

MENDAKI SYMPOSIUM 2022



RETHINKING EDUCATION

Compendium 2022

ORGANISED BY:



Celebrating
40
Years

MENDAKI SYMPOSIUM COMPENDIUM

Copyright © 2022 Yayasan MENDAKI

PUBLISHED BY

Research & Design Department
Yayasan MENDAKI

EDITORIAL TEAM

Advisors

Mdm Aidaroyani Adam
Deputy Chief Executive Officer of Yayasan MENDAKI

Dr Nadira Talib

Assistant Director of Research & Design Department, Yayasan MENDAKI

Editors

Nur Iryani Halip, Nur Farina Begum Binte Amsah, Arwa Izzuddin, Siti Syafiqah Abdul Rashid,
Nur Nadiyah Zailani, Corporate Communications Department

Summaries presented in this publication are those of individual panellists. They do not purport to represent the views of the Editorial Team, the Publisher, the Board and Management of Yayasan MENDAKI or the institutions with which the authors are affiliated.

All rights reserved. No part of this publication may be printed or reproduced or stored in any retrieval system by any electronic, mechanical, or other means without permission in writing for the publisher and Yayasan MENDAKI.

All enquiries should be addressed to:

Research & Design Department
51 Kee Sun Avenue
Singapore 457056

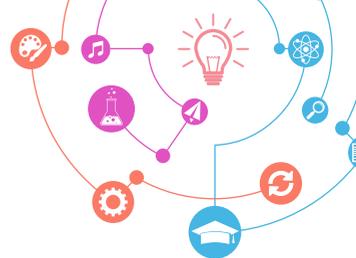
Email: rpd@mendaki.org.sg

Website: www.mendaki.org.sg

PREAMBLE:

MENDAKI Symposium 2022

Rethinking Education



The MENDAKI Education Symposium has been renamed as MENDAKI Symposium. We aimed to revitalise the discussions to include overall trends and policies on issues beyond education relating to employment, and the shift in social landscape linked to different life stages. To understand the social and employment issues faced by the Malay/Muslim community, it is important to acknowledge the critical role that education plays. Launched in 2017, the sixth instalment of the annual symposium served as a platform to facilitate conversations and discourse to pioneer change and raise critical awareness on effecting change for the community to thrive and pursue continuous growth.

This year, the theme for MENDAKI Symposium 2022 is “Rethinking Education”. It focused on how practitioners, educators, policymakers and the community can bring about change within the education system to allow our students to maximise their own set of gifts and competencies, while constantly striving to excel in both their individual and collaborative pursuits.

We are pleased to have welcomed **Mr Tharman Shanmugaratnam**, Senior Minister and Coordinating Minister for Social Policies, as our Guest of Honour who delivered the Keynote Address for this year’s Symposium. The Symposium was also graced by **Mr Zaqy Mohamad**, Minister of State for Manpower and Defence, and Deputy Chairman of Yayasan MENDAKI.

In Session 1, the panellists provided key perspectives on the need to shift from focusing on a narrow performance-based system driven by an economic growth model to focusing on the benefits of a purposeful, holistic education. In Session 2, the discussion centred on the significance and different ways stakeholders could cater to the diverse needs of students from varied social backgrounds. In the final session, the discourse was focused on the balance between providing equitable and quality education while ensuring that Singapore’s education system helps to maximise every student’s potential to improve Singapore’s competitiveness.

MENDAKI hopes that the fruits of the discussion in the three sessions would act as a springboard for both ground-up actions and government policy reforms, across all stakeholders. In MENDAKI, we will continue our efforts to empower and navigate the community towards success.

TABLE OF CONTENTS

1. Rediscovering Meaning and Purpose in Education

- a. Keynote Speech By Senior Minister Tharman Shanmugaratnam 12
- b. **Meaning and Purpose for Singaporean Society: 22**
The Impact of the Future of Work on Individual Purpose and the Role of Education
By Dr Johannis Auri Abdul Aziz
- c. Takeaways from Panel Discussion 30

2. Maximising Diverse Talents and Potential

- a. **Identifying Determinants of the Academic Performance 40**
of MENDAKI Tuition Scheme (MTS) Students
By Dr Sylvia Chong & Ms Siti Syafiqah Abdul Rashid
- b. **The Role of Parental Involvement and Positive 45**
Parental Expectations as Key Factors for Promoting Children’s School Readiness
By Dr Ting Ming Hwa
- c. **Pedagogical Efforts to Improve the Outcomes 48**
and Postion of Marginalised Groups
By Dr James Ladwig
- d. Takeaways from Panel Discussion 58

3. Pursuing Excellence and Equity

- a. **Rethinking Higher Education: 64**
Can Both Excellence and Equity Fit Within Its Purpose
By Dr Theocharis Kromydas
- b. **Differentiation and Equity: 72**
Some Deliberations for Singapore Education
By Dr Teng Siao See
- c. Takeaways from Panel Discussion 78

PANELLISTS' BIOGRAPHIES





Mr Tharman Shanmugaratnam
Senior Minister and Coordinating
Minister for Social Policies

Mr Tharman Shanmugaratnam has been Senior Minister since May 2019, after serving for several years as Deputy Prime Minister and as Minister of Finance. He is currently also Coordinating Minister for Social Policies, and advises the Prime Minister on economic policies.

Mr Shanmugaratnam is concurrently the Chairman of the Monetary Authority of Singapore (MAS), Singapore's central bank and financial regulator, where he started his career. In addition to his responsibilities in the Government, he is Deputy Chairman of GIC and chairs its Investment Strategies Committee.



Mr Zaqy Mohamad
Senior Minister of State,
Ministry of Defence & Ministry of Manpower,
Deputy Chairman,
Yayasan MENDAKI

Mr Zaqy Mohamad is Senior Minister of State in the Ministry for Manpower and Ministry for Defence. He is also a Member of Parliament for Marsiling-Yew Tee GRC. As Deputy Chairman of Yayasan MENDAKI, Mr Zaqy also oversees Yayasan MENDAKI's programmes in efforts to empower and navigate the Malay/Muslim community towards success.



Dr Johannis Auri Abdul Aziz

Research Fellow

*National Institute of Education
Nanyang Technological University*

Dr Johannis Auri Abdul Aziz is a Research Fellow in the Office of Education Research at the National Institute of Education, NTU. His research interests include character and citizenship education, social studies education, purposeful learning, and lifelong learning. He teaches Singapore Studies, a course on Singapore society, politics and public policy. Prior to NIE, he served as a research fellow in the Institute of Policy Studies at the Lee Kuan Yew School of Public Policy, NUS, where he was involved in research on Singapore party politics, civil society, and public political discourse.



Dr Michael Tan Lip Thye

Education Research Scientist

*National Institute of Education
Nanyang Technological University*

Dr Michael Tan is a former science educator who has been interested in the complex inter-relationships between science and technology education, and its societal influences and effects. At present, he is studying the classroom cultural conditions for material creativity. He is the author of the book 'Makerspaces, Innovation, and Science Education: How, why, and what for?' published by Routledge, UK.



Mr Muhammad Khairi Uda

Head Tutor

*MENDAKI Tuition Scheme
Yayasan MENDAKI*

Mr Muhammad Khairi Uda, an experienced educator by profession, has been contributing to the MENDAKI Tuition Scheme (MTS) since 2012 and has won several Outstanding Tutor and Head Tutor Awards over the years. Currently a Head Tutor for MTS, he develops tutors and leads them towards a common goal, which is to provide quality support to the children of our community.

He believes strongly that education is the key to social mobility and that parents and educators play an important role in ensuring that our children uncover their hidden talents and realise their fullest potential. To do so, he believes that more can be done to support children beyond just the academics but also in social-emotional domains.



Ms Atiqah Halim

Deputy Director

*Future Ready
Yayasan MENDAKI*

Ms Atiqah Halim has over 14 years of public service experience in people, leadership and organisational development. She is passionate about developing communities and enabling individuals and families to thrive and has recently completed a graduate diploma in Positive Psychology. She is also a certified life and career coach. Atiqah currently heads the Future Ready department in MENDAKI and is constantly looking at ways to inspire and future proof our Malay/Muslim youth and workforce.



Dr Sylvia Chong
Associate Professor
Singapore University of Social Sciences



Dr Sylvia Chong is an Associate Professor with the Singapore University of Social Sciences (SUSS). At SUSS she is the principal investigator for several institutional research projects. Her research interests are inter-disciplinary in nature and include both substantive and methodological approaches. The areas of interest include Quality Management in Higher Education (Educational Accountability, Teaching & Learning Quality), Beliefs, identity and epistemology (Self-efficacy-educators & learners; Beliefs about teaching and learning), Evaluation (Instrument development and validation; issues in tool development & administration; quantitative analysis & reasoning, multilevel modelling; qualitative coding & category systems) and Learning analytics (deciphering learning trends and patterns from educational data).



Ms Siti Syafiqah Abdul Rashid
Executive Officer
Research & Design
Yayasan MENDAKI

Ms Siti Syafiqah Abdul Rashid is a Research Officer at Yayasan MENDAKI. Syafiqah completed her Bachelor's in Economics at Singapore Management University. Her research interests primarily focus on understanding the different facets of children and youth's socioeconomic well-being, especially through the interplay of their motivation and education outcomes.





Dr Ting Ming Hwa
Principal Research Specialist
Programme Evaluation Office
Yayasan MENDAKI

Dr Ting Ming Hwa is a Principal Research Specialist who oversees the evaluation of programmes run by M³ agencies. He has a diverse publication record ranging from the inter-generational transmission of criminality, the use of machine learning in predicting recidivism, geopolitical competition for rare earth elements to international relations theories.



Dr James Ladwig
Associate Professor
University of Newcastle

Dr James Ladwig is Associate Professor in the School of Education at the University of Newcastle, Australia. He has designed, directed, consulted with, and evaluated many of Australia's large scale school reform efforts, particularly those focused on equity and pedagogical improvement – and has done similar work in several nations, including Singapore, during the establishment of the NIE Centre for Research in Pedagogy and Practice (CRPP). Ladwig's academic work spans across the fields of the sociology of education, educational policy, the philosophy of education, and curriculum theory. His work has been published in several languages and international outlets.



Mr Munir Kamarudin
Youth Mentor
Youth Mentoring Office
Yayasan MENDAKI



With more than 13 years of various industry experience within multinational and government-linked companies including Keppel and National Environment Agency (NEA), **Mr Munir Kamarudin** is an agile and transformational safety professional and an advocate of change. Currently, Mr Munir is an ECO/WSH Executive with Wee Guan Construction.

Mr Munir specialises in Safety, Health and Environment, facilities operations, logistics management, marine engines maintenance, and training. An honours-degree graduate from Leeds Beckett University, Mr Munir is also a certified Environmental Control Officer with NEA.



Mr Johann Johari
Assistant Director
Planning
Yayasan MENDAKI

Mr Johann Johari is the Assistant Director of Planning where he oversees Organisational Development and Digital and Information Technology. Prior to that, he was the Assistant Director of Future Ready, which engages youth and young professionals in equipping them for the future of work. Mr Johann has served in MENDAKI for 14 years.

Mr Johann holds a Masters in Non-Profit Management from the Singapore University of Social Sciences (SUSS). He also holds a BA in Economics and Political Science from the University of Western Australia (UWA).



Dr Jason Tan Eng Thye
Associate Professor
National Institute of Education
Nanyang Technological University

Dr Jason Tan is Associate Professor in Policy, Curriculum and Leadership at the National Institute of Education, Singapore. He obtained his doctorate in Comparative Education at the State University of New York at Buffalo. His research interests are in comparative education and education reform. Among his most recent publications is *Primary Science Education in East Asia: A Critical Comparison of Systems and Strategies* (co-edited with Lee Yew Jin).



Dr Teng Siao See
Assistant Dean and Research Scientist
National Institute of Education
Nanyang Technological University

Dr Teng Siao See is Assistant Dean at the Office of Education Research and Research Scientist at the Centre of Research for Pedagogy and Practice of the National Institute of Education. Trained as a sociologist, she has taught and researched at institutions in and beyond Singapore, in both academic and think-tank settings. Her research spans the following areas: diversity and equity in education, intercultural education, and school-to-work transitions.



Dr Theocharis Kromydas

Research Associate

*MRC/CSO Social and
Public Health Sciences Unit
University of Glasgow*



Dr Theocharis Kromydas is a Research Associate and his past research includes the interaction of Higher Education and the Labour Market in the European Union. His main research interests lie in the quantitative analysis of social phenomena related to health and social inequalities, work trajectories, social inclusion and economic development.



Mr Muhammad Hilmi Abu Bakar

Secretary (ExCo)

*MENDAki Club
Yayasan MENDAki*

Mr Muhammad Hilmi is an advocate and a mouthpiece for the differently abled students within the mainstream education system. Together with his colleagues at MENDAki Club, he engages in strategic youth development initiatives and participates actively in discussions on current developments in the local and global arena. His areas of interest include Special Education Needs (SEN), mental health awareness and social inclusion.

OPENING KEYNOTE

3 CHALLENGES for BUILDING SOCIAL IMPACT:

1 REDUCE the EARLY GAPS

GOVERNMENT & COMMUNITY EFFORT IS CRITICAL

PATIENCE

SENSITIVITY

EMPATHY

MENDAKI INITIATIVES:

KMM

KSS

EVEN OUT PLAYING FIELD

NEED to SCALE this UP & WORK INTENSIVELY



2 BROADEN RANGE of MERITS THAT ARE RECOGNISED & PROMOTED IN A MERITOCRACY

REDUCE HIERARCHY of SKILLS BETWEEN ACADEMIC & NON-ACADEMIC

RESPECT ALL SKILLS

GIVE EVERYONE A CHANCE to PICK UP DIFFERENT SKILLS

HANDS ON LEARNING IS KEY

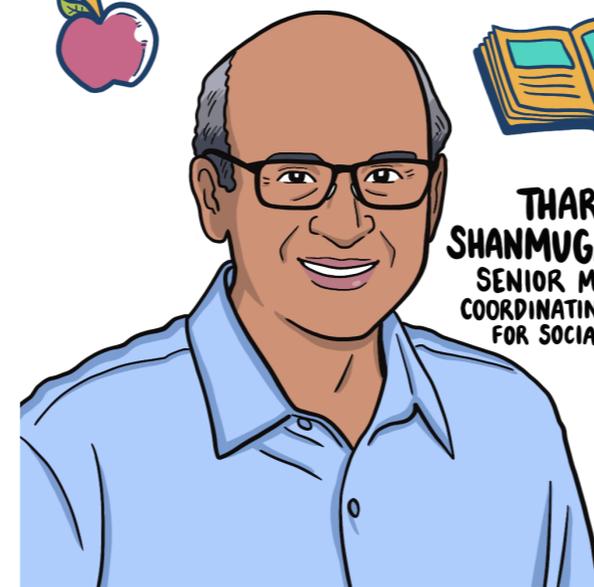


ADDRESS POTENTIAL GAPS IN EDUCATIONAL PERFORMANCE

ESPECIALLY for STUDENTS from VARIOUS BACKGROUNDS

EDUCATION IS HOW WE SHAPE the CHARACTER of OUR NATION

IT'S FUNDAMENTAL!



THARMAN SHANMUGARATNAM
SENIOR MINISTER & COORDINATING MINISTER FOR SOCIAL POLICIES

3 STRENGTHEN OUR SENSE of TOGETHERNESS ACROSS DIFFERENT SOCIO-ECONOMIC & ETHNIC GROUPS

SOCIAL MIXING
PLAY TOGETHER,
TRAIN TOGETHER,
WIN TOGETHER

DEVELOP CAPABILITY for HEALTHY CIVIC DISCOURSE

WE'RE BECOMING A SOCIETY WITH A PLURALISM of VIEWS & PREFERENCES

DEVELOP REGULAR INTERACTION



KEYNOTE SPEECH

By Mr Tharman Shanmugaratnam
Senior Minister and Coordinating Minister for Social Policies

KEYNOTE SPEECH

By SM Tharman Shanmugaratnam
Senior Minister and Coordinating Minister for Social Policies

SMS Zaqy Mohamad, CEO of Yayasan MENDAKI Zuraidah Abdullah, and everyone who's here this morning. Thank you for inviting me to join you at this 6th MENDAKI Symposium, in fact coinciding this year with your 40th anniversary of MENDAKI.

The theme is a broad one, "Rethinking Education". It's a well-chosen theme not just for the Malay-Muslim community, but for Singapore. Education has been and is our most fundamental social and economic strategy - since the early days, and even now as we look to the future. Education is how we develop the social attributes we need to be a vibrant and cohesive society. It's how we develop the skills that we need to be a competitive economy. But more than just specific social or economic skills and capabilities, education is how we shape the character of our nation. It has been so, and remains fundamental to the character of the future Singapore.

And if you think hard about the issues which DPM Lawrence Wong spoke about on Tuesday, particularly on forging a new social compact, education has to be fundamental. It's not just 'where it starts'. It shapes our lives as we go forward together. Education is key to that future social compact, and I will offer a few thoughts on three areas which we are focusing more on, and need to put a lot more effort into, as part of the effort to build our future social compact. I'll talk about three areas.

First, the importance of reducing early gaps. We have to work a lot harder to even out the playing field in the youngest years. We must do so if we are to diminish that natural tendency in every society for the early disadvantages and advantages to be preserved and even reinforced through life. It's critical for Singapore that everyone has a fair chance to do well and to move up. And it's critical to us being an optimistic society - no matter what comes, what

challenges we face, being an optimistic society. At its core, it is about the intrinsic optimism of our people that comes from feeling they've got a fair chance to do better - to survive the odds, to overcome and to do better in life. So that's the first and critical objective - reduce the early gaps.

Second, we must continue to broaden the range of merits that are recognised and promoted in our meritocracy. And importantly too, we have to reduce a hierarchy of skills that is still too sharp - between academic and non-academic skills, and between some academic skills and others. We have blur that hierarchy of skills, develop respect for different skills as we grow up, and indeed give everyone a chance to pick up different skills. That too has to start young and continue into the working years, so that we have a workforce and society where every skill is valued, and every job well done is respected. That's the second challenge.

The third challenge is to strengthen our sense of togetherness. We have to work harder on strengthening our sense of togetherness across different socio-economic groups and different ethnic groups. We have avoided the big problems seen in many other societies. But we have to work harder on this for the Singapore of the future. It means avoiding social distances that develop when children are young and stay through life. And importantly, to develop that sense of familiarity, friendship and solidarity that we must have with each other as Singaporeans. That comes not from textbooks, it comes from experiences. Experiences of growing up together are critical. And we do need more social mixing amongst children from different backgrounds as they grow up.

So those are three areas where we have to apply more thought to, put more effort into, and design programmes to ensure that we address them effectively. I'll speak briefly about each of the three.

First on reducing the early gaps. The gaps are evident to all of us who are involved in education and community work. They are evident in the preschool years, they're evident in Primary One. It requires a concerted effort by the



Government, by community groups and by our preschools and primary schools to address these gaps.

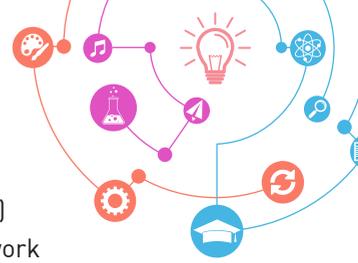


For the Malay community, this is a particularly important issue. The community has clearly progressed, at every level of education. In fact, as some of you know, if we compare at our Malay students with students abroad, the achievement is truly impressive. Our 15-year-old Malay students in the 2018 PISA tests outperformed the average of the OECD countries. They outperformed their OECD peers in Mathematics - in fact, for the first time in 2018, they exceeded the average of the OECD countries - and were on par with them for Reading and Science. And they also did better in collaborative problem solving.

The improvements in the Malay community in attaining post-secondary qualifications and beyond have also been the largest in the last decade compared to our other ethnic groups. Partly because the starting point was lower, but the progress has been sharp and visible. So there's been very significant progress.

But the gaps remain. And some of the gaps are too significant for comfort. The gaps are evident in pre-school, primary school and every level. The gaps are both socio-economic, irrespective of race, but there are also additional gaps among ethnic groups. In other words, the gaps faced by the Malay community are not just because Malays are over-represented in the lower socio-economic groups. Even within those lower socio-economic groups, there's a greater proportion of Malays who start off weak in school, and remain weak. That's why we see a larger proportion of Malays in our Learning Support Programme for English (LSP) at Primary One and our Learning Support for Mathematics (LSM). It's not just because of low socio-economic status; there's an additional complex set of factors that we have to address.

And that's why community effort is critical. The Government is doing more; MENDAKI, M³, other community groups are doing more. But together we have to work even harder to address these early gaps. Close the early gaps between Malay children and the rest - in particular, the gaps seen amongst Malay children in the bottom 20% of socio-economic status.



MENDAKI has embarked on several initiatives. KelasMateMatika (KMM) and KelasSiapSekolah (KSS) are good initiatives. We need to scale them up and work intensively on them. And recognise that these aren't problems which we solve immediately. You can't achieve results overnight. It requires persistent effort, patience, sensitivity in the way we work together with parents, and a great deal of empathy with both parents and children.

So I commend what MENDAKI, M³ and our various other communities groups are doing to address this problem. But we have to work harder. The Government too has to do more. We need to scale up KidSTART, as we plan to do - not just scale up the numbers but make it more intensive, more intensive engagement of parents and children. We are making significant improvements in preschool quality. It's already very different today compared to 15 or 20 years ago, and we're going further. And we're also working harder in our primary schools with various interventions to address the needs of those who are disadvantaged or who have fallen behind, irrespective of race.

The Government's efforts are race-neutral. Strengthening KidSTART, our preschools, and our primary school interventions like LSP, LSM. In fact, for LSM, as many of you already know, we're now going beyond Primary One and Two, to Primary Three and Four as well, significantly expanding the scope of Learning Support for Mathematics.

The Government is doing more through these race-neutral interventions, but it requires greater community intervention as well. And the work you do with Malay-Muslim parents and children is really critical.

It has to continue through the growing years. None of us can be satisfied with the incidence of absenteeism, and late and irregular attendance, in our preschools and in our schooling system. It's not broad-based. Compared to many other countries, we do better. But for those who face disadvantage, the lower socio-economic groups and those not doing so well, irregular attendance is a problem. You see it from preschool, all the way through to ITE. We have to tackle this effectively.



We need a stronger wrap-around for every student, not just by the classroom teacher or the school's programmes. We need the community wrap-around, and we need to work as a team. The professionals in the school, the professionals and volunteers outside the school, have to work as a team and not to be too seized by the division of roles. There's some blurring of responsibilities when you talk about a wrap-around for the child. We have to take joint responsibility. Of course teachers will do what teachers do best, school counsellors too, but we need a wrap-around where we are taking joint responsibility for every kid from a disadvantaged background.

Every society has this problem, where performance in school is not just a function of individual talents and attributes, but also a function of complex, multifaceted and interlinked social problems. And we have to work harder to address those problems in Singapore. Work harder to make sure that the early disadvantages in life do not replicate themselves and become stubborn disadvantages throughout life.

We are taking lessons from the research that is being done through the GUSTO project. The GUSTO project, many of you know, involves National University Health System, KK Women and Children's Hospital, and A*STAR. What GUSTO showed is that the pre-natal and early childhood years are critical for both maternal health and the child's health, and for the child's development. This has been broadly known internationally through a range of studies, but we find from our own data on Singapore a definitive link. We have to pay attention to the early years, starting from the pre-natal experience of the mother. For example, Gestational diabetes and maternal depression play an important role in the health of both mother and child, and they play an important role in the development of the child. So there are many issues coming out of the GUSTO project that we have to address together, through that compact of government and community action. MENDAKI and M³ are working now on follow-ups in our pre-school system.

Second issue – recognising a broader range of merits in a meritocracy and reducing the hierarchy between different skills. It is not just about reducing gaps between groups. It is also about developing the child, developing every



child so they've developed a range of skills in their growing years. We are doing better than some narrow meritocracies particularly in some other parts of Asia.

But we need to go further to develop a broader range of skills as children grow. We are providing more space for this. We can't keep trying to do more and more things in education, we've got to free up space as well. So MOE has done away with mid-year examinations for primary and secondary schools at all levels, starting from next year. They are creating space for development of what MOE calls 21st Century Competencies (21CCs). We have moved to a new PSLE scoring system. We've expanded DSA across all our schools.

But we need to address what is still too sharp a hierarchy between the academic and non-academic skills, that then continues through into working life. There are countries where students who are strong or doing fine academically, also engage in technical and hands-on skills as integral to their school experience. We have some schools here doing likewise, School of Science and Technology or SST for instance. But it shouldn't just be in a specialised school. Our top schools need to give students more hands-on learning experiences. There have been many studies showing that creative and innovative abilities are nurtured early in life by the combination of using your mind and hand together. But it's important not just in developing each child individually. It's also important in reducing the hierarchy of skills. We shouldn't regard technical and applied work as something to be done by those who are not strong in academic studies. We have too sharp a distinction in Singapore, and we need to address that too.

Thirdly, that sense of togetherness that we must reinforce, and the capability of mutual respect has to be developed from young.

We don't have the sharp antagonisms that many other societies have. We have some social distances, but they tend to be informal, and not antagonistic. People aren't deliberately staying away from each other, by and large. But let's be frank, there are distances between different groups in Singapore, including between our ethnic groups, and we need to close those distances in the interest of all of us and in the interest of Singapore.



We have to address it first by having more social mixing as kids grow up. Experiences matter. You only develop that sense of familiarity, the natural friendships, even the Best Friend Forever, through experience, the regular interaction not just in the classroom but outside the classroom, and during the weekends. The hours you spend together every week in the dance group, on the football or hockey field, or tchoukball – those hours shape instincts naturally, they shape behaviour. We have to do more.



We're doing more to reduce socio-economic distances through some structural changes in the system - changes in Primary One admission rules to increase the number of places reserved for children without prior connection to the school, even changes in Secondary One admission for schools that used to take in a significant proportion of students from affiliated primary schools - we've reduced that. And the Subject-Based Sanding scheme is a very important innovation in our secondary schools. We moved away from a streaming system in primary schools to Subject-Based Banding several years ago. We've been moving progressively towards this in secondary schools and we're now going moving fully to it in secondary schools. That too will help in encouraging social mixing.

But we have to plow the CCA field a lot more intensively to develop social mixing. It's not just more CCA, it is more mixing of students across CCAs. It has to be in the mind of the school principal, the vice principals, the teachers in charge, to look out for those who feel they don't belong to a particular CCA and bring them in. Too many of our CCAs have become close to mono-ethnic. Yet when you think about international competitions, you're competing against people of all sorts of ethnicities, so it makes no sense. We are not taking enough advantage of CCAs to develop that regular several times a week interaction. Basketball, volleyball, even football. Today's football teams are different from the teams in the 1980s, we all know that, and it shouldn't be the case.



It starts from young. We don't want a quota system, but it has to be part of the thinking of school leadership: how to encourage the kids from different backgrounds to play together, train together, win and lose together. That is part of our responsibility in education.

But there's another element in developing the sense of togetherness that we need for our future. We have to develop a capability for healthy civic discourse as we grow up. Recognising that we are becoming a society with a pluralism of views and individual preferences. We're becoming a more pluralistic society, and we must not just live and let live, let alone look askance at each other. We have to understand and respect differences, find compromises where possible, develop consensus. And the ability to develop consensus, to respect each other, is one that we must develop as we grow up. That too has to be what education is about - building the capability for healthy discourse, thinking through differences, thinking about compromises that are necessary, but very importantly, respecting different views and preferences.

These are all doable improvements. We have a system that's not only not broken, it's actually working much better than in most other countries. But we have to put more effort into these areas - closing the early gaps, which are both socio-economic and ethnic, through community and government action; broadening the range of merits we're recognising and promoting, and reducing a hierarchy of different skills when young and through life; and finally, developing that strong sense of togetherness, and the capacity to respect different views and preferences in a more pluralistic society.

So that we remain together as Singaporeans, and our identity, first and foremost, is I am Singaporean.



MENDAKI SYMPOSIUM 2022

REDISCOVERING MEANING & PURPOSE IN EDUCATION

EDUCATION IS AT *the* CORE of HOW WE NURTURE OUR YOUNG

WE NEED to BUILD **LIFELONG LEARNING** for OUR YOUTHS

HOW DO WE SHIFT *from* THINKING ABOUT **YESTERDAY'S SOLUTIONS** to THINKING ABOUT **TOMORROW'S PROBLEMS?**

EXAMS ARE NECESSARY, BUT **WHAT WE DO** WITH THIS TOOL IS IMPORTANT

BE RESPONSIVE to COMMUNITY'S NEEDS
WORK & DEVELOP PROGRAMMES

COMMUNICATE CRITICAL THINKING *through* THE CONTENT THAT WE TEACH

SHIFT *from* DEGREES TO SKILLS

REACH BEYOND POLICYMAKERS & PRACTITIONERS, AND INVOLVE PARENTS WITH *their* CHILD'S EDUCATION

USE DATA to HELP IDENTIFY GAPS EARLY

REMEMBER **WHO** WE ARE TEACHING
OUR STUDENTS

KNOW *their...*
POINT of VIEW
BACKGROUND
STRUGGLES

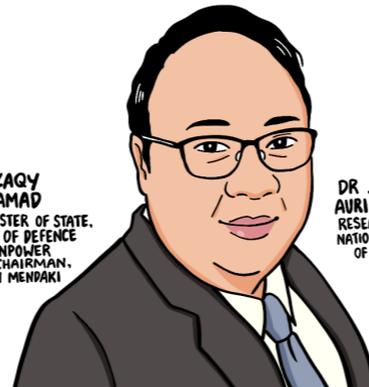
GIVE STUDENTS MORE DECISION-MAKING POWER ON WHAT THEY WANT to **LEARN**

KEY TAKEAWAYS:

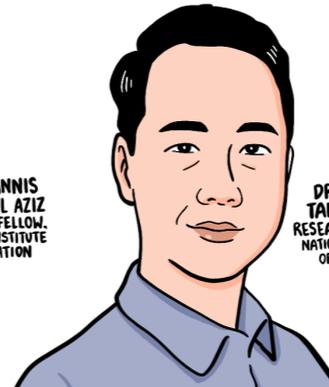
- LOOK AT EDUCATION AS A PROCESS NOT AN OUTCOME
- FOCUS ON SKILLS, NOT EXAM RESULTS
- STUDENT AUTONOMY
- ROOM for BOTH PROGRESSIVE & TRADITIONAL EDUCATION



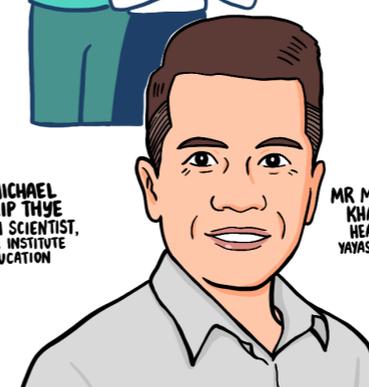
MR ZAQY MOHAMAD
SENIOR MINISTER OF STATE,
MINISTRY OF DEFENCE
& MANPOWER
DEPUTY CHAIRMAN,
YAYASAN MENDAKI



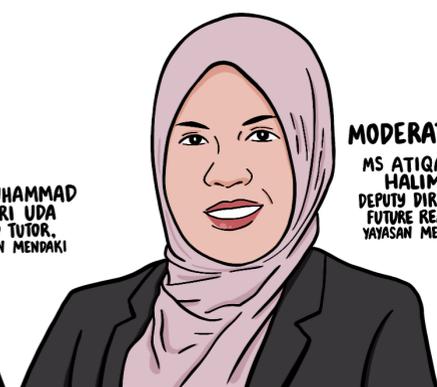
DR JOHANNIS AURI ABDUL AZIZ
RESEARCH FELLOW,
NATIONAL INSTITUTE
OF EDUCATION



DR MICHAEL TAN LIP THYE
RESEARCH SCIENTIST,
NATIONAL INSTITUTE
OF EDUCATION



MR MUHAMMAD KHAIRI UDA
HEAD TUTOR,
YAYASAN MENDAKI



MODERATOR:
MS ATIQA HALIM
DEPUTY DIRECTOR,
FUTURE READY,
YAYASAN MENDAKI



SESSION 1: REDISCOVERING MEANING AND PURPOSE IN EDUCATION

PREAMBLE:

The education landscape has moved away from rote learning but may still be seen as a performance-based system driven by economic growth. Students are encouraged to focus on STEM subjects and in-demand competencies to achieve success in life. While Singapore schools meet international academic standards, students may still feel uncertain about who they are in the world without a sense of purpose.. How can we develop inquisitive learners in a purposeful, and holistic education which instil a culture of lifelong learning?

PRESENTATION:

Meaning and Purpose for Singaporean Society: The Impact of the Future of Work on Individual Purpose and the Role of Education

By Dr Johannis Auri Abdul Aziz

Research Fellow

National Institute of Education, Nanyang Technological University

Notes:

1. The research was conducted from October 2019 to June 2021

- a. Together with co-principal investigators Mark Charles and Mary Anne Heng, the objective of the study was to understand how diverse society leaders in Singapore are thinking about the future of work and education, especially in relation to finding meaning and purpose within or outside of them.
- b. With massive disruptions in the workplace with the acceleration of artificial intelligence, automation and robotics, it is inevitable that work will become much more irregular and that while this could have beneficial aspects in terms of providing people with greater freedom, it could also threaten well-being because of a sense of purposeless in the absence of meaningful work.
- c. The study focuses on three questions:
 - i. What is the meaning and purpose for Singapore's leaders in various sectors, such as education, public policy, religion, business, voluntary service organisations and the arts?
 - ii. How would their notions of meaning and purpose in life influenced or modified by thoughts about implications of the future of work?
 - iii. How does our understanding of meaning and purpose (or lack thereof) affect our views on the goals of the education system?

2. Findings from Research Question 1

- a. Participants of the study showed a broad common understanding of 'meaning and purpose'.
 - i. Sense of progress for self and work goes beyond material success
 - ii. Comes from social relationships and life experiences.
 - iii. Purpose in life is core to identity construction and healthy self-esteem, often inspired by role models or self-reflection.
 - iv. Meaning and purpose are driven by sense of service that transcends self.
 - v. Restrictive Singaporean work ethos of pragmatism and instrumentalism is obstacle to developing a purposeful life.

3. Findings from Research Question 2

- a. 21st Century Core Competencies (21CCs) such as creativity, inquisitiveness, and other human-centred skills will be needed.
 - i. Singapore's system may need to focus and implement more initiatives to build and encourage above-mentioned competencies. It needs to push through and change current narrow meritocratic values and notions of success.
 - ii. Shift to 21CCs will serve both needs of economy and help Singaporeans find more meaning and purpose in life.
 - iii. Singaporeans need to get used to higher levels of economic uncertainty and vulnerability.

4. Findings from Research Question 3

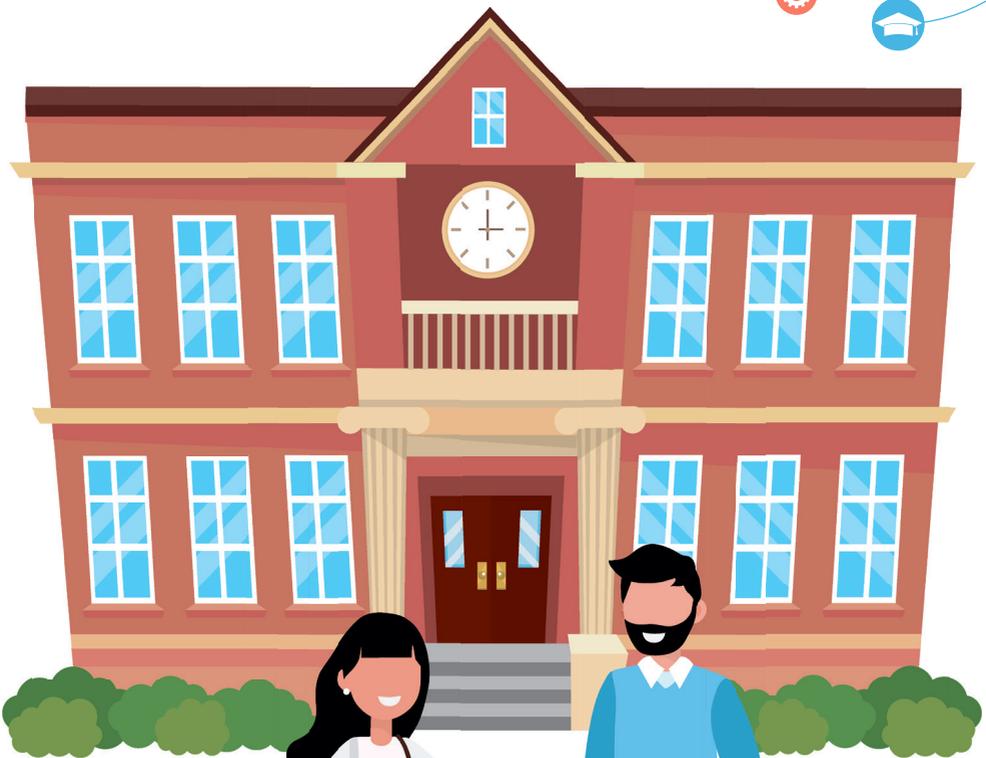
- a. Traditional pedagogy does not support the development of 21CCs, especially critical thinking.
 - i. Critical of instrumental, meritocracy, and growth-based economic model that has driven the education system.



- 
- 
- ii. Narrow focus on exam performance is not actually preparing students for the realities of the world of work.
 - iii. Supported multidisciplinary, interdisciplinary, participatory, and experiential learning are effective ways forward beyond traditional teaching pedagogies.
 - iv. “Whole-person” education, which will focus on the individual learner human being with social and moral needs as well as economic ones, is reported to be favoured by the participants in the study.
 - v. Emphasis on developing personal character, values, prosocial traits, and a deeper understanding of diversity - including, but not limited to, cultural, social, and economic background diversity.

5. Recommendations

- a.** Restructure school admissions and scholarship decision processes to formally include considerations for non-traditional talents, achievements and contributions.
- b.** Do the above for civil and public service jobs to provide leadership and create pressure for private sector employers to do the same.
- c.** Set more curriculum time for a problem-based approach to education.
- d.** Require schools and their student organisations to be more involved in the activities and life of their immediate surrounding neighbourhood.
- e.** Work with parent groups like ‘Life Beyond Grades’ to widen society’s narrow definitions of success.





3. The economy is moving towards valuing all jobs equally.

- a. There are security guards that are earning on par with degree holder jobs because there is a shift from a certification-based education to a skills-based education.
- b. We have changed the way we think of, and approach to education. Workforce Singapore has fast-tracked some career conversion programmes such as nursing.

4. Traditional education is still valued.

- a. Being an international hub, there are certain expectations that come with being educated here in Singapore.
- b. There are people, and employers, locally and globally, that still value a certification-based education system and we cannot completely preclude ourselves from it.





SHARING:

STEM – For What Purpose

By Dr Michael Tan Lip Thye

Research Scientist

National Institute of Education, Nanyang Technological University

Notes:

1. Education needs to shift from teaching about yesterday's solutions, to thinking about tomorrow's problems.

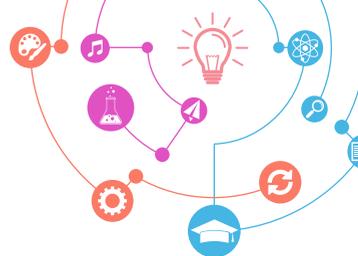
- a. Issues of the past may no longer be an issue for students when they enter the working world.
- b. Students need to be taught how to anticipate change and problems.

2. Gap between facts and values.

- a. STEM can give you accurate and useful facts, but what the facts are used for is what we should be focused on.
- b. For educators, it is not so much a matter of instruction in formality and legality, but of educating students to have the desire to fulfil their ethical obligation to humanity.
- c. If the economy moves to an environment that is based solely on scientific truths and experience an 'information glut', people may invent alternative facts, research and findings to serve personal interests.

3. The idea of disciplinary creates a gap and impedes solutioning

- a. Humanities are rarely taught as an integral part of education in STEM education.
- b. Students should not feel a need to pick either a more lucrative career in STEM or in the humanities. These fields should be working hand in hand to answer more compelling and meaningful questions.



SHARING 1D:

Community Efforts in Education

By Mr Muhammad Khairi Uda

Head Tutor

Yayasan MENDAKI

Notes:

1. The heart of education is being aware of *who we are teaching*.

- a. No two students are alike – they have diverse backgrounds, abilities, and interests. Hence, no two students will have the same meaning and purpose in education.
- b. A child’s formative years shapes the way they view the world.
- c. Tutors from MENDAKI Tuition Scheme (MTS) have to go through an Ethics of Care training that equips tutors with the skills to educate and handle students from diverse backgrounds.

2. 21st Century Core Competencies should be part of education programmes.

- a. Skills such as self-management, relationship management, and the ability to make responsible decisions can be imparted in the way we teach our students as we develop their academic competence.
- b. Educators should focus more on the learning process, not on the outcome. They can help students regulate their emotions and overcome the frustration of not being able to solve a problem by staying solution oriented. By doing so, students would be able to find learning more rewarding and meaningful, rather than just rote memorisation.

KEY TAKEAWAYS FROM PANEL DISCUSSION

01

Two definitions of meaning and purpose in education

- a. First was the **inculcation of pro-social values directed at the common good**, which included a 'whole-person' education, to foster more grounded citizens.
- b. Second was greater autonomy in education for students to choose what they want to learn. This is to encourage the pursuit of interests and passions, which speak to more purposeful and meaningful educational experiences.

02

The value of meaning and purpose in education

- a. Education plays an essential role to nurture young people.
 - i. There should be more focus on creating a **lifelong learning core culture among the young to prepare them for the future**. Lifelong learning extends beyond formal education programmes.
 - ii. The lifelong learning core culture should **involve parenting skills and parental counselling** that are required outside of the school system to ensure that the young are getting the support required at home.



iii. **Research is key to provide data-driven directions** as well as to **identify trends and gaps early.**

Through data and more evidence-based approach, more targeted programmes could be developed to respond to community's needs, especially the underprivileged, with interventions like enrichment classes.

b. In Dr Johannis' research, **mental health** was raised by several research participants as a **major negative effect due to the over-competitive nature of our meritocratic school system.**

i. A **'whole-person' education** and **broadening the definitions of success in society** could the problem of over-competitiveness.

ii. Both will **reduce the over-competition and the sense of failure** by those who do not progress as fast as their peers along academic lines.

iii. Neither of these, though, are about learning to be happy, or finding meaning in life, per se. **Resilience can be taught, but the meaning of happiness and how to be happy may not be something that can be taught,** or even measured, in school.

03

Having meaning and purpose can help students progress in their future

- a. The heart of education is **always to remember the target audience** and to **take into consideration their diverse background**.
 - i. It is important to **acknowledge the student's current situation and adapt pedagogical approaches to their needs**. **More research** needs to focus on **Ethics of Care** in order for **tutors to be more effective** in supporting students. 21CCs can be included in the way that students are taught but it cannot stop there.
 - ii. **Focusing on the process** rather than the outcomes will **give the students more room to develop a learning mindset**.
- b. In addition, there is a need to shift from 'learning about yesterday's solution' to **'thinking of tomorrow's problem'**.
 - i. It is important to differentiate the **gap between facts and values**. STEM subjects can provide facts that are useful for future professions but ultimately, **the application of the learned fact is not discussed**.
 - ii. Hence it is very **important to start looking at school systems** – to produce students that think of solutions rather than those that regurgitate facts.

- a. The **economy now is a lot more skills-based**, and no longer strictly dependent on paper qualifications attained. The shift from qualifications to more skills-based system is evidence of the country moving forward in being more receptive to hiring talents beyond paper qualifications. This means that the **possibilities are much broader today as the market shifts**.
- i. However, because there is still a traditional view of the importance of a person's education level, certification is not totally obsolete. However, the move to a **more skills-based economy provides more opportunities for students to find more ways to land jobs**.
- b. In the current education system, teachers have been trained to not only relay the content but to also to teach students problem-solving skills. By **communicating the critical thinking process of the contents being taught**, students **learn to look at issues in varying perspectives**.
- c. In addition to this, mentoring programmes where **mentors can help navigate and help students make sense of their experiences might be useful in applying particular information and techniques into real-world contexts**.

d. If we were to adopt the Finnish education philosophy, there might be dramatic changes to Singapore's social organisation that would be hard or impossible to predict. The caveat always applies that Finnish, or any other, education system is not as simple as updating an operating system to our computers.

i. The Finnish education philosophy works in Finland because it is a coherent life philosophy that connects with ideas of what the good life constitutes, and how to organise large groups of people to achieve it.

Education is not merely the communication of desired forms of knowledge. It also communicates the nature, and the form this desire should take.

e. There is **no one right system of 'meritocracy' based on results**. It is a **social agreement to reward certain kinds of talents in certain kinds of ways**.

i. All that can be done is to look for the least worst method to figure out how to distribute resources.

Metrics can always be changed, depending on how society chooses to value different forms of talent, and the relative scarcity.

05

Strategies to develop critical thinking process in students

- a. **Think-aloud sessions** – where students share their thoughts on what they are reading or learning.
- b. **Literature prediction** – where students are asked to guess the ending of the book they are reading based on the beginning of the story.
- c. **Student-led discussions** – where students reflect metacognitively and rely more on their peers for answers rather than teachers.
- d. **Collaborative work** – where students are given time throughout lessons to converse with peers and share ideas to eliminate confusion and misunderstandings.

06

The importance of examinations is misplaced

- a. **Examinations were removed to reduce stress** on students and it was to **encourage a joy for learning and development of inquisitive minds**.
- b. However, the root cause of students' exam stress was not explored. If one chooses to place high stakes on examinations, then exam stress is bound to occur. On the other hand, **if one chooses to take examinations as feedback on how the student is doing, and not worry too much about how it affects his or her future, then tests and examinations would be beneficial to the student.**

- c. Co-curricular activities and experiences** beyond the class are just as important because there are **social skills and problem-solving skills and strategies** that are being developed. These skills are very useful in helping students do better academically and in **shaping the career paths** students choose to be in.
- d.** Self-help groups, like MENDAKI, **should consider expanding the educational and social experiences offered** – those that are not available or at least not focused on in schools and let the learning of values and socio-emotional competencies occur organically in an indirect manner. There is **no need to replicate and adopt the kind of formal and structured character and citizenship education** as directed by MOE.

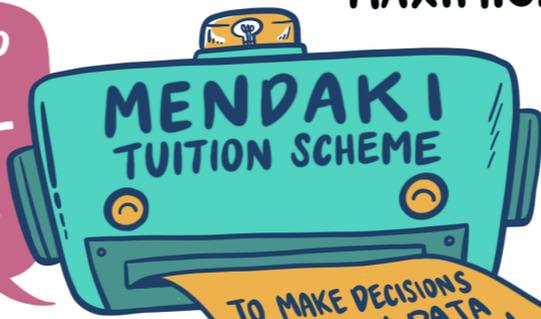




MENDAKI SYMPOSIUM 2022

MAXIMISING DIVERSE TALENTS & POTENTIAL

WE WANT TO BUILD A DATA-DRIVEN CULTURE FOR MENDAKI



TO MAKE DECISIONS BASED ON DATA RATHER THAN ANECDOTES

A TUITION SCHEME IS NOT ENOUGH, WE NEED TO BUILD A COMMUNITY TO BETTER SUPPORT THE CHILDREN!

- ♥ FAMILY PLAYS A BIG ROLE IN STUDENTS' ACADEMIC MOTIVATION
- 📖 HAVING A STRONG ENGLISH FOUNDATION IS KEY TO A GOOD STEM EDUCATION
- 💡 WE NEED TO RAISE AWARENESS OF COMMUNITY RESOURCES

Lifelong Learning

SUCCESS IN LIFE COMES IN MANY FORMS! SUPPORT YOUR CHILD & HELP THEM FIND THE BEST PATH TO SUCCESS

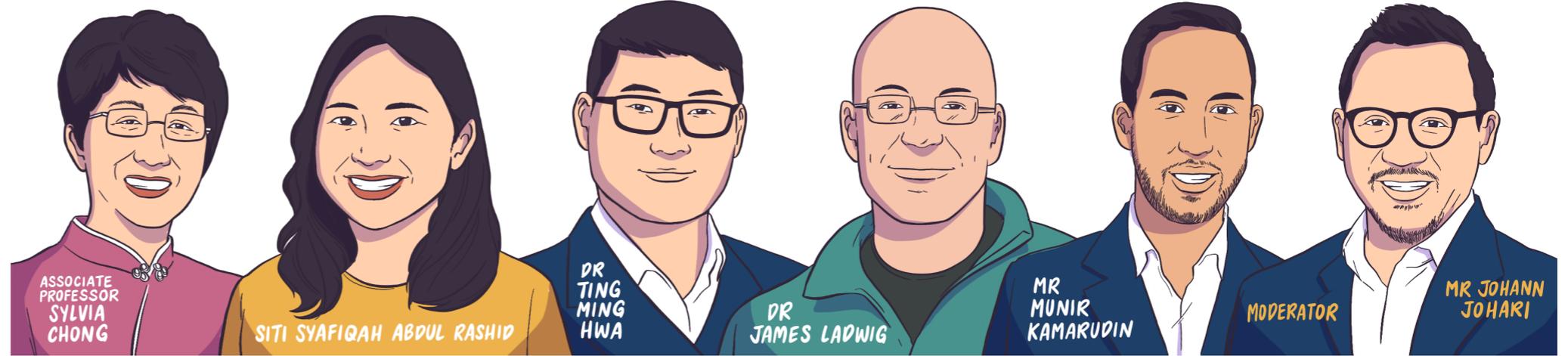


YOU CAN BE CREATIVE IN INTEGRATING LEARNING INTO DAILY LIFE

MORE HOLISTIC DEVELOPMENT & MENDAKI CAN PROVIDE EARLY INTERVENTION

GIVE CHILDREN A VOICE TO SHARE THEIR NEEDS & ASPIRATIONS!

EVERYTHING STARTS AT HOME!
ENGAGE YOUR KIDS BY SUPPORTING & ENCOURAGING THEM



ASSOCIATE PROFESSOR SYLVIA CHONG

SITI SYAFIQAH ABDUL RASHID

DR TING MING HWA

DR JAMES LADWIG

MR MUNIR KAMARUDIN

MODERATOR

MR JOHANN JOHARI

SESSION 2: MAXIMISING DIVERSE TALENTS AND POTENTIAL

PREAMBLE:

Schools have to grapple with a multitude of differences in the profile of their students across both academic and non-academic areas. They must wrestle with the axiomatic reality that each student is unique, with a myriad of different interests, talents, and abilities, while considering how best to organise schools and programmes for efficiency and impact. An education system that does not consider the diverse needs of students from different social backgrounds can create and foster an environment of implicit biases, which can negatively impact student development and performance. Singapore's education system has made headway in encouraging differently abled students by introducing programmes like Direct School Admissions where students can seek admission to certain secondary schools and post-secondary institutes based on their talent in sports, CCAs, and specific academic areas. How else can the education system and educators cater to the diverse needs of students from different social backgrounds?

PRESENTATION:

Identifying Determinants of the Academic Performance of MENDAKI Tuition Scheme (MTS) Students

By **Dr Sylvia Chong**
Associate Professor
*Business Intelligence and Analytics,
Singapore University of Social Services*

Ms Siti Syafiqah Abdul Rashid
Executive Officer
*Research & Design,
Yayasan MENDAKI*

Notes:

1. Singapore University of Social Sciences (SUSS) and Yayasan MENDAKI embarked on a **mixed-method research** initiative to apply research and analytics in teaching and learning of students in MENDAKI Tuition Scheme (MTS). The project aimed to enable MENDAKI, among other things, to:

- Generate early warning indicators;
 - Examine determinants of academic performance¹; and
 - Explore the potential of analytics to generate in-depth information for data-driven and evidence-based decision making.
- a.** The following research questions were explored:
- i. Who are the MTS students based on their academic performances?
 - ii. What are some of the explanatory factors?
 - iii. When and where can the use of analytics support teaching and learning?
 - iv. How to enhance data driven and evidence-based decision making?
- b.** Quantitative and qualitative data analysis were conducted as multiple research methods with different strengths and weaknesses serve to increase the validity and reliability of a research study. This adapted



sequential explanatory design of the MENDAKI study is a knowledge discovery process which begins with a quantitative data collection and analysis phase, and this is followed by a qualitative phase.

i. Quantitative

1. MTS student profile
2. Cluster analysis
3. Variables such as attendance in school
4. Decision trees e.g., breakouts for high-end, mid-end, lower-end

ii. Quantitative

1. Classroom observations were conducted to develop a coding framework with four key areas:
 - a. Tutors' conduct within the classrooms
 - b. Students' responses
 - c. Tutor-student interactions
 - d. Student-student interactions
2. Interviews with tutors and students
 - a. To establish a coding structure and process, a basic framework was proposed based on teaching and learning activities that were detected from the classroom observations.
 - b. Text mining to build on the coding schemas
- iii. Findings were derived from quantitative data while insights into the findings were gleaned from qualitative data.

¹ Academic performance was measured by several variables including national exam results, school mid-year and final-year results.



There is a need to build a strong foundation for STEM pathways as:

1. Mathematics performance was a strong indicator of overall academic performance.
2. English and Science performance were also significantly correlated with overall academic performance.

04

Alignment of MTS assessments with school learning outcomes

Important to build alignment between MTS assessments and school learning outcomes

1. Aligning the rigour and difficulty of the assessments could help develop the pathway for students' learning progression.
2. To be on par with and address the needs of school's curriculum.

05

Non-academic engagements play a key role in students' holistic development

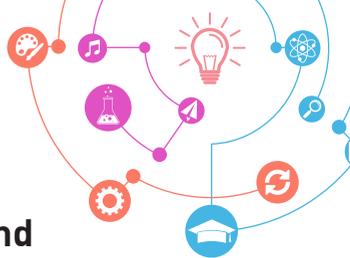
Academically stronger students who participated in CCAs tend to have better grades.

An early foundation is vital to support a lifelong education.

1. Having an early foundation helps to strengthen and complement Learning Support Programme (LSP) and Learning Support for Mathematics (LSM) Programme.
2. It also closes the gaps between academically stronger and academically weaker students.

3. Conclusion

- a. Based on the findings, it could be concluded that having a tuition scheme is not enough. It goes beyond a tuition scheme. There ought to be a more concerted approach in motivation and engagement for the children to realise their potential, attend lessons and be encouraged to achieve higher grades.
- b. Building a strong foundation with programmes that focus on students' holistic development is essential in supporting students' current and future needs for lifelong learning.
- c. MENDAKI has also implemented a mentoring programme, #amPowered@MTS, for secondary three and four students in MTS. Through this programme, students are assigned to mentors who will guide them in setting goals to enhance their motivations to achieve their aspirations in their post-secondary education.
- d. MENDAKI understands that the role of MTS tutors should go beyond merely teaching and to also include elements of care and an on-going interest in students' welfare. Our MTS tutors are trained in Ethics of Care, which is a socio-emotional learning component of the MTS curriculum that allows MTS tutors to engage their students effectively and maintain positive relationships with them.
- e. Building a strong foundation with programmes that focus on students' holistic development is essential in supporting students' current and future needs for lifelong learning.



PRESENTATION:

The Role of Parental Involvement and Positive Parental Expectations as Key Factors for Promoting Children's School Readiness

By Dr Ting Ming Hwa

Principal Research Specialist

Programme Evaluation Office

Yayasan MENDAKI

Notes:

1. Overview of KelasMateMatika (KMM) programme

- a. KMM is one of the community programmes under M³ which aims to provide early academic support to Malay families with children between 4 and 6 years old.
- b. The programme equips parents with mediated learning experience (MLE) skills for them to be able to facilitate and support the learning of their children's basic numeracy concepts. MLE revolves around adults situating themselves between the children and their environmental stimuli so that learners can develop a heightened sensitivity towards the environmental stimuli.

2. Understanding the need for KMM and evaluation of KMM

- a. The understanding of mathematical concepts and principles are closely associated with academic performance in other subjects.
 - i. PISA reported that "disadvantaged students may be more likely to have lower academic performance", KMM can help reduce early mathematical deficit that may be persistent if not addressed adequately.
- b. Evaluation studies were conducted to identify patterns associated with school-readiness. School-readiness is defined as not placed in Learning Support Programme (LSP) and Learning Support for Mathematics (LSM) Programme upon entry into Primary 1.

- 
- i. The data used for the evaluation were drawn from parental responses to the pre-perception survey given to them before the start of the intervention, basic demographics such as gender, age, and students that were enrolled into KMM.

3. Findings on the evaluation of KMM

- a. Results have shown that students were more likely to be school-ready when they completed KMM compared to those who did not complete the programme
- b. The decision tree identified the following variables to predict school readiness:
 - i. Graduating from KMM strongly predicted the child to be more likely to be school ready.
 - ii. These students require lesser support and are more capable of achieving satisfactory academic results.
- c. Graduating from KMM could be used as a proxy for parental involvement as parents act as facilitators in supporting their children's learning of numeracy skills.

4. Potential Questions to Explore

- a. What is the relationship between parents' expectations and academic achievement in children?
 - i. Would parents with low expectations of child's mathematical abilities benefit from more intensive assistance so as to disrupt a self-perpetuating negative cycle?
 - ii. As parental expectations play a significant role in shaping and influencing children's academic outcomes, it is important to cultivate a growth mindset in parents through parent-child intervention programmes such as KMM.



5. Limitations of Analysis

The analysis did not conclude that registering for KMM alone leads to school readiness due to limited data.

- a. Other relevant factors that could affect a child's school-readiness were not available for this evaluation analysis. These factors included:
 - i. Home environment
 - ii. Child health
 - iii. Pre-school attendance
- b. The sample size was relatively small
 - i. n=336 KMM students entering P1 in 2021

6. Conclusion:

- a. There is a need to remove as many obstacles as possible through flexible delivery so that both parent and their child can complete the intervention programme.
 - i. Examples of obstacles include distractions at home, unfamiliarity with digital devices, and difficulties with child minding as there may be other children in the family.
- b. There is a need to communicate to parents that there are parenting programmes which offer assistance to help address the needs of their children, as well as improve family functioning and relations. These include programmes such as KidSTART, SignPost, and Triple P.



PRESENTATION:

Pedagogical Efforts to Improve the Outcomes and Position of Marginalised Groups

By Dr James Ladwig

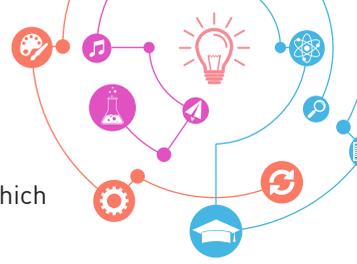
Associate Professor

University of Newcastle, Australia

Notes:

1. History of School Reform Research

- a. There had been a shift in school reform where instead of focusing on external issues of the school, such as school funding or school climate, pedagogical models were introduced to quantify the nature of differences within school as research had previously found that the variance of achievement between students is within the school environment.
- b. Thus, there had been pedagogical efforts to improve the outcomes and position of students, especially the marginalised groups.
- c. It is important to take note of the debate that goes on in the background of the school reforms. Some of them are about:
 - i. Function of schooling: Conservative vs Progressive
 - 1. Conservative culture and civic virtues VS
 - 2. Preparing students for future changes
 - ii. Locus of control (Assessment): Local vs Central
 - 1. Local districts having control of curriculum with different variations.
 - 2. How much of the centralised mechanism controls and rules are enforced at each district?



i. But there are still a lot of local variations which is important to understand differences in pedagogical approaches to learning Pedagogy.

3. Nature of curriculum: Academic vs Practical

4. Differentiation of students based on age versus functional groups i.e., subject based banding

iii. It is important to note that the focus of these debates is based on within-school factors and what happens when students are in the classroom, thus the models are primarily centred around classroom observations.

2. The Pedagogical ‘Nexus’

a. Most schools will generally exhibit a set of linked, interactive, and mutually reinforcing influences on students’ motivation to learn.

i. Since the mid-20th century, the general structures of systems have generally settled into a shared conformity, internationally.

ii. It is important to note that classroom pedagogy is directly connected to larger systemic issues.

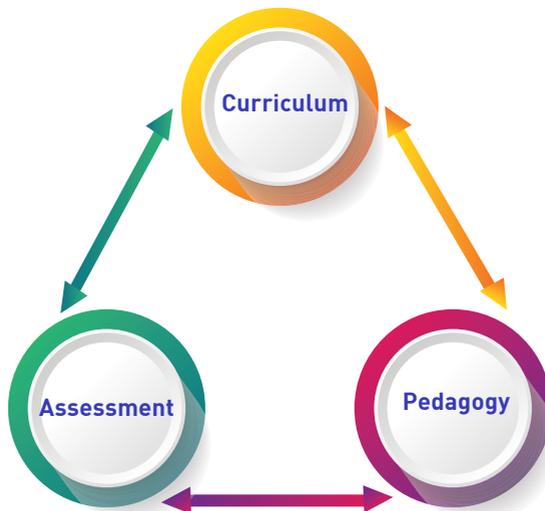


Diagram 1: Coherence of Curriculum, Pedagogy and Assessment

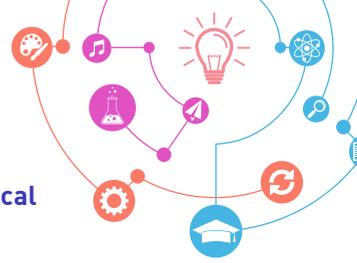
- iii. It is directly connected to how people understand curriculum, whether it follows a centralised curriculum that is commonly found in many countries, including Singapore.
- iv. A particular kind of assessment structure will have an impact on the kind of curriculum and pedagogy that are carried out in schools.

b. The inter-relationships among these “message systems” have a major impact on teachers and students in terms of the actual-lived curriculum.

- i. Inconsistent or directly contradictory messages often occur between the school, and organisations within the same education system. For example, in Australia, the relationship between what is demanded by the New South Wales Higher School Certificate (secondary matriculation exam system) is distinct from what is found in descriptions of desired pedagogy, or even within each syllabus.

c. Thus, the current ‘modern’ school systems reproduce and create marginalisation in relation to each nation’s history, since early European colonialism, and are characterised by institutional dynamics, such as expansion and de-coupling.

- i. As school systems develop, there is always a question around equity as the current struggle, in many nations and regions, is to find ways to use schooling for more equitable and just outcomes (e.g., the European Union focus on social integration, ‘New World’ nations, etc) to decrease the gap experienced by the marginalised.
- ii. For that to occur, the marginalised groups need to increase their academic achievement at a much faster pace than the general population to decrease the gap of academic achievement.



3. Summary of the three types of formal pedagogical models

	Authentic Pedagogy	Productive Pedagogy	NSW Quality Teaching
STRUCTURE OF MODEL	<ol style="list-style-type: none"> 1. Student Construction of Knowledge 2. Disciplined Inquiry 3. Connected to World Beyond Schools 	<ol style="list-style-type: none"> 1. Intellectual quality 2. Connectedness 3. Social support 4. Recognition of difference 	<ol style="list-style-type: none"> 1. Intellectual quality 2. Learning Environment 3. Significance
FUNCTION	Research	Research	Professional Development (PD)
CPA CONTEXT	Full decentralisation possible – huge variations across US in the late 1980s	Turn of the century QLD – limited curriculum structure secondary credential, some basic skills testing, local pedagogical decisions	NSW since 2004 – centralised curriculum, centralised assessments, Pedagogical adaptation officially encouraged – but difficult to maintain significant change
SIGNIFICANT RESULTS	Existence proof that equitable outcome possible	Development of the model into PD, sparking New Basics initiative	Continues to be used – primarily for direct observation of teachers in PD

- a. Authentic pedagogy model was introduced to explore how and what of the school restructuring initiatives of the 1980s had a major impact on the students. As curriculum varied quite a lot, researchers developed a framework to explore the ongoings within the classroom settings as well as understand how teachers were designing their assessments for students.
- b. Productive pedagogy model was introduced in an attempt to help the system work with what was then a site-based management initiative where they were trying to give more local control to schools to adjust pedagogy and curriculum in relation to the larger education system.

- 
- 
- c. NSW Quality Teaching model was a trial experiment in Queensland, Australia where a new centralised curriculum designed the new pedagogical model. A new assessment was provided to schools for them to develop their own curriculum pedagogy within those structures. The concepts on the assessments were very much performance-based and they were connected to real-world problems. The curriculum had a new subject that were designed for teachers to use so that students could engage in high-quality intellectual work based on applications to the real world.
 - d. Important to note that none of the pedagogy models above has demonstrated a significant impact on outcomes by itself but the work has highlighted several significant points about the way systems work.

4. New Basics Initiative Model

- a. A trial of the pedagogical model was conducted in 50 schools in Queensland, Australia.
- b. There were various key components of the model which includes a newly designed curriculum, a new pedagogical model and new performance-based assessments that were connected and applicable to real-world problems.
 - i. The aim was for teachers to use these curriculum and assessment for students to engage in high quality intellectual with real world application.
- c. Evaluation of New Basics Initiative Model:
 - i. Maintained standard outcomes, but with improvements.
 - ii. Stakeholders showed support to the initiative despite early hesitance.
 - iii. Push for national curriculum affected expansion and sustaining of initiative.



5. Local Curriculum Endeavours

- a.** The current focus across many locations is on developing curriculum that is more adaptable to local community interests and concerns.
 - i. It could be in varying forms such as teaching about the Indigenous knowledge and culture.
- b.** There has been recent success in increasing participation and engagement of marginalised communities such as attending early childhood education.
 - i. There was also success in in specific suburbs within the major metropolitan areas where there was a different form of marginalisation
- c.** Beyond participation and engagement, the intent is to increase the attainment and achievement of disadvantaged groups, as defined in policy to be inclusive of socio-economic status, gender, language background and rurality.

6. Te Kotahitanga

- a.** A study led by Bishop and Berryman was conducted in New Zealand.
- b.** The aim of the study was to work directly with teachers for them to be more comfortable with addressing Māori students in a manner that was consistent with Māori culture.
 - i. Teachers were trained to engage students in a way that was consistent with Māori culture and using Māori language.
- c.** This 'Culturally Responsive Pedagogy of Relations' led to development of the 'The Effective Teaching Profile' consisting of six elements:
 - i. Manaakitanga – Teachers care for their students as culturally located human beings above all else.
 - ii. Mana motuhake – Teachers care for the performance of their students.

- 
- 
- iii. Nga whakapiringatanga – Teachers are able to create a secure, well-managed learning environment.
 - iv. Wananga – Teachers are able to engage in effective teaching interactions with Māori students as Māori.
 - v. Ako – Teachers can use strategies that promote effective teaching interactions and relationships with their learners.
 - vi. Kotahitanga – Teachers promote, monitor, and reflect on outcomes that in turn lead to improvements in educational achievement for Māori students.

d. Findings of the Te Kotahitanga study:

- i. The study also measured the degree of academic interaction with the teachers.
 - 1. There were two dimensions:
 - a. Māori culture
 - b. Student-teacher engagement
 - 2. The relationships between the degree the Māori culture was represented in the classroom and the probability of students being highly engaged and the probability of students being highly engaged in a level discourse interaction with teachers were explored.
- ii. If students had an interaction with teachers where they felt they had some kind of cultural responsiveness, the probability of getting academic engagement and the degree to which they engaged in discourse also increased.
- iii. Thus, the study concluded that there is a need to address Māori culture as a foundational issue. Without it, you may not get engagement.



7. Reflections

- a. All the pedagogical models measured three main dimensions:
 - i. Depth over breadth where the value was on the quality of the academic work being done, not just the quantity of work.
 - ii. Valuing a degree of active student learning.
 - iii. Inclusion of non-dominant culture through for example, inclusion of language.
- b. The use of specified models of pedagogy is really the only way to get direct information about what student experience 'in class'.
 - a. The importance with looking at pedagogy is the need to start differentiating between the actual teacher versus teachers' practices within the classroom.
 - i. Models allow for the measurement or comparisons to get direct information about what students experience in class.
 - ii. Observation of classroom dynamics, teachers, and students is key to understand how differentiation in pedagogies to might work with different students.

8. Questions to Ponder

- c. How long does it take to work with schools to redesign the curriculum in a way that teachers are comfortable with addressing students in a manner that was consistent to the students' background while securing a well-managed learning environment?
- d. What is most prized within the society, and why?
 - a. Important to note that academic achievement is not valued everywhere in society, but it is the basis of access to work and institutions of government.
- e. Thus, it raises the need to understand which pedagogy might work with different people which might bring the most benefit to our own community.

SHARING:

Holistic Approach To Ensure Students Reach Their Potential

By Mr Munir Kamarudin

Youth Mentor
Yayasan MENDAKI

Notes:

Ways to strengthen a parent-child relationship

1. Spending quality time with family is critical. Parents should want to spend more time with their children. In families with lower socio-economic status, parents work multiple jobs and do not have time for their children. Given this limitation, there is a need for parents to focus on improving quality time with their children.





2. As a child's early interactions are limited to just the people around them, parents are the child's first influencers and mentors. Parents should create a safe space for children to share their dreams and guide their children to achieve them. If they are unable to do so, mentors can step in to help. Mentors help guide and navigate students in unknown terrains. Mentors that have gone through similar hurdles can act as inspiration and motivation to for children achieve their dreams.
3. Parents should make time to speak to their children. With technology, communication is just a call or a text message away. Constant and consistent communication helps children feel supported and maintains a healthy relationship within the family.



KEY TAKEAWAYS FROM PANEL DISCUSSION

01

Several roles are required to be played to instil motivation and purpose in a child's future education or career decisions. As the saying goes, "It takes a village to raise a child."

- i. In a societal context, various community groups may come in together to support the child/student by **adopting methods and approaches** to facilitate their academic, social as well as financial needs and inspire children to have a purpose and belief in themselves.
- ii. A family receiving support from multiple organisations may be beneficial.
 - a. Firstly, a family can face multiple stressors at the same time and a single organisation may not have all the expertise and/or resources to support the family to resolve these issues.
 - b. Two, for a family to not receive interventions from multiple agencies concurrently would require the seamless sharing of data and information.
 - c. However, issues such as the privacy of the beneficiaries should be considered to ensure confidentiality. There is a continued effort by the Social Service Agencies (SSA) on how to share data in manner that is ethical and preserves privacy.



iii. The child's socio-economic status may also be **linked to academic performance**. Programmes such as the **MENDAKI Tuition Scheme (MTS)** and **KelasMateMatika (KMM)** are designed to provide financial as well as academic support, regardless of socio-economic status. However, awareness about these programmes is crucial as it is imperative to let these families know that there are **helpful resources** which they may tap on to **address the problems they may face** with regards to their children's education. MENDAKI will also strive to develop early predictors that are indicative of a child's abilities, in order to optimise resources to provide needed interventions.

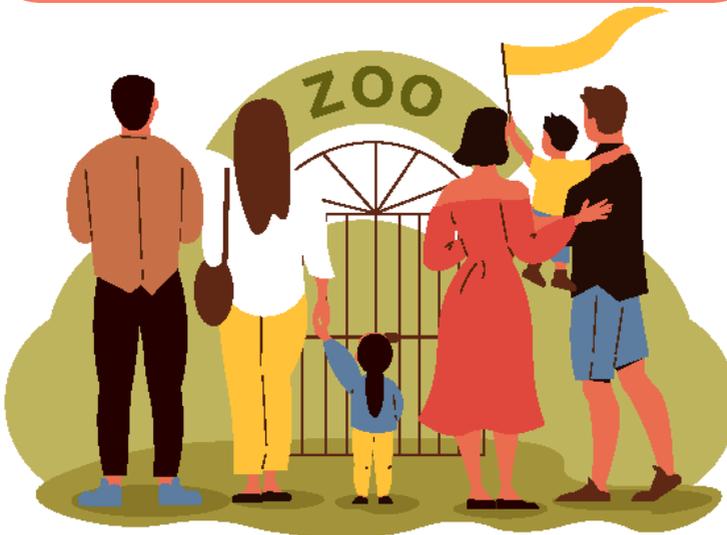
02

Parental engagement with children is an essential factor in a child's academic and social wellbeing

- i. **Parents play a huge role** in the child's academic and social development. Providing **constant support, encouragement, and a platform to express themselves** will motivate the child to create and develop their career aspirations.
- ii. Mentors can also be assigned to children for extended support. Parents could be kept constantly updated on their child's progress by the mentors.
- iii. Mainstreaming social innovations such as timebanks may help parents create time to participate in interventions such as KelasMateMatika (KMM).

Integrating learning into daily activities is an efficient and creative way to inculcate life skills and educate the children academically

- i. KelasMateMatika (KMM) is designed to **provide interactive platforms** to engage young children. For example, KMM programme facilitators teach financial literacy through **simplistic and easy-to-understand methods** like shopping outings. KMM also provides hybrid classes, both online and physical and loans out devices and resources to parents as needed.
- ii. **After-school trips to the museum or the zoo** may also have a positive impact on the child's learning development. More attention should be paid to the child's interests **to help engage them and expand their competencies**.





04

Programmes should constantly be reviewed and developed as the child goes through different stages of their lives

- i. Awareness about these initiatives **could be communicated through Whatsapp and calls** and perhaps **periodical check-ins regarding the child/teen's progress so that their evolving learning needs** could be integrated as well.
- ii. There is a pressing need to spread the word about various programmes and initiatives to create awareness about resources that may assist in addressing issues families face with regard to their child's development.
- iii. Participation in these initiatives will create a sense of belonging and be a stepping stone towards a Community of Success.





PURSUING EXCELLENCE & EQUITY

- FAIRNESS & INCLUSION
- BROAD-BASED PARTICIPATION
- ALLOW STUDENTS to TRY WHAT THEY WANT

IS THERE ANY SYSTEM THAT CAN ALLOW



TO CO-EXIST IN HARMONY ACROSS TIME?

- A WORK IN PROGRESS
- POSSIBLE for EVERYONE!
- NOT ABOUT ACADEMIC SCORES

THERE'S BEEN A SHIFT from STANDARDISATION to DIFFERENTIATION IN CHOICE

SCHOLARS WARNED ABOUT DIFFERENTIATION: EDUCATIONAL DISPARITIES

- ABILITY GROUPING
- CULTURAL CAPITAL

WE SHOULD REDUCE the HIERARCHY of SKILLS

HIGHER EDUCATION'S PURPOSE in WESTERN SOCIETIES

- BOURDIEU → HABITATUS ; STATUS QUO
- SEN'S CAPABILITIES → RESOURCES to CAPABILITIES in EDUCATION & LABOUR MARKET
- KOZOL → INTERRELATIONSHIPS of STUDENTS, TEACHERS & PARENTS
- BRONFENBRENNER → MICRO, MESO, EXO, MACRO
- FREIRE → BANKING EDUCATION
- BILDUNG → INDIVIDUAL-DEVELOPMENT BASED ON KNOWLEDGE



NO SINGLE RULER to MEASURE SUCCESS

EDUCATION IS NOT A MAGIC POTION

LABOUR MARKETS & ECONOMY NEED to WORK TOGETHER

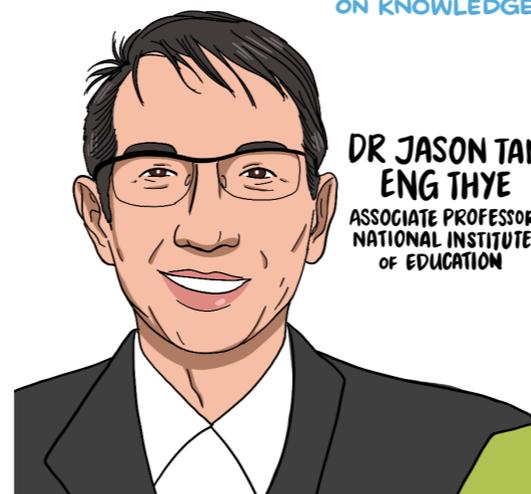
THIS WAS to ADAPT to the KNOWLEDGE ECONOMY

IT'S NOT ONLY ABOUT ACADEMIC OUTCOME, BUT ALSO ABOUT ASPIRATIONS

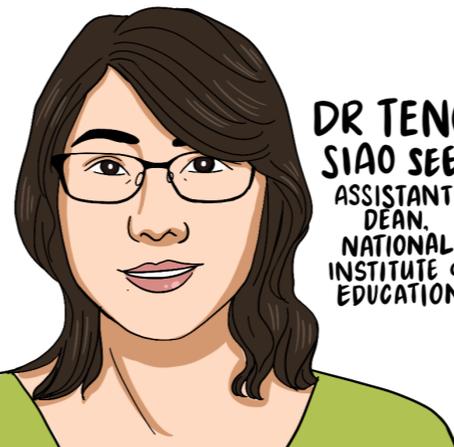
- QUESTIONS to THINK ABOUT:
- 1 HOW HAS DIFFERENTIATION CONTRIBUTED to EQUITY?
 - 2 WHEN DOES DIFFERENTIATION LEAD to STRATIFICATION?

IDEALS for AN EQUITABLE EDUCATION SYSTEM:

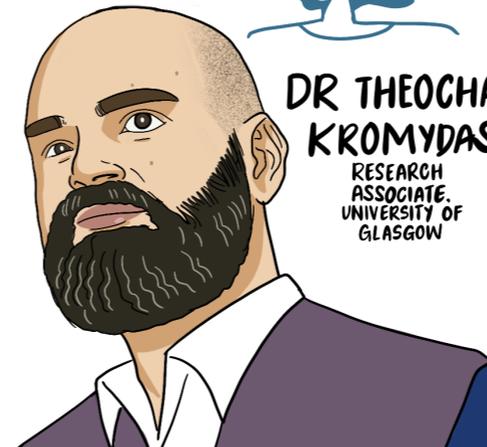
- ORDER
- LOOK AT DIFFERENT SYSTEMS; CONSULT REFERENCE
- TAKE OUR OWN CONDITIONS INTO ACCOUNT



DR JASON TAN ENG THYE
ASSOCIATE PROFESSOR
NATIONAL INSTITUTE OF EDUCATION



DR TENG SIAO SEE
ASSISTANT DEAN,
NATIONAL INSTITUTE OF EDUCATION



DR THEOCHARIS KROMYDAS
RESEARCH ASSOCIATE,
UNIVERSITY OF GLASGOW



MUHAMMAD HILMI ABU BAKAR
SECRETARY
(EXECUTIVE COMMITTEE)
MENDAKI CLUB



SESSION 3: PURSUING EXCELLENCE AND EQUITY

PREAMBLE:

In Singapore, education is accessible for everyone. However, the OECD reported that on average across OECD countries, students' socio-economic status explains a substantive portion of students' performance in science, reading, and mathematics. How can we create a system that ensures that education outcomes are the result of students' abilities, will and effort, and not the result of their personal circumstances?

PRESENTATION:

Rethinking Higher Education: Can Both Excellence and Equity Fit Within Its Purpose

By Dr Theocharis Kromydas

Research Associate

MRC/CSO Social and Public Health Sciences Unit,
University of Glasgow, Scotland

1. Summary of how Western societies define the purpose of higher education:

- a. Bourdieu: Education is seen as a mechanism where the ruling class perpetuates its dominance. The labour market needed a more skilled workforce, and this could be succeeded by widening higher education participation to other classes apart from the ruling class. However, this meant that more people were entering higher education and therefore the education capacity needed to be significantly increased. At the beginning, governments intervened and financed this cost, but they soon realised that they could not finance it only by themselves and therefore the greatest part of the cost had been passed to the individual through taxes, or later through self-funding. Therefore, this created an opportunity for finance organisations to build a new lucrative market, the Higher Education market. The notion of returns to higher education emerged and education was seen as an investment. Since individuals from lower social class had no savings to finance their education, student loans emerged and soon spread among all social class. As a result, widening participation inevitably meant that debt had to be created.
- b. Sen's capabilities: Sen's capabilities theory is all about converting resources to capabilities. Converting resources to capabilities cannot occur in an environment where there is overreliance in performance metrics. Sen's capabilities theory focuses on the individual; however, performance metrics are standardised measures that assume individuals



as more or less components of the same system and knowledge delivered is not personalised to each individual's traits and capabilities. Therefore, capability theory can be utilised in education and labour market settings only when higher education and labour market move away from standardised performance metrics.

- c. Kozol: Education systems drive the force of social inequality and perpetually create social segregation and disparity as businesses are the key players in the market-driven education. Businesses and the country's economy shape the purpose, content, and curriculum of education. On the other hand, students, their parents as well as teachers, whose roles should have been essential, are displaced into token participants.
- d. Bronfenbrenner: Education is a single system that consists of four subsystems: Micro – family, classroom, Meso – community, schools, parents, Exo – university, teacher's background, Macro – social context, culture, Chrono – all the environmental changes that occur over time. All these systems are in a dynamic interaction in a natural ecological environment which helps a person develop a sense of the world.
- e. Freire: Developed the concept of banking education, where teachers are seen as depositors and students as depositories. It resembles the ethos of human capital theory that posits human beings can increase their productive capacity through greater education and skills training. Freire's suggestion to combat the issues arising from the banking education system is to instead have a "problem-posing education system" where students continually keep asking new contextual questions.
- f. Bildung: Educational development is based on continuously building knowledge through practical examples and it focuses mainly on capturing imagination and emotions through storytelling. At its core concept is the idea of lifelong learning.

2. Discussion

- a. A change in perception is needed. Labour market schemes and demands are not homogenous; therefore, it is very difficult to prepare fresh graduates to fulfil these demands. Since education precedes the labour market, we need to find ways to make this transition smoother. It is not just about changing the education system but also looking at how we can change the labour market. The labour market needs to go beyond profit maximisation purposes and embrace rationales workplace well-being at its core.

- b. Both the education system and the labour market need to look at integration by inculcation and emancipation, ensuring that we are striving towards a public purpose and bringing about social change whilst embracing improvisations and insights from ancient philosophies.





SHARING:

Pursuing Excellence and Equity

By Dr Jason Tan

Associate Professor

National Institute of Education, Nanyang Technological University

1. Dictionary Definition:

- a. Excellence: To be extremely good
 - i. However, what does it mean to be “extremely good”? There is an element of comparison taking place for the term “extremely good” to be possible.
 - ii. What is the basis of comparison?
 - a. Who sets these goals, targets, and standards?
 - b. What role does the individual play in “this definition such as setting of goals or even attainment of excellence”?
 - iii. Is the comparison vis-à-vis externally prescribed standards?
 - iv. Did this comparison lead the competition we see amongst our students?
- b. Equity: (i) Situation in which everyone is fairly treated according to their needs (ii) No group of people is given special treatment
 - i. What does “fair” mean?
 - ii. Who perceives these “needs” and how are “needs” defined – the individuals, external forces / entities?
 - iii. To caution that it is a very deceptively attractive definition at first glance especially since a student with special educational needs would most definitely require some form of access accommodations / “special treatment” to be considered as being “fairly” treated.

2. Historical Journey Timeline

What does 'excellence' really mean and how does it relate to 'equity' in Singapore's education system? To understand these two concepts and move forward with these two terms in the future, it is pertinent to look back on the history of Singapore's educational journey to understand how the government and MOE have translated excellence and equity in the educational policies.

1987: Singapore has drawn its inspirations for academic direction from international sources where the focus did not lie solely on academic outcomes. A "good school" was defined as one that:

- Had greater operating autonomy for Principals
- Had a comprehensive pastoral care and career guidance programme
- Had a wide range of extra-curricular activities
- Had close parental and alumni involvement

1988: There was an increasing use of market economies in Singapore's educational landscape, as indicative from the development of Independent Schools, as it allowed more choice and diversity for students to choose from and vice versa.

1992: Coupled with the introduction of published inter-school ranking table for Secondary Schools and Junior Colleges, it created competition between students.

1996: The then Prime Minister, Mr Goh Chok Tong, mentioned that the idea of excellence is that there will be a baseline of "good", but some schools will simply be more outstanding than others.



2000: The idea that “excellence” encompasses a whole diversity of areas was emphasised through the School Excellence Model, which was modelled after the quality assurance mechanisms from the Business World. Additionally, there was a master plan of awarding schools that excel in various areas. However, with the introduction of all these terms and concepts, schools started to strategise co-curricular activities and school subjects in order to gain a competitive edge in the ranking system. For example, rewarding co-curricular activities that have a track record of winning competitions or offering English Literature for GCE ‘O’ Level.

2004: Saw a shift in Singapore’s educational landscape as Junior College rankings were scrapped.

2005: Ministry of Education (MOE) introduced the idea of “Niches of Excellence” in Primary and Secondary Schools, to further promote the idea that every school can excel in a particular area of their choice.

2006: Prime Minister Lee Hsien Loong emphasised that the “Government would continue to invest heavily in education and continuous learning”, to “provide many pathways for students to grow and develop”, and “build a mountain range with many peaks of excellence”. The then Education Minister, Mr Tharman Shanmugaratnam, highlighted that “every school could deliver a high quality of education” and that “every school can also be above-average, or out of the ordinary, in something – a field where its teachers and students have that added passion and ability to achieve something beyond the normal”.

2007: The then Education Minister, Mr Tharman Shanmugaratnam, reassured Singaporeans that “whichever school you go to, whatever your home backgrounds, we will help you develop your talents to the fullest. The ladders are steep, but we will provide you with many ladders to success and help you climb up as high as you can”. The focus has also shifted from “niches” to “learning for life” and “applied learning” which promotes talents and niches to a broadened conception of excellence that allows for more participation where students were allowed to try things that they were not good at.

2011: Definition of schools are now ‘every school is a good school’ (Mr Heng Swee Keat, the then Minister of Education), where “there cannot be a single yardstick to measure successes and that a “good school” reflects a student’s positive experience, well-being, and character development, regardless of family background. None of the definitions mentions getting stellar academic results.

2012: Government promoted the importance of sharing and collaboration between schools, directly targeting the side-effects of competition of the inter-school ranking system.

2013: Prime Minister Lee Hsien Loong mentioned that although every school is ‘good’, parents will always choose carefully and compare, which keeps schools on the competitive edge.



2014: MOE addressed equity by reforming the funding formula of schools.

2022: The pursuit of excellence is always in context'. Ideas and understandings of excellence are dynamic and constantly evolving with time. There is a difference between 'excellence' and 'perfection'.



PRESENTATION:

Differentiation and Equity: Some Deliberations for Singapore Education

By Dr Teng Siao See

Associate Dean and Research Scientist

National Institute of Education, Nanyang Technological University

Notes:

1. Definitions

- a. Equality refers to the situation where everybody obtains, quantitatively, the same amount. Whereas equity refers to giving everyone what they need to get the same benefits. Fairness and inclusion would need to include equity of opportunities and equity of outcomes.

2. Social Inequality and Education

- a. While schools do not intentionally perpetuate social inequality as an institution, schools are egalitarian institutions that may create social inequality. Differentiation of structures such as grades, classrooms and academic tracks need not necessarily lead to stratification. However, the way that tracking and streaming is implemented, through the differentiation of these structures, may have lasting stratifying effects. Inequalities will be realised when there are further substantial gaps in classroom instructions, curriculum, resources, opportunities and status. When these aspects are more equitable, tracking and streaming may not have as much of an adverse impact.

3. Differentiation and Equity in Asian Education

- a. Looking deeper, there are common features of high-performing education systems in Asia. Most of the Asian countries seem to have very competitive cultures, high-stakes examinations and high



dependence on supplementary tutoring. In addition, one's social origins may affect one's placements into different types of schools. High SES students are more likely to attend academically successful schools, which would provide them with the pathway to university. **The types of schools that students attend also largely determine their educational and career aspirations.**

- b. Therefore, institutional arrangements of highly differentiated educational systems perpetuate socioeconomic inequalities quite early in one's life course, well before students complete their education and enter the labour force. This is especially so as "adolescents align their occupational status aspirations with the perceived opportunities tied to their educational track".

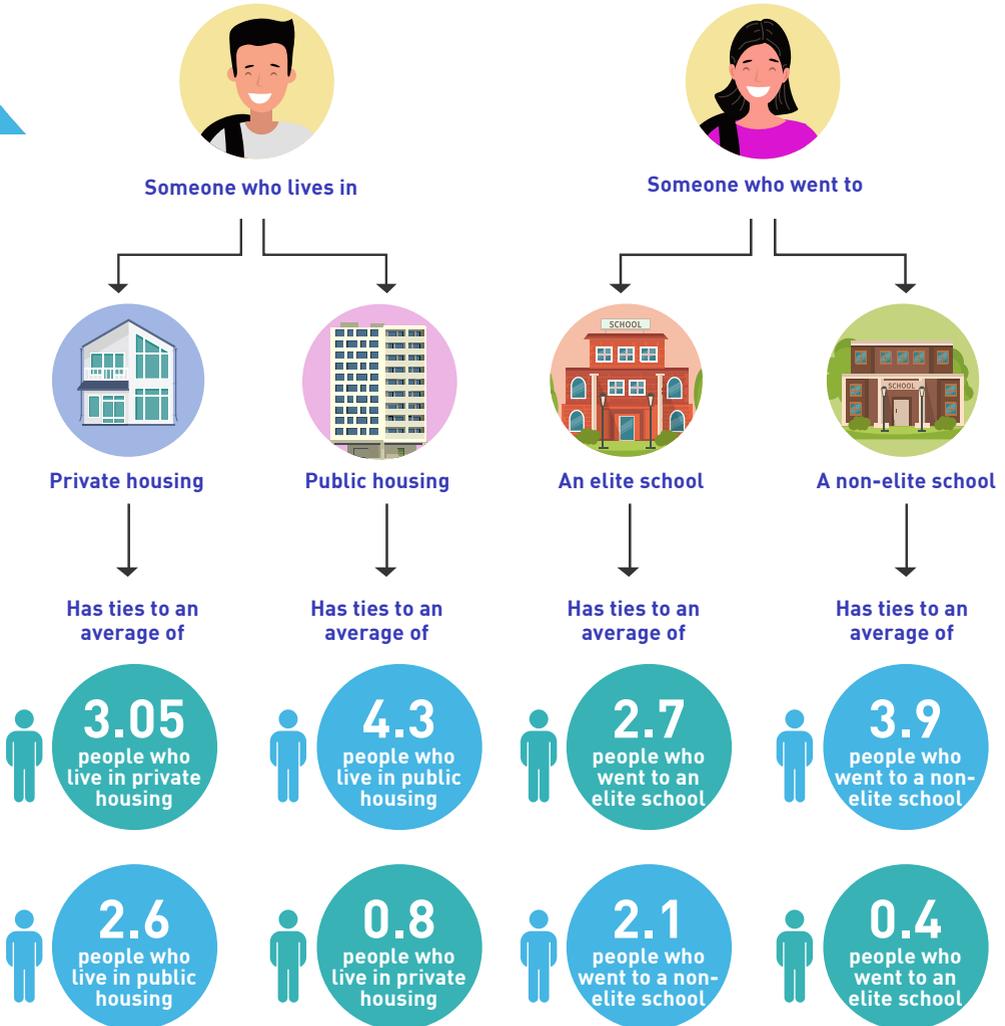
4. Social Inequality in Singapore

- a. Excerpt from Prime Minister Lee Hsien Loong Debate on The President's Address, "We are seeing our society stratifying, which means that children of successful people are doing better while the children of less successful people are doing less well. And fewer children from lower income families are rising and coming up to the top of the heap ..."



b. Implications in the social stratification on Singaporeans' social networks:

How Diverse are Singapore's social networks?





- c.** Ability grouping is changing in its form, where the Ministry of Education introduced subject-based banding. However, it is too early to determine if this structure is beneficial in achieving equity in the education system. Ability grouping often has several issues:

 - i. Students on lower tracks are typically exposed to less vigorous curriculum because they are less able to handle the workload.
 - ii. They are also less exposed to higher order thinking because they are construed as ‘hands-on learners’ only.
 - iii. A teacher’s beliefs and expectations of lower-tracked students may influence their behaviour. Teacher’s possible stigmatization of students can also reduce students’ opportunities.
- d.** Professor Irene Ng’s analysis of the 2016 NYC surveys noted that parent’s SES and youth educational pathways determine their education aspirations significantly.
- e.** In 2021, youths also believe that a degree is a minimum requirement for attaining a job in the future.

 - i. Only 6 to 8% of ITE certification can do the same in 2013, 2016, and 2019. This then leads to the issue about personal agency in achieving excellence. Is it okay to not want to achieve excellence? Those in ITE education come from lower socio-economic status families and conversely those in International Baccalaureate tracks have a wealthier family background.
 - ii. 30% of graduates do not progress to any government-funded pathways after finishing Nitec. However, more than 50% of 2019 Nitec graduates progressed immediately to a Higher Nitec qualification in 2020.

5. Conclusion

- a.** Differentiation of students’ academic performances can lead to both more equitable and stratifying outcomes.

- b.** Conducting more mixed-method longitudinal research studies which employ an ecological framework would greatly enhance our understanding of processes and effects of educational diversification as well as changes across time in Singapore.
- c.** Education is not the magic potion to fix inequality. The interconnections between education, economy, and other institutions need further scrutiny.

6. Questions to ponder on equity in education.

1. Equity of access or equality of opportunity?

- a.** How likely are students able to have the same chance of progressing to a particular level in the education system?

2. Equity of learning environment or equality of means?

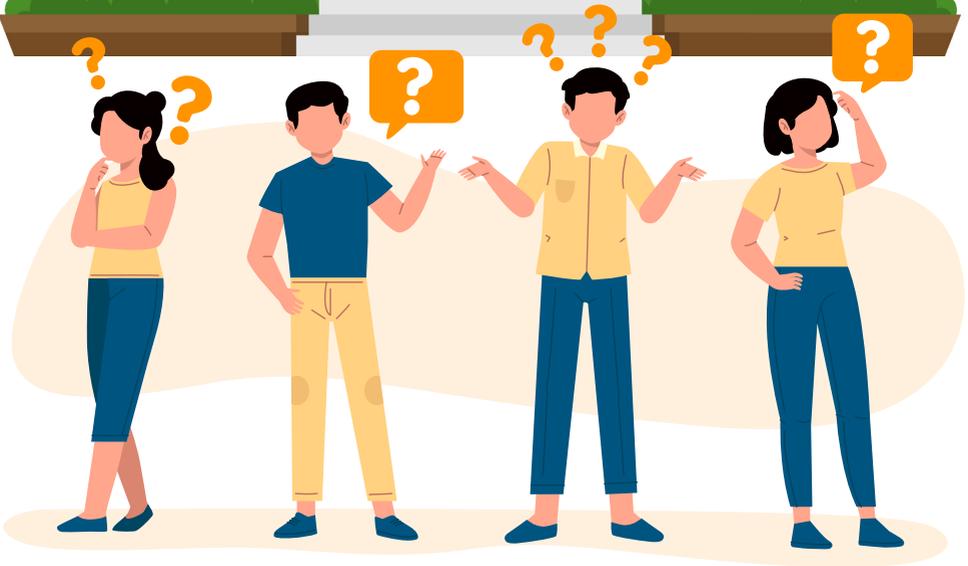
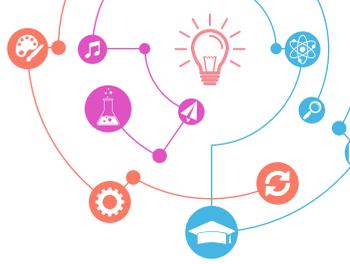
- a.** Do disadvantaged students benefit from a learning environment equivalent to advantaged students in terms of teacher quality, professional credentials, enrolment rate, quality of school infrastructure, quantity, and quality of teaching?

3. Equity in production or equality of achievements?

- a.** Do students all master with the same degree of expertise, knowledge, or skills?

4. Equity of realisation or exploitation of results?

- a.** Once students leave the education system, do they have the same chances of materialising their acquired skills and knowledge to actualise their goals in society?



KEY TAKEAWAYS FROM PANEL DISCUSSION

01

Ensuring all academic tracks in Singapore's education system provide quality education and challenges students to further improve and maximize their potential

- a. There is a **need to consider people's attitudes and beliefs**. Individuals are **influenced by the environment** they are in which will subsequently **shape their mindset**.
- b. However, it is important to note that students who are in the bottom-end tracks may not always be the ones who are constrained in their career choice. **Being in a top-end secondary school could also be a setback because it could pre-determine one's career path** e.g. "I must only be in some white-collar job".
- c. Similarly, in a preliminary study, **ITE graduates** who have progressed to higher levels of education were **found to still have some form of constriction in their mentality and identity as one that is non-academic**.
- d. The focus should not be on comparisons or standards to measure excellence and success. Instead, the **focus should be on having different definitions and variations of measurements of excellence and success**.

02

The relationship between social class and academic performance is prevalent in Singapore's educational landscape

- a. In 2011, then Minister Mentor Lee Kuan Yew produced data comparing the relationship between fathers' education level in the top-end schools and fathers' education level in much less prestigious secondary schools.
- b. Ministry of Education (MOE) Singapore has been trying to **reduce the achievement gap by diversifying the definition of merit**.
 - i. However, by broadening the definition of merit in Singapore, **parents may start to strategise**. Parents tend to go the extra mile to start building a portfolio of extra-curricular activities like violin, basketball, and badminton.
 - ii. The choice of school matters extensively for some parents because it is no longer just about the academic outcomes but also the future social networks that will extend into the child's adult life.
- c. There should be a focus on how students could capitalise on social networking by instilling in our students the habit of asking.
 - i. By **asking and advocating for themselves, students from lower-income families** may find themselves **making strong connections and be in better social positions**.

03

Importance of diverse forms of evaluation and the impact on tertiary education

- a. There have been some observations from teachers that **students may lack some form of critical thinking skills**.
- b. In the past, the presence of **high-stake examinations** in Singapore has resulted in most of the **teaching to be focused on the content and concept** to ensure students are able to meet the assessment criteria. However, **there is a need to review how assessments are derived since it drives behaviour**.
- c. Recently, there has been a **shift in assessment and examination** where mid-year examinations would be removed for all primary and secondary school levels by 2023. But, what about assessing non-academic outcomes?
 - i. It is important to note that not everyone can progress on to university education due to the limited resources, stringent criteria on eligibility for admission and the focus on academic grades.
 - ii. However, if there is a shift towards more practical rather than theoretical assessments, it does not necessarily address parents' concept of education where only the "superior" are rewarded. **Parents may respond to these well-intentioned policy changes similar as to how they have responded, by focusing on the outcome and engineer their children's**



educational journey accordingly. That is, even if there are assessments on non-academic outcomes, i.e., to complete 10 hours of community service, parents may push their children to complete 302 hours instead. Either way, this perpetuates the notion of education as a highly competitive race, instead of one that is responsible in educating and developing curious minds.

iii. Therefore, introducing new implementations may still **be countered with parents trying to keep up with the “competitive race” as opposed to internalising its more noble purposes, which is to ensure an equitable education system through differentiation in assessments.**

d. Therefore, it is key to appreciate all forms of talents by **placing more value and emphasis on talents beyond academic achievement.**

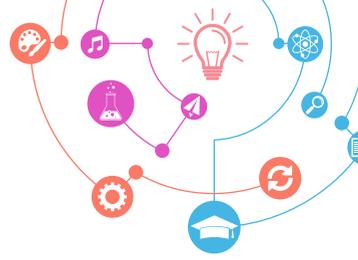


04

Finding a balance between an equitable education system and pursuing excellence is not as straightforward

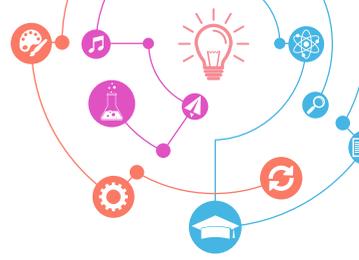
- a. It is important to note that **an equitable system is not the same as an equal system**. An equal system can be one where there are vastly unequal outcomes, which is common in the nature of life.
- b. Even the seemingly equitable models may have its challenges. For example, even though the Finnish education system is known to be equitable, they are also **facing issues on defining equity in education due to the increasing number of migrants into the country**. Should they remove all Mother Tongue languages completely?
- c. And if there is an equitable education system, there will always be the question of **what is the minimum baseline of achievement?** And if our students do not meet this baseline, what does it mean for them? **Hence the focus should be on how schools could cater to individual needs and their personal successes.**
- d. As society is constantly evolving, there is **no perfect solution**. Instead, we can only **consult, reference, negotiate and adapt the key concepts** from different education system into the Singapore context.

NOTES



NOTES

NOTES



NOTES



