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Science of Learning in Education

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We believe education research can be practical and relevant to the classroom. *SingTeach* was initiated in 2005 to bridge the gap between research and practice for you, the teacher.

Published quarterly by the Office of Education Research at the National Institute of Education, Nanyang Technological University, Singapore, *SingTeach* is a magazine dedicated to improving teaching and enhancing learning. Each article is crafted with teachers in mind.

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Assistant Professor Azilawati Jamaludin

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Advances in imaging techniques, behavioural and psychological research enable the integration of science of learning disciplines that investigate human learning. This opens up possibilities for the enhancement, update and eventual desired reform of educational theories and practices.

The field of science of learning and its potential contributions to educational research are now more pronounced than before. For example, insights from educational neuroscience are not only shedding light on brain mechanisms that underpin cognitive and social learning development, but they are also contributing towards neurobiological and technology-informed, evidence-based interventions that are addressing educational concerns. To name a few, these include issues such as i) early learning struggles and early intervention; ii) challenges that individual differences pose; iii) effectiveness of educational and remediation approaches to cognitive struggles; and iv) widening possibilities that brain plasticity brings (e.g., life-long learning).

Such a multi-disciplinary convergence not only carries multiple implications for educational policy but also foregrounds the mutual benefits of the interaction between fields such as neurobiology and education, particularly since education may also conceivably offer a naturalistic framework for research on the brain.

At the National Institute of Education (NIE), we are launching a new Science of Learning in Education (SoLE) centre that serves to bring together several research disciplines, including neuroscience, cognitive science, psychology, technology and education. The centre will complement NIE's existing education research with state-of-the-art neuroimaging, psychophysiological data capture techniques and modelling techniques to synthesize research investigations and findings across different disciplines. By driving and translating research that is informed by both educational practices and scientific and systemic knowledge, the center aims to optimize the core of human potential: *successful human learning*.

In this issue of *SingTeach*, we delve into the *science* of how we learn and focus on pedagogical activities that facilitate optimal learning such as physical activity and play in the context of our pervasive post-pandemic technological use. A critical success for translating and implementing evidence-informed practices in classrooms are strong, dynamic partnerships between the *science* of what SoLE researchers offer with the *art* of pedagogical design inherent with teachers, school leaders, and education practitioners. In this issue, a school leader shares with us perspectives from Mind, Brain and Education and its importance towards our national goals of lifelong learning.

More importantly this issue also hopes to spark and catalyse the meaningful connections necessary between research and practice that are at the heart of Science of Learning in Education endeavours. We hope that you, as part of the teaching fraternity, will be inspired to artfully design and integrate robust and validated scientific evidence into your own teaching and learning, cohering new possibilities in augmenting the science of how we, successfully, learn.

Breaking Down the Science of HOW WE LEARN

In recent years, there has been an inclination to acquaint educators around the world with the science of learning. While it is not a new concept, the science of learning in education particularly seeks to improve students' learning by integrating knowledge from different fields of research which include neuroscience and social sciences.

To support this endeavour, the National Institute of Education, Singapore launched the Science of Learning in Education Centre on 24 March 2021. *SingTeach* speaks to the new centre director Professor David Hung and Assistant Dean (Science of Learning) Dr Azilawati Jamaludin, who is also the guest editor of this *SingTeach* issue, about the research centre and how our Singapore education can benefit from it.

For decades, educators all over the world have explored different kinds of learning strategies, tools and techniques for their students. While some of these efforts might have been successful, how many of them are actually backed by science and research?

As such, it is crucial that educators are aware that applying the findings from research in the area of cognitive science — or the science of how we learn — to curriculum and materials development can significantly help enhance the likelihood of achieving desired outcomes.

The Concept of Science of Learning

To understand the concept of science of learning, one has to first recognize that learning is shaped by various levels of interactions that occur outside and within the individual. These interactions include that of environmental and socio-cultural factors, as well as biological and physiological factors.

"The science of learning then *integrates* these knowledge from different fields to advance our understanding of the processes, mechanisms, factors, and designs that contribute to learning," Professor David Hung, who is also Dean of the Office of Education Research (OER) at NIE, explains. "It seeks to improve students' learning and in particular, students that are of lower-progress."

"A science of learning in education orientation is important because it foregrounds a holistic conceptualization of learning, recognizing the multiple levels of investigation and descriptions that are necessary to better understand and

explain how learning occurs," Assistant Professor Azilawati, who also leads several brain-based research projects at NIE, adds.

In a nutshell, the science of learning is a holistic theoretical framework that reconciles insights from different learning sciences fields in order to maximize one's understanding of the complex associations and relations involving multiple systems that shape our learning. "With this integration, it provides us with the opportunities to shape more effective educational practices that optimize human growth and development," Azilawati shares.

Singapore's First Science of Learning in Education Centre

Many of us are no strangers to Singapore's international reputation in the area of education. In October 2020, the Organisation for Economic Cooperation and Development (OECD) announced that Singapore's students claimed the top spot in the Global Competence test that was conducted as part of the Programme for International Student Assessment (PISA) in 2018.

"Singapore's education system has consistently fared well in international rankings and NIE has been at the forefront in leading educational research, and addressing educational challenges and problems," Prof Hung shares.

As a large majority of the existing research at NIE utilizes cognitive-behavioural or socio-cultural research methods, Prof Hung believes that tools from other disciplines, such as neuroscience and artificial intelligence, can further help with pushing the boundaries of our understanding of learning and its related processes.

"It becomes vital that we tap into such resources," he adds. "As such, the Science of Learning in Education Centre was established with the aim of bringing together education researchers and those from fields related to cognitive, neuroscience and artificial intelligence to combine their expertise and expand our capabilities in education research as a whole."

Being the nation's first and only science of learning centre that focuses specially in education, what kind of efficacies for Singapore education would the centre afford us with?

Benefits of Science of Learning for Singapore Classrooms

"The Science of Learning in Education Centre will allow us the opportunities to optimize educational practices, and teaching and learning strategies for successful human learning, which essentially is the crux of our human capital," Azilawati explains. "In particular, there are at least three key leverages that the centre can afford us with: *integration*, *optimization* and *generalization*."

The *integration* of advanced neural-equipment such as portable brain imaging with targeted cognitive experiments available at the centre will give education researchers like Azilawati herself the ability and confidence to answer intractable learning problems such as persistent disparities in learning outcomes.

She explains further: "For example, in implementing an evidence-based pedagogy for Mathematics, why do children still show marked individual differences in outcomes? What factors contribute to these differences between learners who are typically developing and those who are struggling? If even after behavioural interventions, we still find students falling behind in math, can the differences in outcomes be attributed to biological differences that are not easily observed?" Integrating different levels of analyses can enable researchers to answer perennial questions in education that would otherwise be impossible.

Azilawati also believes that it is worthwhile to explore and determine how successful, or unsuccessful, pedagogies are when mediated by other factors of instructional effectiveness such as motivation, emotions or metacognitive processes. Through specific research that can inform how learning vary as a function of individual learner characteristics, we can imagine an enriched education landscape that *optimizes* both teaching and learning strategies.

"The third leverage that the centre can afford us with is *generalization*," Azilawati shares. "If we are able to identify the factors or patterns that influences learning through basic science research and find out whether these patterns can transfer to other domains, we can certainly advance our understanding of and efforts for maximized learning," Azilawati explains. This will also greatly help researchers and educators in designing more appropriate and accurate intervention programmes for struggling learners.

The Future of Education with Science of Learning

To this end, there is no doubt that learning is a complex and active process that occurs throughout the lifespan and involves multiple factors. Some NIE research that looks at the science behind how one learns also tells us that learning *can* be shaped and reinforced through variable aspects.

"We hope that with this centre, we will eventually create a body of knowledge in learning that can, one day, find a translation pathway from research contexts all the way to translational practices where teachers can take that research evidence and situate it into sound pedagogical designs," says Prof Hung.

With the establishment of this new centre that brings together education researchers from various fields related to cognitive and neuroscience, to name a few, Azilawati also hopes that she would be able to remediate persistent, prolonged struggles that some lower-progress learners face. "We hope that we can remediate and help this group of learners progress in terms of their academic achievements and also their well-being in life," she concludes.

ABOUT THE INTERVIEWEES

Professor David Hung is Dean of Office of Education Research (OER) at the National Institute of Education (NIE), Singapore. He is also the Centre Director of the recently launched Science of Learning in Education Centre that is located at NIE. In recent years, Professor Hung has conducted research in Learning and Instructional Technologies, Constructivism and Social Constructivism, Learning in Communities of Practice, and more.

Assistant Professor Azilawati Jamaludin is Assistant Dean, Science of Learning at NIE. Her research interests are in learning theories of embodiment, perception, and cognition, as well as sociocultural, biological and neural correlates of learning. She leads the play/game-based learning research strand and Science of Learning initiatives at OER.

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PHYSICAL ACTIVITY & DIGITAL MEDIA USE:

Link to Cognitive Development

Regular physical activity plays an important role on a child's overall mental and physical health. Recent studies, however, show that children are leading increasingly sedentary lifestyles, with more time spent in front of computers or television screens, and less on being physically active. *SingTeach* talks to Assistant Professor Teo Wei Peng, from NIE's Physical Education and Sports Science Academic Group, on this worrying trend as he also discusses his research project that aims to plug the gap in our understanding of physical activity and digital media use in young children, and their link to cognitive development.

Assistant Professor Teo Wei Peng, from NIE's Physical Education and Sports Science Academic Group, emphasizes the importance of instilling active lifestyle habits in children during the early years so that they can transition into active and healthy adolescents and adults. However, he notes that while there are guidelines for physical activities for children, adolescents and adults, there are none for children of preschool age.

"The World Health Organization, for example, has released a set of guidelines for adults and recently, one for adolescents as well, on how much physical activity is needed for good health. The problem is that there is not much data for young children below the age of six. There is currently no worldwide guideline for children within this age group," he says.

His project, part of an international project called SUNRISE, seeks a better understanding of how physical activity and digital media use amongst children between the ages of 4 and 5 years affect their cognitive, physical, emotional and psychosocial well-being. It is also between these ages that children undergo many crucial developmental milestones especially in their cognitive functions.

"This project examines if active children are more likely to engage with their cognitive abilities, and if there are any brain differences between a child who is more active versus one who is less active," he explains.

Measuring Brain and Physical Activity

The ongoing project involves 80 children from local preschools, kindergartens and childcare centres. According to Wei Peng, the study uses latest technology and gold standard physical activity monitoring methods to gather data from the children.

"A portable neuroimaging device is placed on each child's head to measure the level of brain activity while the child is engaged in various games or tasks. These include motoric tests to measure the child's fine motor skills as well as running and balancing tasks to measure the child's gross motor skills," he says. "Each child will also play games on the iPad which will test their short-term memory and track their inhibition."

To track their level of physical activity, an accelerometer called activPAL™ will be used. The accelerometer is attached to a belt which is worn by each child for at least three days on weekdays and two days on the weekends.

"The belt is removed only when the child is taking a shower or going for a swim," Wei Peng explains. "It must be worn even when the child is sleeping. This way, not only can we keep a record of their sleeping habits, but we can also log five days' worth of physical activities within a 24-hour period each."

Formalized vs Informalized Use of Digital Media

One of the aims of this project is to have a better understanding of how young children of preschool age consume digital media, especially in classrooms and at home.

In formalized settings such as classrooms, Wei Peng notes that children usually use them for projects or discussions. At home, however, it may be a different story. "The project will provide us with new information on when, and for what purpose, children are given access to digital technology. For example, some parents will use an iPad to keep their children focused during mealtimes. In what other circumstances are children given access to these digital tools? We are hoping to see if we can tease out any of these nuances."

Another aspect that the project hopes to explore is to see whether parents and caregivers place any limitations on using digital media at home. This is in comparison to schools where the use is typically supervised and structured.

"At home, we are looking if there are any restrictions put in place in terms of, for example, the content seen and the amount of screen time in the day as well as at night before they fall asleep," he says. "We also want to understand the perceptions parents have towards screen media use and its impact on their children's physical activity and overall well-being."

Physical Activity in the Home and Classroom

Initial data shows that while children engage in some form of physical activity in the home and classroom, it is only at a moderate level.

"Based on data collected from the preschools so far, we find that preschools do encourage daily physical activities. However, they face limitations, for example, in terms of safety concerns within an outside environment or manpower issues when handling bigger classes," Wei Peng shares.

At home, children are also less physically active. Anecdotal observations show that many working parents prefer to spend time with their children indoors after work hours, and not at the park or playground.

On weekends, the level of physical activity increases, but the rise is slight. "Parents do bring their children out during the weekends but current dataset shows that most of these physical activities range from low to moderate intensity," he shares. "Ideally, we want them to at least hit moderate to intense activity which would make a bigger impact on their overall health."

The study also looks at the extent to which primary caregivers such as grandparents or helpers encourage the child to be physically active. "We want to create more awareness among parents, caregivers and teachers that they actually play an important role in shaping how the child perceives physical activity and digital media use, and their relationship to his or her own well-being," he says.

Making Physical Health a Top Priority

As a child moves up the education system, Wei Peng notes that their level of physical activities may gradually decline due to various reasons such as more time spent on academic pursuits. The challenge, thus, lies in educating the child, as well as the parents, caregivers and teachers, that setting boundaries for screen time is important, especially during the early years, and that physical health should be prioritized as much as academic performance.

"Generally, most parents assume their children are already healthy and pay less attention to how much time their children spend on being physically active. Studies have shown, however, that more active children have better health outcomes and perform better in school," he says.

He also reminds us that that a child who has a sedentary lifestyle since young tend to transition to overweight adults, which brings along its own set of health complications. Thus, it is crucial that children pick up healthy habits during the formative early years.

"The data collected will help us toward developing a 24-hour activity guideline, as well as recommendations for screen time, for young children of preschool age. Ultimately, we hope that society as a whole sees the importance physical activity in children's lives and makes it easier for them to be active and healthy," he concludes. ▮

ABOUT THE INTERVIEWEE

Assistant Professor Teo Wei Peng is from the Physical Education and Sports Science (PESS) Academic Group at NIE. He is also the Chair of Science of Learning at PESS, which comprises a group of neuroscientists researching in the role of exercise and physical activity on brain and cognitive function. His research interest focuses on understanding the mechanisms that underpin motor control and learning across the lifespan and in diseased populations. He is involved in several international research projects aimed at understanding the role of exercise and dietary habits on cognitive function and brain health across the lifespan.

THE SCIENCE OF LEARNING IN EDUCATION CENTRE

The Science of Learning in Education (SoLE) is an interdisciplinary field that integrates insights from multiple fields, including neuroscience, cognitive science, psychology, sociology, education and other areas to provide a scientific understanding of how learning occurs and to translate research evidence into educational practices and strategies that promote student's well-being, development and learning.

SoLE Research Strands

- Academic and Cognitive Development
- Social and Emotional Development, Mental Well-being
- Special Education Needs / Learning Differences
- Movement, Physical and Health / Lifestyle, Diet and Nutrition
- Technologies / Multidisciplinary / Others

Quick Facts about the SoLE Centre

1. The centre is the first of its kind in Singapore.
2. The centre is located at NIE, Singapore's only teacher education institute.
3. The centre comprises two experimental rooms and one classroom, which are named after neuroscientists who played significant roles in shaping the field.

Experimental Rooms

Here is where quantitative data is collected using various neuro-physiological (e.g., EEGs and fNIRs) and other physiological tools (e.g., eye trackers).

Classroom

This room features a two-way mirror so that learning processes can be observed and studied under natural conditions.

Three Pillars of SoLE Centre



PILLAR #1 RESEARCH

Interdisciplinary in nature

SoLE research involves any projects that includes:

- biology;
- cognitive neuroscience and psychology; and
- at least one aspect of education (behavioural, contextual or sociocultural environment).

Examples of SoLE research include:

- language acquisition in children;
- eye-gaze patterns of experts and novices in graph interpretation;
- the role of parenting in child cognition; and
- the use of digital games in math learning.

PILLAR #2 TEACHING

Master of Science (Science of Learning)

Initial Teacher Preparation (ITP) Minor in SoL

SoL Mini-Masters and SkillsFuture courses

SoLE professional development workshops

PILLAR #3 COMMUNITY

Institutional capacity building and brokering the development of a research community in SoLE through the following:

- Monthly SoLE seminar series;
- Biannual ideation sessions; and
- Symposiums and other events.

The Science of Learning through PLAYING

Growing up, the saying "work hard, then play hard" might be familiar to some, but research in neuroscience has shown that both can actually be done simultaneously. An NIE neuroscience research study found that one effective way to engage pupils while learning Mathematics was through playing games. A teacher from Bukit View Primary School shares how participating in the study has provided an increased support for pupils struggling in Mathematics.

At Bukit View Primary School (BVPS), Mrs Evelyn Tan and her fellow teachers-in-charge of the Learning Support for Mathematics (LSM) programme observed that some pupils continued to struggle with the subject, despite the team's best efforts to provide them with additional support in the form of intervention programmes and smaller pull-out classes through the years.

When an NIE research team invited them to participate in a study that aims to address the challenge of levelling up learners struggling in Mathematics through neural-informed games in 2020, Evelyn and her fellow teachers agreed. "We wanted to develop a deeper understanding of pupils' learning processes and to explore the use of neural-informed Mathematics games as a teaching tool in the LSM classroom," she shares.

What is the LSM?

The Learning Support for Mathematics (LSM) programme is designed to provide early intervention in Mathematics to pupils who need extra support in acquiring basic numeracy skills when they enter Primary One.

With the same goal in mind, both the NIE and BVPS teams worked towards developing a joy of learning in this group of pupils by instilling motivation and confidence in learning the subject.

Understanding the Impact of Games through Neuroscience

The research study consists of two segments which are carried out by the NIE researchers: assessment and activity.

The assessment segment involves personalizing the profiles of each pupil participant. These profiles are built through a set of comprehensive tests which included the attention span and anxiety level tests. To ensure more accurate profiles, the researchers also utilized a brain-based data collection tool, Functional Near-Infrared Spectroscopy (fNIRS), which provides insights into the activity level of the pupil participants' brains when they work on problem sums.

In the activity segment, pupils played a series of neural-informed Mathematics games on tablets. At some of the game sessions, the researchers monitored how the various parts of the pupils' brains were activated in the decision-making process and the pupils' anxiety level using fNIRS.

Through the game sessions, Evelyn and her team of teachers observed an improvement in pupils' learning attitudes and motivation levels. "They were captivated by the interactive games and they liked that they had autonomy over the pace of learning," she shares. "They enjoyed the activities and looked forward to the sessions."

Moving forward, how can teachers then implement such game-based interventions in their own classroom practices?

Learning through Play

"Learning can be introduced through play, which is central to how children learn and it takes away any stress or anxiety that they associate with when learning Mathematics," Evelyn explains. As such, infusing games into Mathematics lessons can better engage pupils and develop their interest and confidence in the subject.

Instead of only using worksheets to help pupils practice what they have learnt, teachers can explore structuring practices using mathematic games. For example, to help pupils commit to memory multiplication facts, they can practise in pairs using number cards or even *UNO* cards.

Another way is to engage the class in a game of *Kahoot* on multiplication. There are also mobile applications that teachers can download for pupils to play with to reinforce their learning. Many of these online platforms allow teachers to track the progress of individual pupils as they practice through games.

According to Evelyn, participation in the study was an eye-opening experience. "Not only did it allow us to have a more nuanced understanding of the process of learning and the factors that enable or hinder it, but we also have greater awareness of the development of teaching and learning strategies that are informed by brain-based findings, allowing us to improve on practices to help struggling learners."

Importance of School Support

The research experience was not without challenges and difficulties. Due to the pandemic caused by COVID-19, the project was delayed for two months when the government declared the closure of all schools in Singapore in 2020.

Eventually when schools reopened and the study resumed with necessary measures implemented, BVPS's school leaders and other departments poured their support in various ways. This includes and is not limited to allocating periods within curriculum time for the LSM team to focus on the project.

"We are thankful that support from the entire school team made the process smoother so we could complete the study within time constraints," Evelyn shares. The strong support structure also motivates the team to further their participation in the research study and continue to implement neural-informed game-based interventions so that more pupils can benefit from them.

Benefits of Teacher-Researcher Collaboration

"Teachers are practitioners and through years of practice we might know good methods of teaching," Evelyn shares, "but with evidence-based knowledge and methods derived from researches, we will be able to gain insights into the 'why' of a method: Why some practices worked better than the other or why some practices worked on some pupils or for some topics but not for others."

The year-long collaboration between the NIE research team and Evelyn's team of teachers was a fruitful one; the collaboration afforded teachers the opportunity to exercise greater awareness of the development of teaching and learning strategies that are informed by brain-based findings.

Evelyn and her team also emerged more confident as teachers especially in helping pupils from the LSM programme. "We are now more confident in teaching our weaker learners through the joy of learning and we believe they will be able to learn well with all the support that has been given to them," she concludes. ▮

ABOUT THE INTERVIEWEE

Evelyn Tan (front row, middle) is Level Head of Mathematics at Bukit View Primary School. Having been part of the teaching fraternity for over a decade, she is passionate in seeing Mathematics come alive in the everyday lives of pupils. She believes that they should enjoy and experience success in the learning of Mathematics regardless of their background.

LEARNING FOR LIFE

Mr Chan Zheng Ming, Vice-Principal of Anderson Serangoon Junior College (ASRJC), received his Masters in Education in Mind, Brain and Education (MBE) from the Harvard Graduate School of Education. *SingTeach* talks to Zheng Ming about MBE, how this relates to the Science of Learning in Education (SoLE) and his plans for SoLE at ASRJC.

What is Mind, Brain and Education?

Mind, Brain and Education (MBE) is an interdisciplinary field that brings together evidence, perspectives, tools and insights from various disciplines to deepen our understanding of how people learn, and what we can do to improve learning. The disciplines included in MBE range from, and are not limited to, cognitive science, neuroscience, psychology and education studies. There are also many stakeholder groups that contribute to furthering the MBE field, such as teachers, policy makers, researchers and even students.

Studies in MBE range from basic research in the laboratory (e.g., identifying brain regions or networks correlated with certain developmental differences) to applied research in the classroom. Hence, with the diversity in the MBE field, communication and translation (from research to practice, and vice-versa) are important to generate deeper insights from cross-pollinating ideas across disciplines, stakeholder groups and research types.

MBE and the Science of Learning in Education

"Personally, I see the Science of Learning in Education (SoLE) field as synonymous with MBE," Zheng Ming comments. "They both bring together multiple stakeholders from multiple disciplines to tackle the same key inquiry question: 'How do we learn?'"

The aim of research in the fields of MBE and SoLE is to generate insights into how we learn, so that we can equip everyone with the ability to learn effectively at any age. As these fields continue to develop, we uncover more evidence to help improve the design, selection and evaluation of educational programmes. The goal is for educational programmes to cater more precisely to students' learning needs.

Situating this research-practice nexus in Singapore, Zheng Ming says, "SoLE can help us develop strategies to better support every child in their learning. Other than involving our teachers in applying the findings from SoLE research, we also need to help our students appreciate how they learn, so that they can continue to learn, unlearn and relearn skills as they take on different careers and opportunities throughout their life."

"As we embark on the next phase in the "Learn for Life" movement as a nation, we see how it is important to equip our students with the ability and disposition to learn. Our students need to learn how to learn. This will help Singapore remain competitive and relevant among global economies," he adds.

Translating Research into Practice

As with other areas of research, SoLE research studies range from basic research (which might not immediately translate into classroom practices) to applied research (classroom practices).

Both applied and basic research complement each other and are needed to provide us with a fuller understanding of the science behind learning. However, given that SoLE is a relatively young learning sciences field in Singapore, there seems to be a divide between basic and applied research, where the former is often not translated into digestible and practical strategies for school teachers.

"For SoLE to thrive and flourish as a field in Singapore, time and resources must be dedicated to growing a community of researchers and practitioners who can translate research findings into strategies to be applied in the classrooms, and leverage practice-based evidence to drive further research," Zheng Ming asserts.

Other than research translation, communication among stakeholders—researchers (including medical researchers interested in developmental science), practitioners (teachers, students and even parents) and policymakers—is key to bridging the gap between the learning sciences research and schools.

There are rich research findings in SoLE which could be better translated and communicated to practitioners in schools. Examples include the effectiveness of spaced practice, the importance of sleep for adolescents, the dual coding learning model (in place of learning styles) and effective emotion regulation strategies.

Zheng Ming remarks, "SoLE researchers should continue to focus on strengthening the practice-research partnership. Teachers and students in the classroom can pose research questions about their learning processes and provide researchers with rich perspectives. The classroom is also a source of 'practice-based evidence' that could be tapped upon to generate further insights and research directions."

SoLE in Schools and in the Classroom

"I am currently Vice-Principal at Anderson Serangoon Junior College. From my perspective as a school leader, SoLE can provide us with evidence to guide our decision-making processes, as we examine how we can design and choose programmes to best cater to our students' learning needs. It is important to keep up to date with key evidence but also be able to discern the reliability of evidence base!" Zheng Ming shares.

"One of our college's assets is the deep body of experience and expertise among our staff," he continues. "I aim to build on existing college structures and processes to incorporate the use of evidence from SoLE research in our teaching practice and strengthen our research-practice partnership with the National Institute of Education and the Academy of Singapore Teachers.

"On a more personal note, I would like to support our learning community of practitioners in our college by filtering, digesting and translating MBE and SoLE research findings into short blog posts. I hope that these posts, which will touch on topics such as emotional regulation, cognitive load and neuromyths, will promote discussion among teachers and inspire them to pursue SoLE topics that might interest them, bring these ideas into the classroom and help our students embark on their journey of 'Learning for Life'." ▮

ABOUT THE INTERVIEWEE

Mr Chan Zheng Ming is Vice-Principal of Anderson Serangoon Junior College. Prior to taking up his vice-principalship, he completed a Masters of Education in Mind, Brain and Education (MBE) at the Harvard Graduate School of Education (HGSE). Zheng Ming was awarded the Intellectual Contribution Award for MBE 2020, recognizing his dedication to scholarship and the enhancement of HGSE's academic community.

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