, an interdisciplinary team project conducted in a local school. This is a major project, running for 72 hours, and is worth six academic units.³¹

The Curriculum Project allows participants to examine real, school-based curriculum challenges as experienced by serving teacher leaders in schools. Participants get practical experience in curriculum design to enhance teaching and learning in a school setting.

In groups of five, project teams develop an innovative but realistic ten-week curriculum that responds to a specific problem identified through consultation with an in-service principal. Principles for the project design include:

- “Innovative and need-based (interdisciplinary, transdisciplinary, content-based, understanding-by-design);
- Effective learning focusing on students’ understanding and application of knowledge;
- Learning from generalized principles that can be applicable across various domains and contexts;
- Flexibility in breadth and depth of knowledge (organization of knowledge is enhanced for greater depth);
- Formative assessment is emphasized;
- Assessment for learning;
- Instructional approaches are specific and relevant according to objectives.”³²

Participants are required to reflect on specific management and leadership concepts that they have learned from the MLS generally, and while working on the project collectively.³³

Assessment

Participants are assessed for the Curriculum Project through a group presentation in the final tutorial. The curriculum must demonstrate leadership in improved teaching, learning, and professional development. The project should demonstrate implementation phases, as well as goals and targets for both teacher development and student learning.³⁴

Further teaching and learning activities

Professional conversations

A new feature of the MLS program is a focus on professional conversations. This module runs for 48 hours and is worth four academic units, but is also a conceptual focus across the whole program.³⁵

Professional conversations are defined as “a rigorous inquiry into what participants actually do.” The idea is to encourage participants to challenge their own implicit assumptions and daily practices as teachers and as leaders, through self-critical questions such as:

- Why did I do it this way?
- Where did I learn that?
- What assumptions, personal theory, or values are suggested by my actions?
- Could I have done that differently?
- What assumptions or personal theory might be implied by the alternative course of action?³⁶

Participants are encouraged to confront these questions openly with their peers through the Curriculum Project and modules.

Content areas through which participants develop their skills in holding professional conversations reflect real working scenarios from the role of teacher leaders in schools, including (but not limited to):

- “Professional conversations with Ministry of Education senior management on significant professional matters and new Ministry of Education initiatives;
- Professional conversations with personnel in local external agencies;
- Professional conversations with personnel in international organizations.”³⁷

Developing participants’ capacity to hold professional conversations in this way is seen as critical for ensuring that the MLS transcends mere competency-based training.

One-week international learning visit: report and group presentation

The Ministry of Education sponsors MLS candidates through a one-week study trip to an education system in the ASEAN and Asia-Pacific region. These international visits are fully funded through taxpayer contribution, and so NIE emphasises the experience is a privilege and not an entitlement.

The aim is for participants to contextualize their understanding of the Singaporean system through exposure to new cultures, education systems, and approaches to leadership

development. Participants challenge their thinking on how Singapore’s education system operates at both the school and system level.

Like the visits to organizations from other industries, the international learning visit is intended to be a constructive-disruptive experience: after all, “new experiences tend to force people out of their comfort zones.”³⁸ When outside their comfort zones, participants question their deepest-held assumptions about teaching, management, and leadership.

Participants undertake a mixed-methods learning experience, which includes observation, sense-making (interpreting the visual, cultural, economic and national meaning-making processes at operation in the host school), connectivity (understanding through dialogue and making connections with prior and new knowledge), and leadership/managerial learning (probing the differences—and reasons behind those differences—in the host system’s managerial and leadership approaches).³⁹

These visits can also be a platform for forming new partnerships between organizations and schools in different contexts. This can produce a mutually beneficial—even supportively competitive—partnership, in which both sides learn new ways of operating, and can lead to student and teacher exchanges.⁴⁰

After the regional visit, MLS participants are required to draft a report and make a ‘gallery walk’ presentation on what they have learned about leadership and management through the international trip.

The report typically includes:

- 300-word account of the visit, including activities undertaken;
- An analysis of the significant similarities and differences between the systems in Singapore and the visit country, including culture, education system, school leadership;
- A summary of key learning points for the whole group;
- A 500-word reflection from each person on how the international visit has shaped their own practices as a leader/department.⁴¹

Participants also reflect on their experience in their personal reflective journals, a key part of their assessment for the MLS program.⁴²

Assessment and deliverables

Assessment varies across the modules in the MLS. Assessment forms may include observational assessment of participants’ learning in a school setting, as well as portfolio-based assessment, in which individual work and collective learning have been documented and examined (i.e., essays, group presentations, and case study analyses).⁴³

The core deliverables for MLS assessment include:

- Individual reflective journals
- Curriculum Project presentation
- Core and elective module assessments
- Regional visit report and group presentation

Major deliverables for assessment

Individual reflective journals are a core deliverable for MLS assessment.

The journals, entitled *My Learning Journey in the new MLS*, includes six personal entries that deal with different aspects of the candidate's learning, professional growth, and knowledge development throughout the MLS. The seventh entry presents a "synthesis" of the participant's experiences from the core and elective modules, international visit, school and industrial visits, personal reading, and interactions with peers and NIE faculty. The journals are not intended to be a receptacle for content from the program.

Participants are encouraged to reflect critically on their own learning journey through the MLS, including their own identity as managers and leaders in Singapore's schools. They can cite examples of times or scenarios in which they demonstrated competencies and knowledge in leadership, management, and curriculum throughout the program, and how they might apply these lessons for improvements and innovation in their home schools upon completion of the MLS.

Participants receive peer feedback on their entries from the MLS cohort. They share entries online (e-journaling on *Blackboard*, an online course management system), and are encouraged to serve as 'critical friends' to one another. In part, this is a demonstration of the art of professional conversations participants have been cultivating throughout: they help one another reflect on their assumptions, presumptions, and perspectives on management, leadership, and curriculum.

Journals are rated as good, pass, or unacceptable.⁴⁴

Post program re-entry, ongoing professional development and support

After completing the MLS, teacher leaders return to their schools to serve as teacher leaders. They may be promoted to vice principal after satisfactory EPMS and CEP performance grades.

Vice principals have diverse duties, such as supporting the principal with strategic planning and resource management; leading school organization and administration staff; establishing knowledge management structures and systems; overseeing human resources, finances, logistics, and general administrative issues; emergency planning and protocols; service excellence; and so forth.

Program 2: Leaders in Education Program (LEP)

“The program aims to develop principalship capability that is values-driven, purposeful, innovative and forward-looking, anchored on strong people leadership, strategic management skills, and an appreciation of how principals could work effectively in a complex environment.”⁴⁵

By the time vice principals in Singapore are nominated by the Ministry of Education to attend the Leaders in Education Program (LEP), they will have extensive experience in school leadership and management. As a teacher leader and then vice principal, the typical LEP candidate will have led strategic planning and curriculum improvements, been involved in school improvement planning and decision-making processes, and undertaken annual performance appraisal and Current Estimated Potential evaluations specifically aimed at developing their leadership capacity over the previous decade.

The profile of these aspiring principals therefore differs from that of aspiring principals on the cusp of undertaking principal preparation programs elsewhere in the world.

There are alternative pathways into the LEP, but most LEP candidates are serving vice principals who have completed the MLS, and Ministry officers with comparable management and leadership experience. The LEP is one of the only executive education leadership development programs in the world that admits Ministry personnel and school leaders side-by-side.

The LEP is also unique in being a full-time program. Vice principals and Ministry personnel take six months out from their jobs to dedicate entirely to the program. As with the MLS, participants are expected to be released from all in-school duties for the duration of the program. Each cohort develops a strong network that LEP graduates continue to draw on for support once appointed to a principal position in schools.

The MOE sponsors all candidates through LEP, and an international visit. For candidates from outside of Singapore, LEP fees are approximately S\$20,000.⁴⁶

Program objectives and overview

Principals in Singapore are expected to lead and manage improvements in increasingly complex environments. The technological, social, and economic realities of 21st century Singapore mean that the old maxims of school management (budgets, buildings, and buses) simply do not hold.

To accommodate the changing demands on education, Singapore has undergone a “reorientation in leadership thinking.”⁴⁷ As Professor Pak Tee Ng of the NIE explains, today’s school leaders “need to have the skills to accomplish their plans in evolving

circumstances. This is highly complex.” A core competency for today’s leadership is therefore navigating “non-linear change paths” in schools and across the system.⁴⁸ They need specific training to handle these demands.

The LEP is therefore conceptually rooted in complexity theory. Specifically, complexity theory provides “the founding knowledge in understanding the school as a complex organization,” and a key partner ‘in addressing the demands of the nation’ in the 21st century.⁴⁹

Complexity at the organizational level of the school is fundamental to the design and rationale of the LEP. It assumes that “thinking schools”—as complex professional learning organizations—need leaders who can respond to constantly changing demands and uncertain working conditions.

These concepts inform aspects of the teaching and learning activities, instructional approaches and assessment of the LEP.

Box 1 Complexity Theory: What Is It, and What Does it Have to Do with Educational Leadership?

The purpose of the aspiring principal leadership development program in both Ontario (the PQP) and Singapore (the LEP) is to prepare school leaders for the role of the principal in an increasingly “complex” environment.

But what does “complexity” in this context mean?

Complexity theory is a conceptual paradigm that accommodates uncertainty, non-linearity, and constant flux in systems. Derived from mathematics, meteorology, and open systems theory, complexity is now applied in public health, business and economics, and elsewhere as a conceptual tool for approaching organizational change management and system reform.

Small occurrences in a complex system—be it a biological organism, an organization, a financial market, or an immune system—can produce seismic, unpredictable, and non-replicable changes. The most famous illustration of this phenomenon is the Butterfly Effect, or Lorenz Attractor (which when modelled looks like a pair of butterfly wings). The idea is that in complex systems, a small event can have massive, unpredictable consequences out of proportion with its original causes: in other words, the wind from the flap of a butterfly’s wings in Brazil might trigger a tornado in Texas.

Complexity theory is replete with illustrative metaphors, owing to the diversity of its applicability and abstraction of key concepts. Imagine pouring a glass of water into the ocean: it is mathematically impossible to predict (that is, to model) where two molecules that were side-by-side in the glass will end up after a period of time. This is a further

illustration of a complex scenario. Meteorological conditions, financial markets, and artificial intelligence are all examples of complex systems: linear, mechanistic modelling does not apply.

Complexity theory is gaining increasing attention internationally as an approach to whole-system reform in education.

The OECD's Governing Complex Education Systems project is a prime example. This project ran over several years and culminated in key findings published in 2016. The project brought together researchers and policymakers from around the world committed to exploring the challenges of governing and reform in education conceived as a complex system.⁵⁰

Currently, schools and education systems are too often treated as closed—or mechanistic, linear—systems. It is assumed that certain interventions will lead to demonstrable improvements in student learning across the organization and system.

The problem with this is that schools—and systems—are complex.

Both defy linear modelling: there is no way of predicting how an intervention will play out, and there is no guarantee that a set of interventions, implemented elsewhere, will lead to the same results.

This scenario is played out constantly in education. Each year, systems waste billions of dollars worldwide implementing well-intentioned reforms that have not resulted in demonstrable improvements in student learning.

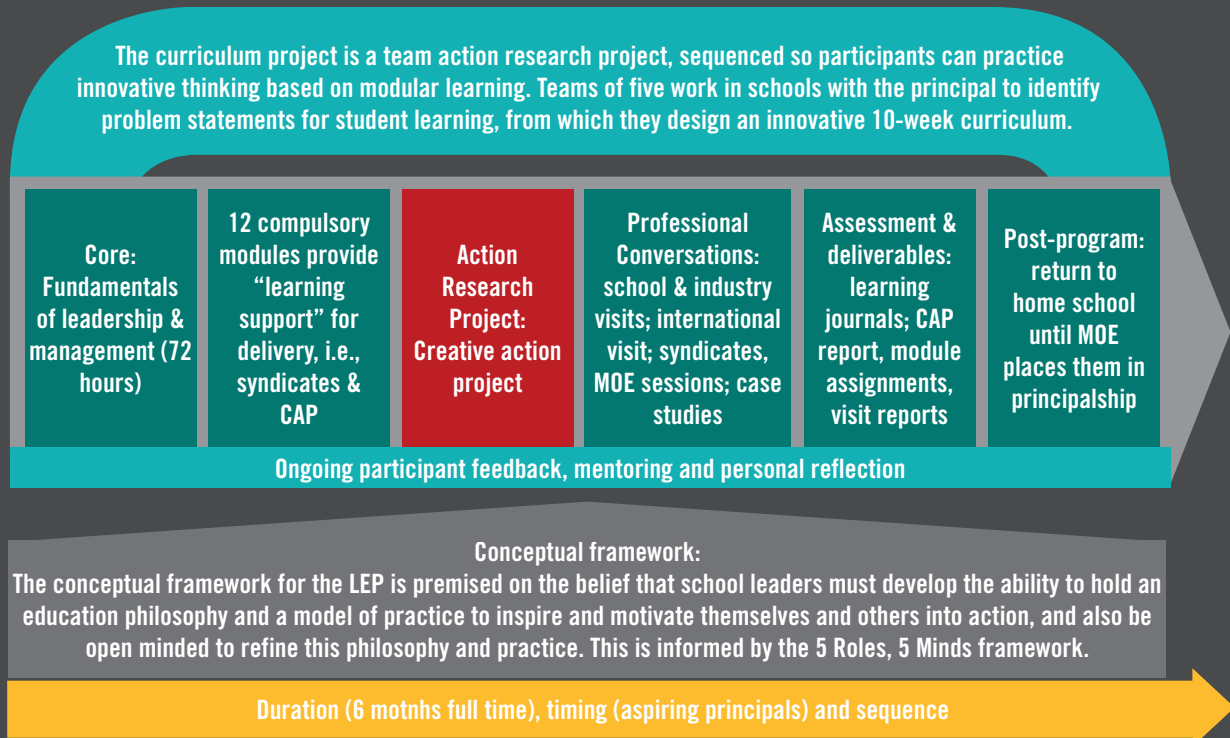
The challenge of scalability and the truism that what works in one system will not necessarily work elsewhere testify to the fact that education systems and schools are complex, unpredictable environments that cannot be improved through deterministic policymaking or interventions. Too many variables, including culture and social attitudes towards education, as well as organizational elements of interactions and dynamics between agents and levels of the system, make it impossible to predict the outcomes of policy interventions, no matter how well-intentioned, or even if these interventions proved effective elsewhere.

Singapore is a world leader in adapting complexity theory to the challenge of school improvement and leadership development.

Sources: D. Ng (2015); OECD (2016).

Figure 5 Intentional Design in the Leaders in Education Program

LEP objectives are aligned with the values & educational philosophy of the national system. It aims to develop principalship capability that is values-based, purposeful, innovative and forward-looking, anchored on strong people leadership, strategic management skills and an appreciation of how principals could work effectively in a complex environment.



Source: Adapted from National Institute of Education, Singapore 2016d.

Program components

Conceptual framework

Since 2011, the conceptual framework of the LEP has been based on an integrated “5-Roles-5-Minds” framework (5R5M),⁵¹ which adapts the work of Gardner⁵² and Sergiovanni⁵³ to Singapore’s educational context.

Sergiovanni’s “five forces of leadership” for the principalship are associated with the leadership roles in this framework. These are the educational, technical, human, symbolic, and cultural roles that principals play in their job.⁵⁴ Gardner’s “five minds for the future” are: ethical, respectful, creative, synthesizing, and disciplined.⁵⁵

All the core courses of the LEP are aligned with the 5R5M conceptual framework, and participants are required to reflect on their engagement with the framework in their reflective journals.

NIE holds that the 5R5M framework helps aspiring principals ‘to appreciate different pathways, generate multiple solutions, and manage dynamic relationships in leading a school in an increasingly complex environment.’⁵⁶

At the heart of this framework is a process of continuous reflection on how leaders’ mindsets (how they think) have a direct bearing on how they act (in relation to their roles), and vice versa. This “continuous and virtuous application-reflection spiral” helps school leaders refine their every-day practices as a leader and manager in response to their impact on their environment.

LEP participants are exposed to this framework through an introductory course at the beginning of the LEP, and are encouraged to approach their learning with the “application-reflection spiral” constantly in mind.

David Ng, a chief architect of the LEP, advises that “a serious implication of complexity-based design [for leadership development programs] would mean shifting from ‘faculty-centric’ to student-centric learning.”⁵⁷

NIE faculty do not consider themselves to be the expert or transmitter of knowledge, but to be ‘a facilitator, co-learner and co-constructer of meaning.’ Instructors on the LEP enable ‘learners [vice principals] to connect new knowledge to existing knowledge,’ without presuming to be the holders of knowledge.

LEP participants, in turn, are expected to be active learners. They need to “exercise autonomy, responsibility, ownership, self-direction, and reflection.”⁵⁸

This principle accounts for the NIE’s emphasis on action learning and knowledge co-construction over modules or content in the LEP design.

The design of the LEP is intended to reflect a complexity-based approach to leadership development, in distinction to a competency-based approach. This is played out in the balance between modular and experiential learning. David Ng writes that “many school leadership programs are set and delivered in specific modules or workshops, to achieve a predetermined set of competencies, knowledge and skills.”⁵⁹ The LEP, on the other hand, prioritizes experiential over modular delivery.

The Creative Action Project is central to this approach to adult learning.

Preparation

Singapore’s “selection” approach to school leadership development is markedly different from the “aspiration” approach of most other systems. Unlike most systems, Singapore’s Ministry of Education “selects” aspiring leaders through sustained talent management and identification from an early stage in teachers’ careers; other systems rely on aspiring leaders to self-nominate.

This “selection” approach to school leadership development starts early in a teacher’s career. Singapore has a centrally administered selection process for its milestone leadership programs.

As noted above, the Ministry of Education tracks talent across the teaching workforce through the EPMS and CEP appraisal processes, as well as through the zone and cluster Superintendent structures. Before a teacher in Singapore can be promoted to the principal’s office, he or she will have received at least ten years’ sustained support and targeted development as a promising future leader.

The Ministry of Education is therefore uniquely placed to select promising candidates to undertake the fully-subsidized LEP at NIE. The MLS program also serves as an earlier filter for the MOE’s talent identification processes.

Each year, the Ministry of Education nominates around 30 candidates to undertake the LEP. This number can be adjusted to system needs, ensuring there is neither an over- nor under-supply of qualified school leaders.

These candidates undergo interviews and situational tests with the Ministry of Education selection panel. These tests are notoriously challenging, and can even involve candidates’ being confronted by actors pretending to be irate parents or struggling teachers, to see how they work under pressure.

Once candidates have completed the LEP, they are not automatically assigned a principal position. They return to their school and wait for the Ministry of Education to match them with an opening at a school.⁶⁰

Core modules

LEP candidates undertake core learning courses that cover topics related to school leadership and management in Singapore’s education system.

Unlike the MLS, which has combined compulsory and elective courses, all LEP participants take the same, compulsory courses. This is in part to foster a strong cohort identity, and to uphold a common core knowledge across the profession. Scope for personalization of the program is provided by the self-organizing industrial visits and short talks, as well in the emphasis on co-constructed learning through syndicates and international visits.⁶¹

The core courses for the LEP in 2016 are:

- Overview of the 5-Roles-5-Minds framework
- School leadership, vision and culture
- Educational leadership through the complexity lenses

- Contemporary strategic management
- Human capital development
- Design thinking: innovation and values
- Valuing and developing people
- Values and ethics for school leaders
- Leading curriculum and instructional change
- Evaluation and assessment
- Use of ICT in enhancing teaching and learning
- Network leadership.⁶²

Course assignments are a core deliverable for the LEP. While assessment may vary between courses, participants are expected to submit a short assignment for each, e.g., an essay of around 1000 words. Some courses may include online interactions (through Blackboard) as part of assessment requirements.

Educational leadership through the complexity lenses

The LEP includes an 18-hour module on educational leadership through the complexity lenses.

This course encourages participants to reflect on the school as a complex professional learning organization. Schools are not mechanical systems: they cannot be broken down into constituent parts, because it is the dynamic relationships and emergent properties between these components that make up the school environment. An apt, if morbid, analogy would be: “we can dissect a frog in a laboratory and learn a lot about dead frogs. But we would still not know much about live ones.”⁶³

This course encourages participants to consider the implications of the complexity paradigm for their role as strategic leaders and systems thinkers.

This course covers topics including:

- Organizational learning (including basic systems thinking) in schools
- Foundational understanding and appreciation of complexity theories and metaphors (including non-linear dynamics, self-organization, emergence and complex responsive processes, complex adaptive organizations, quantum paradoxes, and the edge of chaos)
- Reflection and generation of insights by examining educational leadership through the lens of complexity
- Futuring: foresight and insight

Participants are assessed on a 1000-word reflective essay and on online peer feedback (through Blackboard).

Case study sessions and talks

Compulsory courses are complemented by case study sessions and talks with leading industry experts, Ministry officers, and academics.

Case studies are included to expose participants to decision-making and leadership dilemmas in diverse scenarios. Cases are drawn from varied contexts, including other international education systems, Departments from the Ministry of Education Headquarters, and schools.

LEP participants are also given opportunities to engage with senior industry figures, Ministry of Education officials, and policymakers through self-organized talk and mini-lecture series with the whole cohort.

Action research project: Creative Action Project

Throughout the LEP, participants undertake a school attachment at a school other than their own. They spend time each week at this school under the mentorship of the school principal (Principal Mentor).

While at this attachment school, participants undertake a Creative Action Project. The Creative Action Project is a core component of the LEP, and is intended to lead to improvements in curriculum, pedagogy or assessment.

The Creative Action Project exposes participants to real-world experience of how complexity affects school leadership and management. As Professor Pak Tee Ng of the NIE writes,

“With many variables, and uncertainties, the Creative Action Project helps the participants develop the adaptability and flexibility to deal with complexity.”⁶⁴

Participants’ leadership learning throughout the Creative Action Project is not pre-determined, but emerges through the many conversations, interactions, and iterations of the project. For the project to succeed, it must be self-sustaining long after the participant moves on, and must improve an aspect of teaching and learning in the school. It must therefore be adaptable (through continuous feedback and iterations), accommodate existing organizational processes of the school, and reflect the school’s vision and strategic priorities for improvement.

The Creative Action Project builds on participants’ learning from the core courses, including Design Thinking and Educational Leadership through Complexity Lenses.

The project involves multiple stages, undertaken by the participant with support from the Principal Mentor from the attachment school.

The Creative Action Project is an exercise in “futuring.” LEP participants imagine what their placement school will look like in 10 to 15 years’ time. This future school vision must accommodate an idea for improvement within the bounds of what would be plausible in Singapore’s school system. It is designed to challenge participants’ assumptions about education and schools, and to introduce new concepts and practices while considering broader social, economic, and global challenges that may arise in the future.

Although it is an exercise in future thinking, participants need to be concrete in their thinking: what will the future school look like exactly, including location, size, curriculum, pedagogy, and school structure? How are these different from today, and how could they be improved upon?

Participants then implement one component from this future vision in their placement school. They are encouraged to focus on an innovation directly related to curriculum, pedagogy, or assessment. This can be through a prototype model (i.e., with one or two teachers or classes), though the participant must be able to justify how the idea is scalable across the school and sustainable over time.⁶⁵

The Creative Action Project is a considerable challenge for participants, given that they have no prior reputation or authority in their host school. They must make the case for their future vision to a potentially unwilling or skeptical school community. The project must not only be compelling, clearly communicated, and achievable, but needs to be seen as valuable by teachers to be viable. After all, the project must be sustainable. If LEP participants do not listen to teachers and students, and do not take into consideration existing school culture, strategic plans, and vision, they are unlikely to successfully implement their innovation, no matter how much merit it has on paper.

This is an intense exercise in school leadership.

In envisaging the future school, participants draw on their learning from the LEP. This includes approaching the task through the lens of complexity. For instance, how can schools prepare students for the future job market given that the kinds of jobs children entering school in 2016 will take in 2030 do not yet exist? What should curriculum look like, given this challenge?

These are difficult questions. The ‘futuring’ exercise of the Creative Action Project is intended to push participants’ thinking and assumptions about their role as educators and how schools can serve the “learning nation” agenda.

Further teaching and learning activities

The LEP has been designed to reflect the principle that knowledge is co-constructed between agents. This theory of adult learning is “aligned with modern complexity theories, which argue that knowledge emerges from rich dynamic human interactions.”⁶⁶

Another way of looking at it is that, unlike traditional competency-based leadership curriculum design that step participants through pre-determined checklists of knowledge (knowledge of policy environments, knowledge of key leadership competencies, knowledge of school processes), NIE takes the view the LEP participants’ learning will be more than the sum of constituent inputs (i.e., modules). Participants will generate (rather than passively receive) knowledge through interactions between participants, NIE faculty, and guest lecturers, as well as through diverse learning contexts.

The LEP therefore involves multiple learning platforms, including:

- Compulsory LEP courses
- International education system visit
- Management dialogue sessions and sessions on Ministry of Education imperatives
- Mentoring
- Creative Action Project
- Industrial learning visits

Mentoring

All LEP participants are assigned a personal mentor for the duration of the program. Mentors are experienced principals who can share their implicit leadership knowledge and experiences which largely cannot be taught through modular delivery. These mentors, termed ‘Principal Mentors,’ are the hosting principal for the participants’ Creative Action Projects.

Syndicates

Throughout the LEP, participants work in small teams called syndicates. Each syndicate has five to six members and a syndicate leader and facilitator, who is typically on faculty at NIE. Syndicates meet weekly to discuss aspects of the program, including each participant’s Creative Action Project and ideas related to the program. This small group setting is key to the learning process: participants produce knowledge collaboratively, through discussion and critical inquiry.

Management Dialogue Sessions and sessions of Ministry of Education imperatives

In the Thinking Schools, Learning Nation era, school principals in Singapore have greater autonomy and responsibility over school-based management and curriculum than

ever before. To perform their job effectively, they need a thorough grasp of the policy environment and national agenda for education.

The Management Dialogue Sessions (MDSs) are designed to help principals develop deep understanding of the values and key policies that shape Singapore's education system. Key leaders from the Ministry of Education Headquarters meet with LEP participants to discuss major themes shaping the education system: "national imperatives, educational policymaking, and value proposition of the Singapore education system; philosophy of education in Singapore; and school leadership."⁶⁷

MDS assignments are a core deliverable for LEP assessment. Each syndicate is required to submit a reflection report that synthesizes key collective learning findings from their MDS sessions.⁶⁸

The MDS sessions are complemented by further opportunities for LEP participants to meet with senior figures from the Ministry of Education divisions to explore Ministry imperatives. These sessions are used to update the LEP cohort on the latest policy initiatives within the Ministry of Education.⁶⁹ Sessions with external Ministries are also organized through the LEP. These external sessions give LEP participants an opportunity to reflect on the implications of school leadership and education in Singapore's broader policy and national context.

It is important to remember that some LEP participants will be Ministry of Education officers, rather than aspiring vice principals. The LEP provides a genuine point of contact between the school and policy dimensions of Singapore's education system.

International experience

The LEP includes a two-week visit to an international system funded by the Ministry of Education. Participants observe a new system and culture, and use their observations to challenge their understanding of and thinking on Singapore.

Each syndicate is required to submit an international visit report for the LEP assessment. The report may be distributed to other educators across the system.

Industrial visits

As in the MLS program, the LEP provides participants an opportunity to visit organizations and industries outside education.⁷⁰ These visits are intended to expose participants to new ways of thinking about leadership and management, reflecting on what may and may not be transferrable between sectors.

Box 2 What about Instructional Leadership?

The debate about school leadership in the United States and elsewhere has recently focused on the role of principal as instructional leader. Professor Sing Kong Lee, Director of NIE in the early 2000s, coined the phrase “CEO *plus*” to recognize the role of principals as instructional—as well as organizational—leaders.

Owing to the leadership track and the substantial role of Heads of Departments in school improvement planning, instructional leadership in Singapore is comparatively less prominent at the level of principal preparation.

One elementary school principal highlighted that she relies on the instructional expertise of her six Heads of Departments. She does not consider her own role as principal to include being the instructional expert in all areas. Instead, her role is to articulate and communicate the vision for student learning across departments, and to cultivate the optimal learning and teaching environment in which her Heads of Departments can lead their staff to achieve these goals.

Source: Interview with primary school principal in Singapore, 29 June 2016.

Assessment and deliverables

Key deliverables for LEP participants are:

- Creative Action Project report
- Learning journal
- Course assignments
- International visit report
- Management Dialogue Sessions assignments (by syndicate)

These are discussed in greater depth below.

Creative Action Project assessment

After completing the action research project, LEP participants are required to reflect on the implementation challenges of their proposed intervention, as well as foreseeable challenges for scaling this intervention. After the project, they submit a project document and a Creative Action Project report at the end of the LEP. They need to demonstrate the impact they have had on the school through the innovation project. This includes identifying and collecting relevant data, such as student learning outcomes and school community surveys. Participants must analyze these data to draw out trends and justify the impact on the school.

Syndicate leaders monitor participants' innovation projects and provide support. The syndicate provides a forum for participants to test-run their ideas for the project, and to troubleshoot their experiences and challenges with their peers.

LEP learning journals

LEP participants submit a personal learning journal at the completion of the program. The journal includes at least six individual entries, of around 1000 words each. One of these entries must reflect on the 5-Roles-5-Minds framework.

Throughout the program, participants receive formative feedback from their syndicate facilitator.⁷¹

Post program re-entry, ongoing professional development and support

The seemingly simple question, “what school do you work at?” solicits a different response from principals in Singapore than from those in other systems. Rotations, lateral collaboration, and the expectation for principals to cultivate a “system” perspective expands the scope of their leadership identity.

It would be unheard of for a principal in Singapore to work at the same school for his or her entire career. In Hong Kong, Britain, Australia, and the United States, however, it would not be unusual for a principal to serve upwards of 15 or 20 years in the same school.

Singapore's talent management and assignment processes prohibit this.

Education officers in Singapore work within six-year cycles (two School Excellence Model cycles). At the end of each cycle, they come up for reassignment, or rotation, across the system. Principals can be posted not just to a different school, but also to a different school sector: e.g., a principal from a small elementary school may be posted to a large lower secondary school. They do not have a say in this process.

Principals can also be rotated into the cluster Superintendent role. It is deliberate Ministry of Education policy not to treat the cluster Superintendent role as hierarchically superior to principals (despite the structure of the leadership track). Cluster Superintendents may be reassigned to a school after a cycle in the role. While they are the reporting officer for all principals, the cluster Superintendent plays more of a critical peer role for experienced principals.

In recent years, the Ministry of Education has appointed younger principals, sometimes in their early 40s or even late 30s, to the role of cluster Superintendent. The intention is to give these officers exposure to system-level leadership before reassignment to a school.

These processes encourage a system-wide perspective on leadership, developed intentionally at the LEP.

Building Educational Bridges program for school leaders

NIE, in conjunction with other international institutions, provides the Building Educational Bridges program to school leaders. The program runs for two weeks and is conducted at both the NIE and its partner international institutions, including the National College for Teaching & Leadership, UK, and Danish School of Education, Aarhus University.

School leaders are selected from each country to collaborate and examine leadership issues in “national and international contexts.”⁷² With a focus on innovation and high performing educational systems, the program aims to:

- Improve participants’ “understanding of each other’s educational systems and the context for leadership and its challenges”⁷³
- Facilitate the generation of ideas for “innovation and change” in high-performing educational systems⁷⁴
- Develop ideas “for sustaining school leadership and innovation.”⁷⁵

Notes

1. P. T. Ng 2003.
2. Ibid
3. Hairon, and Dimmock, 2012, 408. Ministry of Education, Singapore 2010.
4. National Institute of Education, Singapore 2013, 7.
5. There is no *milestone* program for cluster superintendents or more senior leadership positions on the leadership track, though officers in these roles do of course receive sustained support and development.
6. Correspondence with Ministry official at the Academy of Singapore Teachers, October 2016.
7. National Institute of Education, Singapore 2009.
8. Ng Foo Seong 2013.
9. Correspondence with Ministry of Education personnel, October 2016.
10. Jensen et al. 2016b.
11. Ibid
12. Ministry of Education, Singapore 2006. Interview with MOE personnel, Singapore 29-30 June 2016; Jensen et al. 2016.
13. Interview with MOE and National Institute of Education personnel, Singapore 29-30 June 2016.
14. “Speech by Mr. Tharman Shanmugaratnam, Minister for Education and Second Minister for Finance at the 9th Appointment Ceremony for Principals on Thursday, 28 December 2006 at 3pm, Shangri-La Hotel, Island Ballroom” 2016.
15. National Institute of Education, Singapore 2016d, 7.
16. “Speech by Mr. Tharman Shanmugaratnam, Minister for Education and Second Minister for Finance at the 9th Appointment Ceremony for Principals on Thursday, 28 December 2006 at 3pm, Shangri-La Hotel, Island Ballroom” 2016.
17. National Institute of Education, Singapore 2016d, 7.
18. National Institute of Education, Singapore 2016d.
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