MENDAKI EDUCATION SY>>POSIUM 2021

REDEFINING SUCCESS:
Preparing our youth and workforce for the future

COMPENDIUM 2021

Co-Organisers:

Yayasan MENDAKI

RAIKAN ILMU
CELEBRATE KNOWLEDGE

NIE
NATIONAL INSTITUTE OF EDUCATION SINGAPORE

An Institute of

NANYANG TECHNOLOGICAL UNIVERSITY
SINGAPORE

PREAMBLE:
MENDAKI Education Symposium 2021
Redefining Success: Preparing our youth and workforce for the future

MENDAKI Education Symposium 2021 on *Redefining Success: Preparing our youth and workforce for the future* focuses on how practitioners and educators can help form inclusive societal perceptions of success and assist our youths and workforce in preparing for the future economy. The fifth Education Symposium reflects MENDAKI's effort to inculcate excellence in the Malay/Muslim community through strengthening the foundations of adaptability and resilience for our youths and workforce, and nurturing them to be lifelong learners of tomorrow.

We are pleased to have welcomed **Mr Heng Swee Keat**, Deputy Prime Minister and Coordinating Minister for Economic Policies as our Guest-of-Honour for this year's Symposium. The Symposium was also graced by Minister of State for Manpower and Defence, and Deputy Chairman of Yayasan MENDAKI, **Mr Zaqy Mohamad**, as well as Chief Executive Officer of Yayasan MENDAKI, **Mdm Zuraidah Abdullah**. MENDAKI Education Symposium 2021 is supported by National Institute of Education (NIE). DPM Heng and Mr Zaqy were joined by **Professor Christine Goh** and **Ms Faridah Saad** during their panel discussion.

The keynote panellists offer in-depth analysis and understanding of the skills required to adapt and be nimble with the changes in the future economy and landscape. In Session B, **Dr Michael Tan** discusses the eternal verities of education and the ways in which we should educate, in order to prepare students for the changing landscape. **Ms Chelvin Loh** complements this by introducing the relevant skills that can prepare one for the up and coming sectors in the future economy. In the following session, **Dr Imelda Caleon** discusses on the various factors and processes that can help one foster resilience, and **Mr Khairul Rusydi** speaks on the importance of being entrepreneurial, especially as youths. Our panel discussions throughout the sessions were joined by **Mr Fahrur Razi Yusoff** and **Mr Razali Abdul Hamed**, who provided us with valuable insights and helped make their respective session a thought-provoking one.

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PANELLISTS’ BIOGRAPHIES

DPM Heng Swee Keat
Deputy Prime Minister and Coordinating Minister for Economic Policies

DPM Heng is Deputy Prime Minister and Coordinating Minister for Economic Policies. He is also Member of Parliament for East Coast GRC.

DPM Heng chairs the tripartite Future Economy Council which oversees the on-going restructuring of our economy, through upgrading the skills of our workers and transformation of industry, to create better career prospects for our people. He leads a team to oversee the design and implementation of national strategies in areas such as skills and capabilities development, innovation, and productivity as well as the internationalisation of our companies.

He is also the Chairman of the National Research Foundation, which sets the direction for Singapore's research, innovation, and enterprise (RIE) strategies. DPM Heng is overseeing the closer integration of the RIE and industry transformation efforts.

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.

Professor Christine Goh
Director,
National Institute of Education,
Nanyang Technological University

Professor Christine Goh is the Director of the National Institute of Education (NIE), Nanyang Technological University (NTU), Singapore. As the NIE Director, Professor Goh leads the development and implementation of NIE's strategies and policies for academic and professional excellence, and works with the Ministry of Education for NIE to support the nation's aspirations for education. She holds a PhD in linguistics from Lancaster University and is widely known for her work on second language/bilingual oracy and English teacher education. A member of the NTU Leadership, she contributes to the university's strategic work in education and research programmes, as well as talent attraction and retention.

Ms Faridah Saad
President, MENDAKI Club
Deputy Director (AgriTech),
Enterprise Singapore

Ms Faridah Saad is the current President of MENDAKI Club – a volunteer-run non-profit that supports the career aspirations of Malay-Muslim youths and young professionals and provides them with opportunities to give back to the community. She is also Deputy Director (AgriTech) at Enterprise Singapore, where she hems a trail-blazing team to spearhead Singapore as a leading urban agriculture and aquaculture technologies hub, contributing to food security, economic growth and good job opportunities for Singaporeans.

Dr Michael Tan
Research Scientist,
National Institute of Education,
Nanyang Technological University

Dr Michael Tan is a Research Scientist at the National Institute of Education. Dr Tan conducts research in curriculum and teacher development. His past research topics include studies on culturally relevant pedagogy and enhancing Science, Technology, Engineering and Mathematics (STEM) education through improvisational tinkering and computational thinking.

Ms Chelvin Loh
Director,
Jobs-Skills Insights Division,
SkillsFuture Singapore

Ms Chelvin Loh is currently the Director of Jobs-Skills Insights Division in SkillsFuture Singapore, which is a statutory board under the Ministry of Education. Helming a team of Jobs-Skills Analysts and Jobs-Skills Solutions Specialists, she and her team examines anticipatory jobs-skills changes in Singapore's economic and industry landscape arising from technology disruptions, business model innovations, new care models, and other emerging trends. Her team also works very closely with sector agencies, industry and tripartite partners, training providers, and innovation-led firms to develop and roll out fit-for-purpose and timely jobs-skills insights to support the changing jobs-skills conversations on the ground.

Mr Fahrur Razi Yusoff
Youth Mentor,
Yayasan MENDAKI

Mr Fahrur Razi Yusoff is a youth mentor from Yayasan MENDAKI's Mentoring@MTS, where he guides upper secondary students enrolled in MENDAKI Tuition Scheme to envision their pathways after secondary school. He was previously a mentor for MENDAKI's Empowerment Programme, where he was heavily involved in helping ITE students acquire life skills, build confidence, and connect to opportunities to grow their potential. He is also currently pursuing a Bachelor of Science in Maritime Studies at Nanyang Technological University as a recipient of the MaritimeONE Scholarship.

Dr Imelda Santos Caleon
Assistant Dean (Partnerships),
Office of Education Research,
National Institute of Education,
Nanyang Technological University

Dr Imelda Santos Caleon is an Assistant Dean on Partnerships and Programme Director of the Lifelong Learning, Cognition and Well-being Research Programme at the Office of Education Research in National Institute of Education, Nanyang Technological University. Her research focuses on developing approaches rooted in positive psychology to facilitate learners' conceptual and mindset change, and building emotional, psychological, social and cognitive resources that can help learners, especially students deemed at-risk, to thrive in school and beyond. She has also led large-scale research projects that examined the development of students' resilience.

Mr Khairul Rusydi
Co-Founder & Chief Executive Officer,
Reactor School

Mr Khairul Rusydi is the co-founder and CEO of Reactor School, where he and his team provide avenues for students across Asia to immerse themselves in a start-up environment that would empower them and build their resilience for the future. Rusydi is also heavily involved in youth development work, through his contributions as the National Youth Delegate at the Commonwealth Youth Council and as an SG Youth Action Plan panellist.

Mr Razali Abdul Hamed
Principal,
Junyuan Secondary School

Mr Razali Abdul Hamed is the Principal of Junyuan Secondary School since 2016. Previously, he was the Principal in Peicai Secondary for eight years and the Vice-Principal in Hong Kah and Bukit Merah Secondary. As a school leader, he believes that positive learning experiences in school help to nurture persons for others. His diverse postings in the Ministry of Education has enabled him to share his skills and knowledge with other educators, provide opportunities for students to discover their strengths and passions and empower them with keys to open many doors as lifelong learners.

Mr Muhammad Faisal Bin Aman
Team Lead, Research & Design
Yayasan MENDAKI

Mr Faisal Aman leads the Research and Design Team at Yayasan MENDAKI, a Self-help agency for the Malay Muslim community in Singapore. He is a serving Executive Committee member of the Education Research Association of Singapore (ERAS). He holds a Masters of Arts in Education and Professional Studies from King's College London and currently a PhD candidate from Nanyang Technological University with a focus on adult learning and evaluation. His previous stint includes being an administrator at Higher Education Quality Assurance Unit at the Ministry of Education, Singapore. In addition, he was a former educator and researcher at the National Institute of Education (NIE) Singapore.

Mr Johann Johari
Assistant Director, Planning
Yayasan MENDAKI

Mr Johann Johari is currently 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. Johann has served in MENDAKI for 13 years.

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).

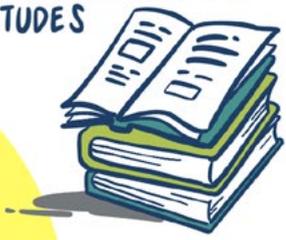MENDAKI EXCELS in ENCOURAGING the EXCHANGE of VIEWS & the EXPOSURE to NEW IDEAS

BE **MENTORS** to TODAY'S YOUTHS

IT TAKES A VILLAGE to RAISE A CHILD!

BRINGING OUT the BEST in EVERY CHILD is NOT JUST the RESPONSIBILITY of SCHOOLS

WE MUST BROADEN OUR CONCEPT of EDUCATION & SUCCESS, & RECOGNISE THAT EACH STUDENT HAS THEIR OWN APTITUDES

HENG SWEE KEAT

DEPUTY PRIME MINISTER & COORDINATING MINISTER FOR ECONOMIC POLICIES

Beyond the degree: Are Singaporeans ready to redefine success?

The **3C**s of A VALUABLE ASPIRATION:

♡ CREATE MORE VALUE for SOCIETY

🍃 CARE FOR the ENVIRONMENT & SOCIETY

🧭 CHART the WAY FORWARD in SOCIETY

THERE ARE MANY { ROLE MODELS } WITHIN the MALAY-MUSLIM COMMUNITY WHO ARE PAYING IT FORWARD BY SUPPORTING the YOUTHS of TODAY in ACHIEVING EXCELLENCE

LET'S ALL WORK TOGETHER to ACHIEVE OUR DREAMS FOR the YOUTHS of TODAY!

ULTIMATELY, IT'S PARENTS WHO HAVE the GREATEST INFLUENCE OVER the NEXT GENERATION

WE MUST NURTURE A HABIT of LIFELONG LEARNING!

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1a: Keynote Speech

By DPM Heng
Deputy Prime Minister and
Coordinating Minister for Economic Policies

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Good morning. I am happy to join you at the 5th MENDAKI Education Symposium. It is commendable that MENDAKI is bringing your diverse community partners, ranging from educators, to youth leaders, working professionals, and beneficiaries, to come together to exchange views and explore new ideas.

COVID-19

For the second year running, this Symposium is held in the midst of COVID-19. By now, most of us have adapted to living with the virus, including meeting virtually like today. But the world is still reeling from the pandemic, which has disrupted lives and livelihoods globally. Over 168 million children have not gone back to school for over a year, and the equivalent of 250 million jobs have been lost. In Singapore, the virus has highlighted some of our vulnerabilities. Lower-income households may not have a conducive environment for home-based learning. Many jobs were also disrupted, including previously stable occupations like air crew, taxi drivers, and tour guides.

But with everyone playing their part, we have averted the worst of the crisis. The government rolled out an unprecedented $100 billion in support measures last year. MENDAKI and other community groups have reached out to provide support to their communities, such as in providing laptops to needy families to enable home-based learning.

Beyond the immediate crisis, COVID-19 has accelerated structural shifts. One key shift is in how businesses and people are moving online. Working-from-home has become prevalent. But this is only one

step away from working-from-anywhere, which will expose our workers to even greater competition.

But while the pandemic has closed off some doors, it is also opening new ones. The digital revolution will raise demand for digital skills, creating more jobs in the ICT and computer science fields. The focus on sustainability and resilience will open new frontiers and create exciting jobs in the "green economy".

So, how do we prepare our youths and workforce for the future? As our educators love to say, it takes a village to raise a child. To prepare our youths for the future, we need a whole-of-society effort.

Let me offer three suggestions on how we can prepare our youths. First, by giving them a good foundation. Second, by nurturing a habit of lifelong learning. And third, by enabling them to pursue their aspirations.

A Good Foundation

First, giving a good foundation. Bringing the best out of each one of us starts from birth. We are investing significantly in educating our children, starting from preschool, with additional support for those who need it. In this regard, MENDAKI has been creative in coming up with good programmes. Your KMM@CC or KelasMateMatika@CC programme is helping young children develop strong foundations in numeracy skills. I am glad that during this COVID-19 period, the programme remains accessible by shifting online.

As they progress through the years, our students have fared well, compared to their international peers. They perform well in international benchmarks like PISA. Even our academically weaker students fared better than the average international students. Apart from academics, our students have also done well in PISA's measures of other life-skills, such as collaborative problem solving. Our students also fare well in "global competence" – the ability to examine global and intercultural issues, appreciate different perspectives, and act responsibly for collective well-being. This is testament to our collective

efforts, including the excellent work by our educators, in developing each child holistically - by building on the talents and interests of each child, giving them a strong foundation of academic and soft skills, and nurturing their social and emotional well-being.

Our post-secondary pathways are also becoming more flexible, so that students can find and develop their strengths and interests. For instance, through Common Entry Programmes, polytechnic students can gain exposure to different options before deciding on a specific diploma course. In ITE, we are also enhancing the curriculum structure, so that more students can achieve a Higher Nitec qualification more quickly.

We are also expanding the work-study programmes in our Institutes of Higher Learning, especially in our polytechnics and ITE, which provide an applied learning pathway for our graduates to continue developing their skillsets in their chosen industry.

However, bringing the best out in every child goes well beyond the school system. It is crucial that the community plays its part. One example is the suite of initiatives under UPLIFT, an inter-agency taskforce which was set up in 2018. Every school has strengthened its after-school care and support, especially for those who do not have conducive home environments. Beyond schools, UPLIFT has brought together community partners to support disadvantaged students and their families.

MENDAKI is a key community partner for UPLIFT, with mentoring programmes to provide good role models that students can aspire towards. Academic support programmes to help level-up those who have fallen behind, and bursaries and scholarships to encourage students to do well.

I am also glad that we are further deepening the partnership between schools and the community. This latest initiative to set up a MENDAKI-NIE Office of Education Research workgroup is one good example. The workgroup will facilitate

sharing of research findings and best practices, and help improve the design of programmes to better cater to the students.

Lifelong Learning

Giving a good head-start to every child is important. But on its own, this is not enough. This brings me to my second point – nurturing a habit of lifelong learning.

As knowledge and technology advances even more quickly, what we learn in school will not be enough. We need to learn new skills, to access new jobs. One good example – 15 years ago, the smart phone did not exist. Few would have understood what an app is, much less think that you can have a career developing apps. Today the Apple App Store alone has more than two million apps, and an app developer is a promising career.

The days of "lifelong employment" is largely over – what matters more is "lifelong employability".

We are therefore re-doubling efforts to prepare our workers and businesses for the future. We had a head-start with the Industry Transformation Maps, which was started five years ago. We are currently in the process of refreshing our plans for the next five years, with a greater focus on jobs and skills. At the same time, we will push ahead with the Next Bound of SkillsFuture, to support our people in this journey of lifelong learning.

The community also has a part to play. For instance, MENDAKI SENSE provides customised career advisory services for professionals and executives who are looking for new opportunities, and provides training courses in areas such as data analytics.

But to achieve lifelong employability, attending just a few training programmes is not enough. To achieve lifelong employability, we must think long-term and develop a habit of lifelong learning. I encourage everyone, especially those who are just entering the workforce, to have the patience and perseverance to build up skills for the long-term. Start by exploring the full potential that a

career has to offer, and not just the starting salaries. Some sectors may not pay as well at the start, but offer many upgrading and learning opportunities. If you put in the hard work to develop deep skills and gain experience, you can have a promising career and good wages, even if the rewards are not immediate.

So, I encourage all of us to develop a habit of learning and growing throughout life. The MENDAKI Raikan Ilmu campaign, which seeks to create a movement to embrace lifelong learning as a way of life, is a very good initiative which I fully support.

To all our employers and managers, I encourage you to invest in your workers and to pay for skills. Raising the skills of your workers will enable the company to be more productive and competitive. This will be critical to the success of your company, as the global competition intensifies.

Enabling our Youths to Pursue their Aspirations

We are all more motivated to learn and relearn when we are pursuing our aspirations. So, my third point is – let us enable our youths to pursue their aspirations. I had, in a speech a few weeks back, noted that each generation has its own aspirations.

Based on what youths have shared with me, I summarised their aspirations as 3 Cs –

3Cs

01 Create more value for society in every area of life

02 Care for the people and environment around us

03 Chart the way forward for our society.

It is an inspiring set of aspirations, to make a difference in the world.

It is important that as a society, we encourage and nurture these aspirations. Community groups can provide support for change. I am glad that MENDAKI has good initiatives to help our youths dream big, such as your Community Leaders Forum Labs, which provides funding to aspiring youths who need a platform to test out their fresh and innovative ideas. The MENDAKI Club also brings together young professionals and students, through your mentorship programmes, leadership incubators, and career workshops. Let me take this opportunity to commend Faridah and your team for the excellent work and encourage you to create even more opportunities for our youths to make a difference.

I am also glad that MENDAKI, together with your M3 partners, MUIS and MESRA, have provided a platform for our youths to step up as mentors, with the Youth Mentoring Office under M3 training youths to serve as mentors in the community.

Singapore Together

This is the spirit of Singapore Together – where we work together to empower our youths to achieve their dreams and build a better future, and to collectively build a vibrant and cohesive Singapore with opportunities for all.

Our community groups, including self-help groups like MENDAKI, will continue to be critical in this next phase of our nation's journey. Since your founding almost four decades ago, MENDAKI has played a pioneering role, and you can take pride that you have achieved your vision of a "Community of Success", or Masyarakat Gemilang. There are numerous role models within the Malay-Muslim community who are now also paying it forward, and bringing the next generation to even greater heights.

The recent Census 2020 findings also show significant improvements in the educational achievements of the community. Among Malay youths aged 25 to 34, 8 in 10 have post-secondary or higher qualifications in 2020, up from 6 in

10 in 2010. In particular, 53% of Malay youths obtained tertiary qualifications – university degrees or diplomas, compared to 35% a decade ago.

The work is never done, but the remarkable progress we have achieved will spur us on to achieve greater excellence. Let me now say a few words in Malay.

Sepanjang beberapa tahun ini, masyarakat Melayu/Islam telah menunjukkan kemajuan yang sangat baik. MENDAKI telah memainkan peranan penting dalam usaha menghasilkan Masyarakat Gemilang ini. Terdapat ramai suri teladan di dalam masyarakat Melayu/Islam, dan saya ingin menggalakkan anda untuk tampil membimbing generasi seterusnya. Kepada belia kita, kami akan bekerja bersama anda agar anda dapat mencapai impian anda dan membina masa depan yang lebih baik untuk kita semua.

Conclusion

So to conclude, I have given three broad suggestions today that I would love discuss with all of you – let's do more in giving everyone a good foundation, nurturing a habit of lifelong learning, and enabling our youths to pursue their aspirations.

We can do this by working together in partnership – MENDAKI and other community groups, together with your partners and volunteers, can drive this effort. And most importantly, to the parents amongst us – ultimately, it is you who have the greatest influence over the next generation.

I look forward to our dialogue.

Thank you.

MENDAKI EDUCATION SYMPOSIUM 2021

LIFELONG EMPLOYABILITY

TECHNICAL CERTIFICATIONS CAN BE LIFE-CHANGING!

REQUIRES the KNOWLEDGE of BOTH HARD & SOFT SKILLS, SO THAT WE REMAIN ADAPTABLE to the CHANGING WORLD

WE CANNOT PREDICT the FUTURE

SESSION A:

BEYOND the DEGREE: ARE SINGAPOREANS READY to REDEFINE SUCCESS?

IT'S IMPORTANT FOR US to MOVE AWAY FROM the OVER-IMPORTANCE of DEGREES, & FOCUS ON DEVELOPING SKILLS THROUGH **PRACTICAL EXPERIENCE**

SCHOOLS HAVE OFFICES to SUPPORT STUDENTS in MAKING DECISIONS ABOUT THEIR CAREERS & GET WORK EXPERIENCE

BUT WE CAN PREPARE FOR IT!

TRANSFERABLE SKILLS & BASIC EDUCATION

CRITICAL LEARNING SKILLS

LEARNING DEEPLY & BROADLY

THE IMPORTANT THING is LEARNING ALL the TIME, & NOT THINKING: "I'M DONE!"
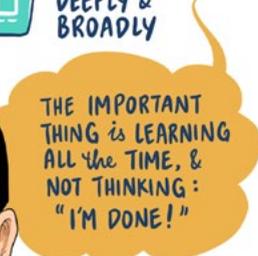
FARIDAH SAAD
PRESIDENT, MENDAKI CLUB,
DEPUTY DIRECTOR (AGRITECH),
ENTERPRISE SINGAPORE

HENG SWEE KEAT
DEPUTY PRIME MINISTER &
COORDINATING MINISTER FOR
ECONOMIC POLICIES

1b: Takeaways from Panel Discussion

01 Definitions of success will constantly change, so it is important that we **broaden the possibilities of looking at success.**

a. There is a need to **encourage** those around us to **re-look and re-define what success and capabilities mean to us.**

b. There is a flux between aspirations of parents and of our youths, but it is **important that we go our own path and determine the paths that are needed to succeed.**

c. What matters is the attitude, and intention to reach towards something that is **meaningful and purposeful** in life.

02 It is important that we **conduct adequate research** on what is needed for us to excel in our job or industry.

a. For some, it may be that a post-graduate qualification might be needed. But on the other hand, it may be more useful to fill up knowledge gaps by taking specific modules that meet your needs.

b. There is **no simple formula** on the path to success.

c. One should **focus on the outcomes**, and not the qualifications.

03

Lifelong learning is important for one to achieve lifelong employability.

a. Singaporeans tend to equate degree to success. What matters most is the **habit of lifelong learning, and the habit of building excellence in every stage of one's career.**

b. Skills cannot be acquired just by studying from our books, it also **requires practice and experience**. Lifelong learning also does not just happen in the classroom, it **happens in real-life settings and at the workplace.**

c. Developing a habit of lifelong learning means to **learn from everyone** – teachers, supervisors, peers, or subordinates. Developing a **habit and curiosity to learn** will help one improve.

d. Lifelong employability in terms of keeping one relevant in the workforce is important. Beyond skills, lifelong employability is also about **developing the values to take you through different times and challenges.**

   i. These values include **resilience, being adaptive, and quickly learning new things and scouring the ground for best practices.**

04 Opportunities for lifelong learning are far greater today.

a. One does not necessarily need to have former education to access opportunities. There are many emerging sectors and there is a framework through the **Professional Conversion Programme** (PCP)[1] to help workers transit into developing sectors.

b. Workforce Singapore (WSG) offers about **100 PCPs** to support PMETs in career conversion. (Professional Conversion Programmes, WSG)

   i. **Place-and-Train:** PMET is hired by a participating employer before undergoing training to take on a new job role.

   ii. **Attach-and-Train:** PMET is provided with training and work attachments, prior to job placement, through industry partners in growth sectors with good future job opportunities.

   iii. **Redeployment/ Job Redesign Reskilling:** Targeted at companies that are undergoing business transformation, and their existing PMET workers are at risk of redundancy or in vulnerable jobs due to the transformation. These PMETs will be provided with training to take on new job roles or redesigned job roles within the same company.

[1] *PCPs are career conversion programmes for mid-career PMETs (Professionals, Managers, Executives and Technicians), to undergo skills conversion and move into new occupations or sectors have good prospects and opportunities for progression.*

05 Educators and student-teachers are guided by the **four-life framework** in their learning in order to help our youths navigate through their concerns.
(OER-CRPP Innovations For Pedagogical Change: 5 Lessons, NIE)

a.

Life-long learning: Connecting Learning to Purpose
Life-long **learning is about the learning that occurs across one's lifespan**, from infancy to adulthood. It is about **what is retained**, why such knowledge, skills and dispositions are usually kept, and the metacognitive processes that enable this.

b.

Life-wide learning: Real-world Connected Learning
Life-wide learning is about **learning in multiple contexts**. Learning occurs **not just within the boundaries of the school**, but **outside of school**, in informal learning environments.

c.

Life-deep learning: Intentional and Experiential Learning
Life-deep learning is about **deep understanding of disciplinary content and about adaptive expertise**, which is about **achieving both efficiency and innovation**. Adaptive expertise is a key future-ready competency that learners must have to be able to **balance between efficiency in doing tasks fluently and innovativeness in doing tasks creatively.**

d.

Life-wise learning: Learning beyond Self
Life-wise learning is something we feel is deeply important to our future society, on which **our educators will focus on not only on values, morals, character, but on historical empathy.**

e. These professional development programmes help to equip our educators with the necessary expertise to help our students **learn deeply and broadly.**

f. This framework is **anchored by social emotional regulation and the well-being of the individual learner.**

    i. Social emotional learning, which refers to learning soft skills that are essential for one's personal and social well-being, is important, as it **involves the ability to manage oneself and one's emotions.**

06 Educators undergo core courses to help them prepare for social emotional learning in the classrooms, namely Multicultural Studies and Character and Citizenship Education.

a. Multicultural studies: Appreciating and Valuing Differences
This allows our teachers to be equipped to **provide a safe space for their students to voice their concerns**, and **help develop empathy and inclusivity** in the way we view one another.

b. Character and Citizenship Education (CCE)
Teaches our teachers why CCE is central to education how it can be promoted through **attending to the social context of education** in Singapore.

c. Student-teachers are also given the opportunity to attend programmes by the Meranti Project. Here, they are able to experience the core competencies of social emotional learning, to share their personal aspirations and express their opinions in an open and safe environment.

07

Partnerships between Institutes of Higher Learning (IHLs) and industries in the workforce have increased, and youths should take full advantage of this.

a. Today, IHLs have offices and resources to help youths better understand the future landscape and the important skills required to enter various industries.

b. IHLs also have close links to various industries in terms of research, which helps our educators understand the working landscape closely as well.

c. On this end, the SGUnited Traineeship programmes could also be the way forward as the bridge to help our youths transition into the workforce.

08

Visualization, or mental rehearsal, is a good habit to practise.

a. Researchers have found that carefully rehearsing each potential fear-inducing moment before it happens can help one be more prepared to face such moments when they happen.

i. During mental rehearsal, one engages motor preparation, where **effective coping strategies are activated**. This motor preparation then helps **create new mental pathways**. When we do this repeatedly, we **build novel brain pathways and new, positive habit patterns** that can help prepare us for uncertainties in the future.

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[2] *The SGUnited Traineeships Programme aims to support those who have recently graduated or will soon be graduating from ITE, Polytechnics, Universities and other private educational institutions in 2019 to 2021 to take up traineeship opportunities across various sectors. This programmes equips our youths with valuable industry experience and allow them to gain a firmer foothold in the job market during the economic recovery.*

MENDAKI EDUCATION SYMPOSIUM 2021

But what does success mean, anyway?
Education for uncertain futures
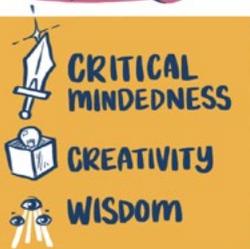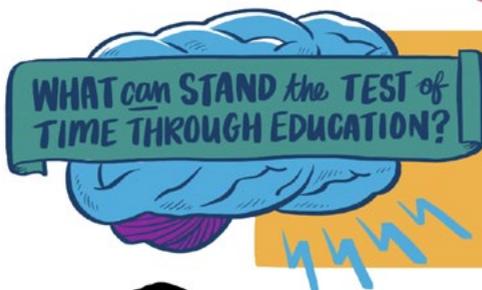
SESSION B:

PREPARING our YOUTH & WORFORCE for the FUTURE

HOW SHOULD we EDUCATE?

- INTERDISCIPLINARY
- HUMANIST
- COMMUNALISM & MEANINGFULNESS

the IMPACT of GREEN ECONOMY ON JOBS & SKILLS!

- NEW BUSINESS FUNCTIONS from GREEN RESTRUCTURING
- NEW GREEN OCCUPATIONS
- SKILLS for GREENING EXISTING JOBS

THE CARE ECONOMY

AS the ECONOMY SHIFTS, HUMAN INTERACTION will BECOME EVEN MORE IMPORTANT!

MANY DIGITAL SKILLS are TRANSFERABLE ACROSS SECTORS!

ACADEMICS are ONLY 1 PART of our EDUCATION

WE NEED to THINK ABOUT WHY we are DOING THINGS!

WE are MOVING AWAY from QUALIFICATIONS to SKILLSETS

FAHRUR RAZI YUSOFF
YOUTH MENTOR,
YAYASAN MENDAKI

JOHANN JOHARI
ASSISTANT DIRECTOR,
PLANNING DEPARTMENT,
YAYASAN MENDAKI

THINK ABOUT HOW you WANT to DESIGN your LIFE and CAREER PATH!

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PREAMBLE:

In today's climate, Singaporeans may have to think beyond the academic pathway to attain lifelong success. This applies to students and workers alike. Students need to think of what skills complement their academics, whereas workers require skills that ensure their relevance. How might we then help identify the skills that are transferable and relevant in growth sectors for Singaporeans?

PRESENTATION 2a:

But what does success mean, anyway? Education for uncertain futures

By Dr Michael Tan
Research Scientist,
National Institute of Education, Nanyang Technological University

The essence of a true education is timelessness. A proper education should endure through changing conditions, and with it comes some eternal verities of education.

The eternal verities of education:

1. Critical Mindedness
   - We learn not to accumulate facts, but we **learn to know how to judge information** and decide, based on our knowledge and experiences, whether that information is correct.

   - This is especially critical in the age of disinformation, and it is vital that students **develop that critical edge and sensitivity to falsehood**.

2. Creativity
   - Our ability to **flexibly respond to uncertain futures** requires creativity, compromise, as well as risks, as our initial guesses may be wrong.

3. Wisdom

- We **learn to understand the collective experience** of those who have come before us.

- According to German philosopher Friedrich Nietzsche, "He who has a *why* to live for can bear almost any *how.*"

- Having the wisdom to **understand one's interests and passions** - and eventually - one's purpose in life **would help us weather through uncertainties and adversities** in the future.

How should we educate?

1. Interdisciplinary: An interdisciplinary approach to teaching allows students to **study a subject from multiple perspectives** and **explore the ideas and concepts in various ways.**

   - While specialisation enables one to master the details of a particular subject, it may hinder one from adopting a broader mindset and perspective in their thinking.

   - A solution to this could be to have **more complex project-based learning of authentic problems** in schools.

   - Project-based learning can be the platform where our students **apply interdisciplinary approaches in their work**, by involving the application of concepts from one subject to another. In doing so, our students will be able to **translate their knowledge into outcomes, or solutions.**

2. Humanist: The Humanistic theory in education focuses on the idea that **children are good at their core**, and that education should **focus on ways to teach the "whole" child.**

   - As a result, **self-esteem, goals, and full autonomy are key learning elements** in the humanistic learning theory. (Western Governors University, 2020)

- Education is far too important to think of only in terms of economic success.

3. Communalism and meaningfulness: Communalism in teaching promotes the **common good of society**, where **sensitivity towards others** and **caring for those around you** become **key learning outcomes of education.**

PRESENTATION 2b:

Embracing the New World of Work:
What skills prepare you for lifelong success

By Ms Chelvin Loh
Director, Jobs-Skills Insights Division
SkillsFuture Singapore

According to World Economic Forum's Jobs of Tomorrow Report, the digital economy is amongst the **fastest growing professions** providing 30% of job opportunities in emerging professions by 2022.

a. Digital economy is an economy that is based on digital computing technologies, such as data, artificial intelligence, Internet of things and cloud computing.

b. As these technologies become a ubiquitous part of our lives, they are also **enabling our economic growth and driving jobs and skills across different sectors**, from aviation to tourism, construction, hospitality, education, and health.

c. They also **support the delivery of services in other areas** such as the Green Economy and Care Economy.

Today, there is a good distribution of tech jobs across different sectors:

Examples of tech-heavy roles[3]:

1. Software engineer
2. Data scientist
3. AI engineer
4. UI/UX designer
5. Network engineer

Examples of tech-lite roles[2]:

1. Data analyst
2. Digital marketing analyst
3. Marketing Search Engine Optimization (SEO) specialist
4. Customer insights specialist
5. Business/ technical analyst

Source: IMDA
[3]Tech-heavy roles require higher proficiency level digital skills.
[4]Tech-lite roles may be suitable for applicants without ICT background or experience. These roles may appeal more to mid-career individuals who are looking to switch careers into ICT who have broad-based digital literacy and awareness.

DIGITAL MARKETING & SALES

Fashion & Apparel
Consumer Electronics

Financial Services
Pharmaceuticals
Retail
Medical Devices

FMCG

Healthcare
Investment Mgt
Biotechnology

Marketing & Advertising
Entertainment
Investment Banking

DATA PROTECTION

Internet
Computer
Games

BUSINESS ANALYSIS

Transportation,
Leisure,
Travel & Tourism
Aviation

BUSINESS INTELLIGENCE

Real Estate,
Leisure, Travel & Tourism

Healthcare

Accounting
e-Learning

Retail
Medical Devices
Entertainment
Biotechnology
Infocomm

NETWORK ENGINEERING

Financial
Services
Investment
Mgt

ENTERPRISE ARCHITECTURE

Banking,
Defence,
Pharmaceuticals

Industries with high demand for Tech-Lite roles ("Tech-Users")

》》》 Industries with high demand for Tech-Heavy roles ("Tech-Implementors")

Source: LinkedIn Talent Insights

The Singapore Green Plan 2030 aims to **build sustainability** as a way of work, play, and life. The Singapore Green Plan 2030, or the Green Plan, is a whole-of-nation movement to advance Singapore's national agenda on sustainable development.

Green Economy

The Green Economy is one that achieves a balance of three types of outcomes – **Environmental, Economic, and Social**:

1. Environmental outcomes: Sustainable use of environmental resources, achieving a net zero carbon.
2. Economic outcomes: Sustainable use of economic and /or organisation resources.
3. Social outcomes: Equitable distribution of resources for all.

Three ways the Green Economy can impact jobs & skills:

1. New business functions from Green Restructuring: **Shifts in economic activity** and **skills demand** from "brown" industries to "green" industries. Brown industries are **industries that are largely dependent on environmentally harmful forms of activity**, such as the use of fossil fuels. Green industries are those that **use energy more efficiently through the use of better natural resource management**.

    a. Examples of Jobs:
        i.   Renewable Energy Project Managers
        ii. Agri/aquaculturists
        iii. Industry/ Design Engineers

2. New green occupations: **New jobs and skills created**, as a result of structural changes, new regulations, and/or new technologies and practices

    a. Examples of Jobs:
        i.   Environmental engineers/ specialists
        ii. Sustainability managers/ analysts
        iii. Carbon traders

3. Skills for greening existing jobs: **Changing skills profiles within occupations** as **new green skills are required** by workers in existing occupations and industries.
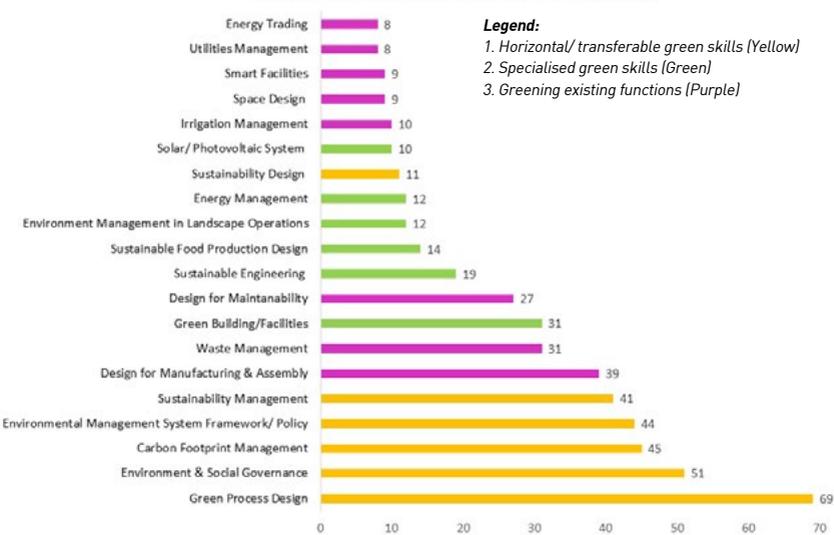
a. Examples of Jobs:

   i.   Business development managers
   ii. Financial/ investment analysts
   iii. Urban planners
   iv. Green Mark Accredited Professionals

2. New green occupations: **New jobs and skills created**, as a result of structural changes, new regulations, and/or new technologies and practices

a. Examples of Jobs:

   i.   Environmental engineers/ specialists
   ii. Sustainability managers/ analysts
   iii. Carbon traders

These green-related skills below are in-demand across more than fifteen sectors today, such as built environment, engineering services, aerospace, energy and power, landscape, environmental services, food and beverage, and hotels and accommodation.

Top 20 Demand Green Skills Clusters

Legend:
1. Horizontal/ transferable green skills (Yellow)
2. Specialised green skills (Green)
3. Greening existing functions (Purple)

Skill Cluster	Value
Energy Trading	8
Utilities Management	8
Smart Facilities	9
Space Design	9
Irrigation Management	10
Solar/ Photovoltaic System	10
Sustainability Design	11
Energy Management	12
Environment Management in Landscape Operations	12
Sustainable Food Production Design	14
Sustainable Engineering	19
Design for Maintanability	27
Green Building/Facilities	31
Waste Management	31
Design for Manufacturing & Assembly	39
Sustainability Management	41
Environmental Management System Framework/ Policy	44
Carbon Footprint Management	45
Environment & Social Governance	51
Green Process Design	69

Source: SkillsFuture Singapore

Care Economy

Care Economy is responsible for the **provision of care and services that contribute to the nurturing and reproduction of the society**. Care Economy involves:

i.   Childcare
ii. Elder care
iii. Education

iv. Healthcare, and
v. Personal social and
    domestic services

As we adjust to new norms in the digital and green economies, **human interaction will become more important to cater to our socio-emotional needs.**
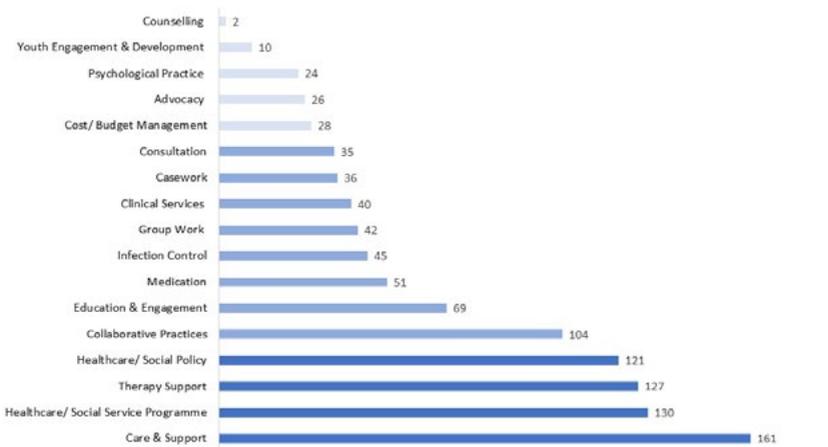
This is giving rise to the Care Economy, **fueling the demand for care economy jobs and skills in childcare, aged-care, healthcare, social care, behavioural care, and wellness.**

Care Skills for All

The increasing awareness on health, wellness and social inclusivity has also **cast the light on critical care skills**, not only for work but also for **everyday** living.

These in-demand care skills, especially in care and support, therapy support, collaborative practice, education and engagement, advocacy, and youth engagement and development, are **increasingly becoming essential care skills** that all should know to **create an inclusive society.**

Top 20 Demand Green Skills Clusters

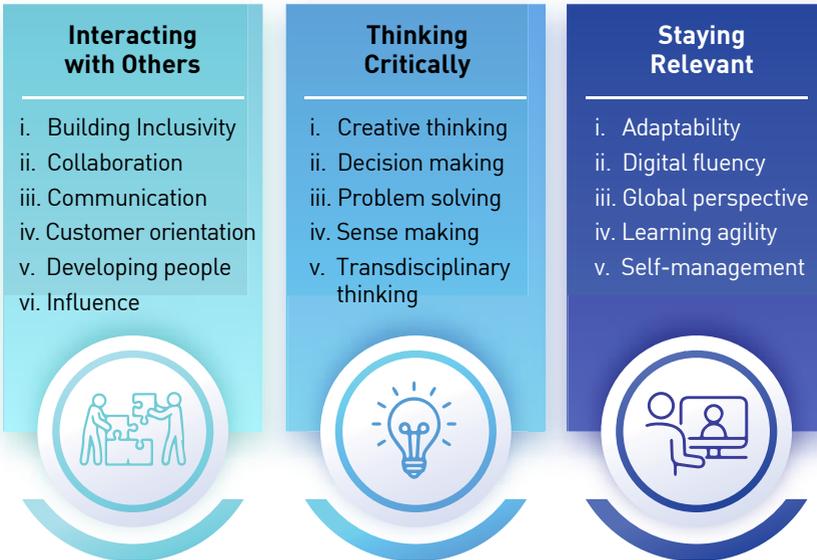| Skill Cluster	Value
Counselling	2
Youth Engagement & Development	10
Psychological Practice	24
Advocacy	26
Cost/ Budget Management	28
Consultation	35
Casework	36
Clinical Services	40
Group Work	42
Infection Control	45
Medication	51
Education & Engagement	69
Collaborative Practices	104
Healthcare/ Social Policy	121
Therapy Support	127
Healthcare/ Social Service Programme	130
Care & Support	161

Source: SkillsFuture Singapore

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Increasing emphasis on soft skills for the future of work:

Care Economy is responsible for the **provision of care and services that contribute to the nurturing and reproduction of the society**.
Care Economy involves:

i.   Creativity
ii. Persuasion
iii. Collaboration
iv. Adaptability

16 Critical Core Skills for the Future Economy

Interacting with Others	Thinking Critically	Staying Relevant
i. Building Inclusivity ii. Collaboration iii. Communication iv. Customer orientation v. Developing people vi. Influence	i. Creative thinking ii. Decision making iii. Problem solving iv. Sense making v. Transdisciplinary thinking	i. Adaptability ii. Digital fluency iii. Global perspective iv. Learning agility v. Self-management

How can you start to take the first step?

1. Set goals for yourself
Set **specific, measurable, and achievable goals** relevant to your profession.

2. Find a mentor

Seek advice from a trusted mentor who can guide you in your professional development.

3. Seek feedback about strengths and weaknesses

Ask superiors, colleagues and friends about your strengths and areas for improvement to develop those skills.

4. Review job descriptions for positions you want

Identify **core transferable skills** as well as **job-specific skills needed** in job descriptions to **research courses** that can provide you with the necessary skills set.

5. Take continuing education courses

Take up courses to stay current which are taught by professionals with experience in specialized skills sets.

6. Take advantage of company training

Check what the company has to offer and identify core skills courses which would be especially beneficial for professional growth.

PRESENTATION 2c:

Sharing

by Mr Fahrur Razi Yusoff
Youth Mentor, Mentoring@MTS
Yayasan MENDAKI

. . . .

We need to ask *Why?* Instead of *How?*

- Academics only form a part of one's education, and our **subsequent journey to success.**

- It is **important that we constantly ask the question of** *"Why?"* **instead of** *"How?"* in our lives.

The role of mentors:

- More is needed beyond the roles of parents and educators to develop our youths for the future. The world is dynamic and changing fast, and **mentors could help fill in the gap.**

- Mentors serve as a **bridge to relevant opportunities and resources** for their mentees. Mentors can come from different backgrounds, and sharing their experiences could help youths **connect the dots to their own personal aspirations**.

- Mentors can also **help shape youths' worldviews positively**.

How the Gift-Centered Mentoring model provides support to the mentees

- Through this model, mentors are trained to **focus on mentee's gifts**, which may include any inherent talent and positive personality traits. This helps our youths **accurately recognize their strengths and accomplishments**, in turn helping them **raise their self-esteem and confidence**.

- Mentors are also trained to care for the wounds of mentees and acknowledge their past experiences.

- As such, empathy is crucial when forging relationships. In this programme, it is **important for mentors to model empathy with their mentees**.

- This will **help their mentees in their process of self-learning and self-exploring** their own strengths and "gifts". When one is learning to be more self-aware, **empathy is extremely important**, as they would firstly need to be kind to themselves.

2d: Takeaways from Panel Discussion

How can we assist our youths and workforce find the links between their education experiences and careers?

01
It is important that mentors or educators **look at students' wants** and try to **make it a reality for them**.

a. Design as a way of thinking is very important. Design means having the wisdom to say, "I intend to have this outcome."

b. Mentors and educators should **facilitate and guide our students into intending something great**.

02

Utilise the **resources and social circles** you have around you.

a. **Information is abundant online.** When one feels that they are missing out on a particular area, they can utilise resources such as Coursera or Khan Academy to catch up and ensure their relevance in the future landscapes.

b. **Internships can be a good platform** for youths to create the links between what they are learning in school and the workforce.

c. **Invest time in career talks** conducted online to gain knowledge of what is out there.

03

From a skills perspective, this link can be attained through three different parts, from skills acquisition to skills application, and finally to skills progression.

a. For one to acquire skills, there are **many mediums for learning**. However, we need to **question what kind of learning is relevant** for an individual based on their aspirations, and why.

b. Skills application is increasingly relevant from a career perspective. Problems we are seeing today are not problems we used to see. Thus, curriculum wise, there is no playbook to solving problems. **Training on the job is getting increasingly relevant** in the skills application space.

c. Skills progression requires one to **undergo multiple pivots**, and actively **look at our past experiences** to know **how we would do things differently** for ourselves in the future.

How can we assist our youths and workforce find the links between their education experiences and careers?

01
Knowledge of the powerful vs powerful knowledge.

a. Education should be a **vehicle to understand powerful knowledge**, i.e. **knowledge that helps one make positive changes in the world**. In doing so, we need to attend to the challenges that we face.

i. For that, one needs a **certain sociological understanding of what people need and what their problems are**. This is an example of powerful knowledge.

02
There is a **shift from education qualifications to skills**. One needs to have a **certain level of technical proficiency** for jobs. However, to ensure career longevity, you need **soft skills and learning agility**, to meet both the job requirements and your own personal development.

DEGREES of SUCCESS: HOW RESILIENT WILL the COVID GENERATION BE?

WHAT IS RESILIENCE?

BUILDING UP QUALITIES:
- SELF-AWARENESS
- PERSEVERANCE
- DETERMINATION
- CONFIDENCE

THE ABILITY to RECOVER FROM CHALLENGING LIFE ADVERSITIES: DETERMINED BY GENES

✕

RESILIENCE is A JOURNEY, & BEING ABLE to ADAPT to ANY ADVERSITY YOU ENCOUNTER

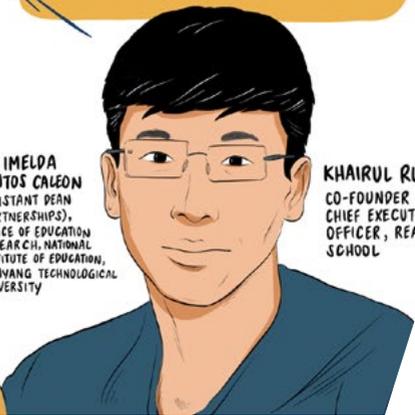PIVOT vs PERSEVERE: SHOULD YOU CONTINUE, KILL OR TWEAK YOUR IDEA?

IT'S NEVER TOO LATE to DEVELOP RESILIENCE!

THE BEST WAY to DEVELOP RESILIENCE IS to HAVE A STRONG SUPPORT NETWORK & POSITIVE RELATIONSHIPS

DR IMELDA SANTOS CALEON
ASSISTANT DEAN (PARTNERSHIPS), OFFICE OF EDUCATION RESEARCH, NATIONAL INSTITUTE OF EDUCATION, NANYANG TECHNOLOGICAL UNIVERSITY
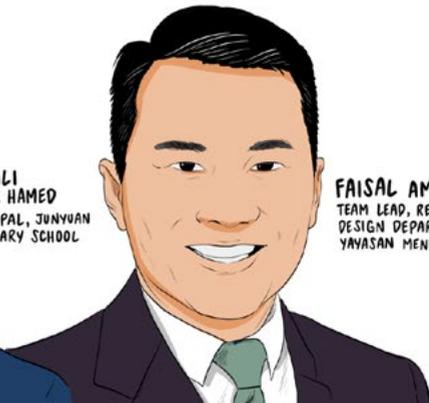
KHAIRUL RUSYDI
CO-FOUNDER & CHIEF EXECUTIVE OFFICER, REACTOR SCHOOL

MENDAKI EDUCATION SYMPOSIUM 2021

Degrees of success: How resilient will the COVID generation be?

PASSION to TRY NEW THINGS

PROJECTS

WE WANT to GIVE STUDENTS AS MANY OPPORTUNITIES to SEE WHAT'S POSSIBLE BEFORE THEY SET THEIR GOALS

HELP STUDENTS PROCESS FAILURE, NOT FIX THEIR PROJECT!

IN STARTUP TERMINOLOGY, INSTEAD of RESILIENCE WE SAY RELENTLESSLY RESOURCEFUL

SUPPORTING AT-RISK STUDENTS

TRY DIFFERENT WAYS to SOLVE A PROBLEM! PERSEVERANCE CAN BE DANGEROUS WITHOUT SELF-AWARENESS

INTERVENTIONS & KNOWING WHAT MOTIVATES THEM

RAZALI ABDUL HAMED
PRINCIPAL, JUNYUAN SECONDARY SCHOOL

FAISAL AMAN
TEAM LEAD, RESEARCH & DESIGN DEPARTMENT, YAYASAN MENDAKI

PRESENTATION 3a:

Bouncing back from adversities:
Factors and processes that foster resilience

By Dr Imelda Caleon
Assistant Dean of Partnerships,
Office of Education Research,
National Institute of Education, Nanyang Technological University

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How can we define resilience?

There are two approaches used by researchers to define resilience:

1. Personality trait or attribute approach: Defines resilience as one's **capacity or ability to recover from adversities**.

2. Process approach: Looks at resilience as a **process**, and as **one's positive adaptation to adversities**. Here, resilience can be construed as a **journey**, and an **unfolding process**.

Resilience is a journey

Risk/ Stressor/ Adversity	⟷	Protective Factors	⟷	Positive Adaptation

- Adversities can also be seen as risks or stressors, and is regarded as the **starting point** for one to develop resilience. For children, such stressors could be **developmental delays, family distress, poverty, or academic failure**.

- Following the resilience trajectory, the **presence of protective factors is important**. Protective factors **help buffer the effects of risk factors**, and serve as **resources that aid in the child's positive adaptation**.

Resilience is not a wholesale process

Resilience can be developed in various domains
– Social, Emotional, Physical, and Educational. Showing resilience in one domain does not necessarily mean that you are resilient in another. In other words, **resilience is not a wholesale process**.

Resilience is not constant

Resilience may also **vary over time**. It **depends on how we interact with the context** we are in. **One may develop resilience after a turning point** in their life. These turning points include continuing further education, getting married to a stable partner, or converting into a religion. Thus, it is never too late to develop resilience.

What factors and processes foster resilience?

Scholars agree that **resilience is not something we are born with**. Instead, it is something we can **learn and develop over time** in the presence of protective factors.

1. External protective factors can come from an individual's environment. Examples include:

   • Presence of at least **one competent, emotionally stable, and caring person who is sensitive to their needs**.

   • Circle of friends who can serve as **mentors or role models** who can **provide emotional support and advice**. They can also **help open opportunities** that can serve as one's turning point in life.

   • Positive experiences such as p**articipation in extra curricular activities** or sports. These can serve as **fertile ground for the discovery and application of one's strengths**.

   • **Having opportunities to make a difference**. For example, participation in volunteer or charity work, as this can **help develop a sense of meaning, purpose, as well as self-esteem and self-efficacy**.

• Allowing our children to **solve problems and face failures in manageable environments**, so as to build their strengths in the face of more serious problems in the future. It is important that we **do not become overprotective of our children**. Rather, we should **allow them to fail and solve problems independently**.

Internal protective factors

- Self-efficacy & optimism
- Self-awareness
- Adaptability
- Goal setting
- Problem solving
- Handling failure
- Perseverance
- Realistic sense of control
- Emotional regulation
- Easy temperament
- Social competence
- Empathy

On setting goals:

1. Set **clear and realistic goals**. Most of the time, these goals are **socially- oriented**.

2. Use **goal-related strategies** and manifest agentic thinking in achieving your goals.

3. **Express persistence and perseverance** in pursuing your goals.

4. Use the **Smart and Power frameworks**:

a. Specific
b. Measurable
c. Attainable
d. Relevant
e. Time-framed

a. Positive outcome
b. Own roles
c. What resources are available
d. Evidence of progress
e. Relationship

On dealing with failure, individuals who are likely to develop resilience

1. See failure as a **challenge**

2. **Bounce back quickly** after failure

3. **Are aware of the reasons** for their failure

4. Address failure by **building or accessing resources** and **doing remedial action**.

In other words, they know why they fail, and they are doing something about it.

Sharing stories of resilience can also help equip our children with the knowledge to deal with their own adversities. These stories should be:

1. Relevant to their lives and have relatable characters

2. A detailed, honest, and personal account of the experience

3. Highlighting both the struggles and triumphs

4. Pointing out the actions taken and processes on dealing with such adversities

8-Point Resilience Builder - We should guide our youths to:

01 Set goals effectively. Expose them to action plans, and ensure that they are **aware of the multiple pathways they can take** to achieve their goals, and **encourage them to anticipate obstacles**.

02 Solve problems independently.

03 Frame, process and manage failures effectively. Let them see failure as an opportunity for growth, and not an end-point. Teach them how to fail upwards.

04 Share stories of resilience.

05 Use a model or exemplar.

06 Experience success by identifying their strengths and giving them opportunities to contribute and apply such strengths. This is especially important for student who have faced many failures.

07 Manage their emotions effectively. This can be done through simple exercises like **reflective writing**.

08 Practise gratitude, as this will **help orient them to the positives in life**. Gratitude also helps to induce a cascading effect, and **develop positive social connections** that are essential in developing resilience and fostering well-being.

Resilience is not an **individual endeavour**. It is a **process that requires team effort**.

The best and most practical way to develop resilience is to **promote supportive and caring environments** which are **built on positive relationships**, and **filled with opportunities** for children to discover and develop their natural, protective systems.

PRESENTATION 3b:

Developing entrepreneurial students

By Khairul Rusydi
Co-Founder and CEO,
Reactor School

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Changing Mindsets and Shifting Paradigms: Being comfortable with ambiguity and uncertainty

Reactor School was started with the purpose of ensuring **students are comfortable dealing with extreme levels of uncertainty**.

In school, students usually adopt **casual reasoning**, where there is **one fixed answer**. In real life, however, one needs to adopt **effectual reasoning**, where there is **no one right answer** to get there due to the uncertainties present. Many students grapple with this change in mindset.

We do not necessarily need all students to be entrepreneurs, but all students should be **entrepreneurial**.

Deepening Skills over Time: The 5 Stages of Entrepreneurial Development

1. Awareness: Starting Out

- "I now know that start-ups and entrepreneurship exist."

- Where students **find out what start-ups and what social enterprises are about**.

2. Exploration: Broadening Horizons

- "I am interested in start-ups and entrepreneurship, and want to find out more about the world."

- This is where they **explore their interests further**, and potential roles they may want to take on in the future.

3. Discovery: Multiple Pathways

- "I want to learn more about myself, my strengths, and areas for improvement."
- This is where they **start to look at career discovery**, where they look into the **various, possible pathways they can take after graduation**.

4. Immersion: T-Shaped Competency

- "I want to develop the necessary knowledge, skills, and attitudes to succeed in a start-up."
- This is where they **start making serious decisions, on whether they want to immerse themselves in a start-up environment**.

5. Mastery: Pi-Shaped Competency

- "I am certain of this path, and am committed to mastering the competencies in running a successful start-up."

Confidence in Personal Skills

Intentional founders are **more confident in performing tasks** compared to peers, who are intentional employees.

The graph below shows that having entrepreneurial skills do **help students develop these competencies**, as well as **giving them confidence**. These competencies include managing innovation, being an intrapreneur, learning how to pitch and be a communicator, and identifying new opportunities for themselves.

Confidence in Personal Skills

Source: Global University Entrepreneurial Spirit Students' Survey (GUESSS), 2016 Global Report

PRESENTATION 3c:

Sharing

Mr Razali Abdul Hamed
Principal,
Junyuan Secondary School

It is important that we **shift the focus to multi-faceted domains** within the concept of resilience, specifically **resilience in terms of socio-emotional competencies**. This will help our students **develop good relationships with other people**, and be able to manage those relationships so as to **develop better decision-making skills for themselves**.

We need to ensure that our students know that **failure is necessary** for one to grow to become resilient. Furthermore, students need to **anchor themselves to their goals**.

When they do something beyond themselves, they will build the lifelong capacity to be resilient.

3d: Takeaways from Panel Discussion

How can we define resilience?

01

Resilience is also about connectedness.

a. The most important thing with regards to resilience, is that the **person must feel connected**, and have the **desire to feel connected**. This way, he has something to contribute to the society.

b. This also comes from the **self-determination theory**. Self-determination theory **focuses primarily on internal sources of motivation**, such as a need to gain knowledge or independence.

c. There are three needs for students to be self-directed.

  i. The need for **autonomy**: People need to feel in control of their own behaviours and goals. This sense of being able to take direct action that can result in real change plays a major role in **helping people feel self-determined**.

  ii. The need for **competence**: People need to **gain mastery of tasks and learn different skills**. When they feel that they have the skills required to succeed, they are **more likely to take actions that will help them achieve their goals**.

  iii. The desire to **feel connected**: People need to experience a **sense of belonging and attachment to other people**.

d. **Positive relationships** are very important and should not disappear from the definition of and discourse on resilience.

e. Skills progression requires one to **undergo multiple pivots**, and actively **look at our past experiences** to know **how we would do things differently** for ourselves in the future.

02
Resilience can also be described as being "**relentlessly resourceful**".

a. Being resourceful means **exhausting different ways** to get around an issue.

b. It is not about giving up or not, it's about being smart and knowing where you want to place your next move.

Pivot, or persevere?

01
Part of self-awareness is **knowing your resources, contacts, and the amount of time you still have.** Sometimes, it is no longer productive to continue.

a. The **context and value of one's goal** is also important in deciding when to give up. It may be difficult to give up if your goal is something you are passionate about.

02 In the start-up world, founders stop when:

a. They **no longer have the passion** for the company, which may happen when the company **no longer fits their personal mission or values**, or

b. They have **run out of funding**.

What are some ways students can take to venture into entrepreneurship?

01 **Join clubs** in school that centre around entrepreneurship.

02 Take part in **hackathons**, that are usually extremely subsidised or free for students.

a. A hackathon is a concept which solutions for complex problems are developed within a short time, usually lasting between 24 and 48 hours.

b. Participants work in small groups and come up with innovative concepts and prototypes.

03 Set up a **LinkedIn profile**, and look into those who are established and successful in the same industry that you are looking into.

a. You can try to **emulate the steps** that he or she has taken to get where they are, or

b. You can try to **reach out and seek advice** from them online.

04 It is important to **engage alumni and parents**, as they are a huge resource.

a. **Peer mentoring** is also effective as it becomes social proof for the students to feel that their seniors' accomplishments are **attainable**.

How can schools help our students be more resilient?

01 Schools can help **develop positive school experiences** for their students. This can help them **realise the various opportunities out there**, before they decide on setting their personal goals.

a. It is important that schools provide experiences that can make them **grow into better persons for others and meet their development needs** at the same time.

02 Schools should look into industry practices, and contextualise them to their school process.

a. Schools should find partners that will **add value and give their students more vibrant experiences within the margins of the curriculum**.

03 Schools should also build a **safe environment for the students to fail forward**.

a. It is important that educators **help their students process that moment and turn it into a teachable moment**.

b. This processing is very important in **helping students build their resilience**.

04 Schools can also **provide resources for parents to self-help and build their relationship with their children**. This will also help parents be able to provide children with better career advice.

How can we support students who are vulnerable or at-risk?

01 We need to know **where their interests and passions lie in**.

02 Presence of more interested students arond could be helpful, as **interest is infectious**.

a. **Iron sharpens iron**. Thus, when we put committed students in the same environment together, **they will all learn** regardless of their backgrounds.

03 **Encourage social emotional learning** in schools, so that these students **develop empathy** and equip themselves with the knowledge on how to **help their peers** around them.

04 Schools should also **engineer programs to encourage participation of vulnerable students**, as they **may require more external motivation**.

a. In doing so, it is important to understand that education is not about equal treatment, but about **equitable treatment**.

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