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re*in*eed

research in education at the National Institute of Education, Singapore

scaling &  
translation

■ contents

Editorial 02

Designing for a Collaborative Future 03

Sustaining Good Classroom Interventions 04

Helping Students through Progressive Research 05

Turning Setbacks into Successes 06

Shuttling Innovation from School to School 07

Transforming Research into Popular Practice 08

Building a Collectivist Spirit 09

Seeding Innovations through Teachers 10

Research Highlights 11

# Editorial



Professor David Hung  
Associate Dean,  
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National Institute of Education

**AFTER 10 YEARS**, NIE's education research is now more ready to make an effective and sustained impact on the education system through the scaling and translation of educational innovations.

More importantly, NIE researchers are closely collaborating with schools and the ministry in the effort to bring good innovations to the rest of the Singapore education system. This is clearly depicted in the following articles of this issue.

Manu Kapur is hoping to take his intervention to a whole other level. He is looking to work more closely with policymakers and practitioners so that everyone in the education system will benefit.

Rita Elaine Silver and Jessie Png see the need to help schools continue the good work that research brings. They hope that innovations will be sustained by teachers especially after the research has ended.

Kerry Lee is building on his previous research that he has been conducting for 10 years. He is one step closer to unlocking the secret to help children who have difficulties in Math. This translational effort brings research closer to practice.

Although every effort has their setbacks, there are valuable lessons to be learned. Lee Shu Shing and Toh Yancy are using these lessons

to their advantage by having successful school collaborations. Yancy and Azilawati Jamaludin show how these partnerships need a good support system in order to thrive. Collaborations and partnerships are key to scaling.

Another form of support is to have a good and sustainable framework that the innovation can ride on. Kenneth Lim developed his own framework which allows the innovation to adapt to different contexts, helping his innovation become a popular teaching practice.

Imran Shaari, Yusuf Osman and Lyna are looking into how the community can help improve and sustain an innovation in its scaling and translational trajectory. Clearly, having committed people is important. With a collectivism spirit, existing innovations can potentially make every school a good school.

Lastly, Looi Chee Kit, Wu Longkai and team also promote the need to sustain innovations through teachers, but they see the possibility of spreading innovations through teachers' learning from one another in apprenticeship fashion. They are looking into how this can be better supported in the long run.

This line of research is important. With these projects and many more at NIE, the sharing of innovations is a significant benefit to all Singapore schools and all our learners. ■

## EDITORIAL TEAM

Lee Wing On  
June Teng Poh Hoon  
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Sahira Zulkifli  
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**ReEd** (*Research in Education*) is a research bulletin aimed at sharing our research contributions with the global community. This is an initiative of the Office of Education Research at the National Institute of Education (NIE), Singapore.

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# Designing for a Collaborative Future

## PROJECT TEAM

**Principal Investigator** Manu Kapur, *National Institute of Education, Singapore*



*Manu sees the MOE-school-NIE collaboration as pivotal when scaling interventions.*

**SINGAPORE'S EDUCATION** system is unique. Because of the strong link connecting the Ministry of Education (MOE) to schools and NIE, teachers and learners now benefit from many of the intervention programmes that come from NIE's education research.

**Supporting Learning** For 7 years, a research team has been working on the concept of Productive Failure which claims that people learn better and deeper if they are allowed to fail early and often in the initial learning of a new concept.

After working with about 100 teachers in 15 schools, the team has found strong evidence of the effectiveness of Productive Failure, says Associate Professor Manu Kapur, who is the Principal Investigator.

The numbers might seem large, but they are a small sample in Singapore. There is more that can be done to help learners.

"Learning is more than learning information or concepts," says Manu. "It's a way of thinking and being and that takes a longer time."

Students can learn content in a matter of days and weeks, but holistic growth in mathematical thinking and being takes a longer time. "Holistic growth requires a sustained intervention over time," explains Manu.

**Leveraging Expertise** Manu is mindful that education research is only a portion of the equation. To benefit our children, policy, research and practice must come together.

In the future, the team will want to work with other education experts—policymakers, curriculum specialists and teachers.

"They have the curriculum and change management expertise, and processes for working with the schools and teachers," he explains. "If such collaboration materializes, it will be a win-win for everyone."

The research team would like to continue its work on developing curriculum resources and teacher professional development programmes designed on the principles of Productive Failure.

Manu and his team believe that only by working closely with MOE and the schools to build teacher capacity can interventions be sustained in the system.

**Sustained Growth** Over time, Manu hopes teachers will want to carry on interventions from NIE, like Productive Failure, not because the research says the intervention works or because MOE supports it.

"I hope they will want to sustain this practice for its intrinsic worth," he says, "and that they believe this is what good and deep learning is all about."

Manu would like to see that these efforts seeking to bring policy, research and practice together will develop their own momentum.

"If we see some indicators of that, then I'll be happy because the whole idea of doing research is not to be always running the show, but for the show to carry on by itself." ■

*For a snapshot of Manu's Productive Failure project, see ReEd2, p. 3, visit [www.nie.edu.sg/research-publications/reed](http://www.nie.edu.sg/research-publications/reed).*

# Sustaining Good Classroom Interventions **Re**

## PROJECT TEAM

**Principal Investigator** Rita Elaine Silver, *National Institute of Education, Singapore*

**Co-Principal Investigator** Jessie Png, *National Institute of Education, Singapore*

**JUST LIKE** any other learner, teachers take time to become confident using a new skill or strategy.

NIE researchers Rita Elaine Silver and Jessie Png were well aware of this when they undertook a professional development project on reading comprehension with a local primary school.

**Mastery Takes Time** From the very beginning, Rita and Jessie did not want to introduce an intervention to the school just for a short period of time.

“It won’t be sustained and it won’t be scaled up to other teachers in the school,” says Rita.

And the school principal agreed with them. They all wanted the participating teachers to eventually take over the intervention and coach their fellow teachers on the new strategies. This meant that these teachers would become true experts.

But mastery takes a long time. “To master it enough that you feel comfortable about sharing it with your colleagues takes even longer,” says Rita.

With the principal’s enthusiastic consent, the team is now working with the school for 5 years now.

**Sustaining Improvement** Teachers tend to think very hard about the reading text and how they should lead their pupils through it. Rita and Jessie worked with an initial group of teachers in 2009, getting them to ask questions that let their pupils to do the thinking instead.

“We wanted the pupils to be able to interact more with the text, talk more and articulate why they gave a particular answer,” says Jessie.

The research team worked with the first group of teachers by introducing the new strategies to them, video-recording them trying out the strategies in the classrooms, and then giving them feedback.

This first group later helped the researchers to work with the second and third groups to use the same strategies.

This year, Rita and Jessie are stepping back to let these experienced teachers take the lead in the intervention.



*Rita (left) and Jessie feel that support from school leaders and teachers is key to successful scaling.*

**Working Successfully with Teachers** Jessie shares that it is no easy feat to scale up an intervention continuously. Issues such as schedule conflicts and staff attrition (both school faculty and research team members) can disrupt even the most detailed plans.

A flexible research design can help, says Rita. But above all, support from the school leaders and teachers is essential.

To get buy-in from teachers, Rita believes in one approach.

“As researchers, we have to work with teachers on what their particular goals are,” she says. “You really have to take the teachers’ own goals and concerns very seriously and incorporate that into the project even if it means you have to adjust your research plan.”

Working with the school in this way, Rita and Jessie ensure that both teachers and the research team benefit from a successful intervention. Only then will the impact of education research be truly felt in schools and classrooms for a long time. ■

# Helping Students through Progressive Research

## PROJECT TEAM

**Principal Investigator** Kerry Lee, *National Institute of Education, Singapore*

**Co-Principal Investigators** Ang Su Yin, Rebecca Bull, Kenneth Poon, *National Institute of Education, Singapore*

**Researchers** Jeremy Ng, Juliana Koh, *National Institute of Education, Singapore*

**EDUCATION RESEARCH** can be a challenging and long-drawn process. To reach their goals, researchers have to face difficulties, and some may even feel that each research project is only a small step forward.

But enduring the hardship is what makes a good researcher, says Associate Professor Kerry Lee. "It's a matter of going in and doing the hard work, ensuring rigour in our methodology and developing a good understanding of the problems."

To help students with difficulties in learning Math, veteran researcher Kerry and his team have been hard at work, looking into the particular cognition area, *working memory*.

**Assisting Students** The team has been conducting a series of studies over the last 10 years on working memory.

"It is the ability to process information, to think and to remember the information all at the same time," explains Kerry.

During this time, they found that working memory is closely related to mathematical achievement. In fact, this relation has been proven to be quite strong in Primary 1 to Secondary 3 children.

"The research suggests Math, especially at Primary 1 and 2, seems to be particularly demanding of working memory," he says.

They are now looking at whether students who have mathematical difficulties at Primary 1 can be assisted by using a working memory-based intervention. He hopes that this will help these kids improve their working memory capacity, and through which, better their Math scores.

**Diverse Problems** The road, however, has not been always smooth. Although linkages between working memory and Math performance have been found both locally and internationally, successful interventions are more elusive.

Many of the project's participating students are in the Math learning support programme which identifies and helps children who have difficulty in the subject.



*Kerry is looking into maximizing the number of students who will benefit from his research.*

Some of these young children do have the capacity for working memory. But their busy timetables make it hard for them to participate in the interventions.

"They do poorly for a variety of reasons. Some of these reasons disappear after a while, but others are more persistent," explains Kerry.

Though the intervention is showing promise, it has been difficult to help students improve their Math scores.

But Kerry's hope to help these children remains unaltered. "It's through that kind of incremental progress that one develops a deep appreciation of the diversity of the problem space, where one can then start to develop a better set of interventions."

Right now, the team is looking into working directly with both students and teachers to see if this combined effort can lead to better results.

**Scaling Research** An interesting avenue Kerry and his colleagues would like to look into is the inhibitory skill.

"Inhibition is the capability to block out irrelevant information," he explains. "Recent literature suggests that it is very important and some argue it is a fundamental aspect of working memory."

This is one possibility he sees the research heading towards. Another possibility is to bring what he has learned from this series of research to help children in a particular poor area in Thailand.

For Kerry, all of this is ongoing work that is worth doing well in and worth learning from. ■

# Turning Setbacks into Successes **Re**

## PROJECT TEAM

**Principal Investigator** David Hung, *National Institute of Education, Singapore*  
**Co-Principal Investigators** Lee Shu Shing, Toh Yancy, Wu Longkai, Azilawati Jamaludin  
*National Institute of Education, Singapore*

**SUCCESS DOES** not happen overnight—it can take many years to realize one. For Dr Lee Shu Shing and Dr Toh Yancy, their definition of success is when existing pedagogical innovations are adapted by many schools spontaneously.

The research team is studying the scaling trajectory of an innovation which started from just one class in Nan Chiau Primary School to five other schools.

And that is no easy feat. “We have to first understand how scaling takes place from one class to one cohort to the whole school,” explains Shu Shing.

**Acknowledging Setbacks** It all started out with one Primary 3 classroom. “Teachers worked with researchers hand-in-hand,” says Shu Shing. “There was positive feedback.”

The challenge, however, only arose when the innovation used—known as seamless learning, which combines in-school and out-school contexts for learning Science—was pushed beyond a single classroom. Factors such as equipment, funding and teacher competencies that were once not a problem became issues that needed attention.

“It is not so straightforward,” explains Yancy. “An innovation may be successful in one class or school, but when translated into another environment, adaptive changes are often needed.”

As the team is still trying to understand how to successfully scale innovations, they treat every setback as a learning point.

They have learned that multi-dimensional support is required. And one critical support comes from the teachers themselves.

**Collaborating Teachers** Participating Nan Chiau teachers now meet more regularly in support of this new innovation.

Once a week, teachers talk about how they use seamless learning in their own classes and about their teaching experiences—good or bad. There, they also co-design lessons together.

The culture of sharing and reflecting helps teachers understand not only the theoretical part of the innovation, but also the implications on practice and policy.

“The alignment of these components enable the success of an innovation,” says Yancy.

And with this positive change in one school, the team sees it as a step towards a successful spread of the innovation.

**Working towards Success** Although Nan Chiau champions the scaling of the innovation, they are not pushing that the other schools follow their guidelines to the letter.

The researchers are well aware that with more schools adopting a good innovation to their contexts, it can only mean more valuable insights, which can help improve the initial innovation through the sharing sessions.

With more minds coming together, it may also create a space where a systematic shift can occur.

“It is a way to shift teaching and learning practices from a teacher-centred way to student-centred way,” says Shu Shing. “It will then make learning more relevant for the students too.”

For the team, nothing shouts victory more than successful school collaborations. ■



(From left) Yancy, Shu Shing and Longkai aim to spread an innovation beyond the confines of just a single school.

# Shuttling Innovation from School to School

## PROJECT TEAM

**Principal Investigator** David Hung, *National Institute of Education, Singapore*

**Co-Principal Investigators** Lee Shu Shing, Toh Yancy, Wu Longkai, Azilawati Jamaludin, *National Institute of Education, Singapore*

**IT'S EXCITING** when a school develops and sustains its own innovation. It's even better when it is also able to spread that innovation to others.

Crescent Girls' School (CGS) is doing exactly that. It has developed a good innovation called *Trail Shuttle*. According to CGS, it has spread the innovation to 10,000 students in 200 schools.

**Encouraging Innovation** Singapore's Ministry of Education encourages the scaling of good innovations, and NIE researchers Azilawati Jamaludin and Toh Yancy see what CGS is doing with *Trail Shuttle* as an excellent example.

"This project is very much aligned with that overarching agenda," says Azi. "We also want to see scaling in terms of deep changes in practice and pedagogy, not just using the innovation."

*Trail Shuttle* is a digital learning trail which can be used during learning journeys and allows students to design their own trails. Teachers assess these trails and the questions students have crafted for the trails. Students can also assess each other's work.

"*Trail Shuttle* gives the students more voice and autonomy," she adds. "It encourages self-directed learning, collaborative learning and authentic out-of-the-classroom learning."

**Supportive Leaders** Azi and Yancy found that there are several ecological factors that cause innovations to spread. One crucial factor is school leaders.

Yancy explains that leadership consists of not only the supportive principal, but also the engaged middle managers, such as the heads of departments, level heads, subject heads and even teachers.

"We're looking into the school leadership practices anchored in the school culture itself, and how these leaders enable the proliferations of innovations," she says.

In CGS, the leaders believe that spreading good innovations not only benefits the school, but also the education system.



*Azilawati (left) and Yancy look into how Crescent Girls' has optimally scaled its innovation to other schools.*

Schools can also approach CGS out of their own accord and the school is more than happy to share what it has done so far.

**Accessible to All** Because it is a bottom-up approach to scaling, the innovation has spread to many schools. It is also flexible enough to be used for just about any subject.

In a participating primary school, it is used for Health Education, Mathematics and English. While in some secondary schools, it is used for Elements of Business Skills and the Humanities.

"The ease of customization allows the innovation to spread pretty quickly," says Azi.

Being highly customizable and a free for download app, *Trail Shuttle* can be easily used by teachers in the best suitable way to conduct their lessons and appeals to the modern student.

"Since it's downloadable on their phones," she adds, "it resonates well with students' lifestyle."

Yancy and Azi hope that they'll learn what it takes to spread a good innovation so they can be on their way to help other schools in the most optimal way. ■

# Transforming Research into Popular Practice **Re**

## PROJECT TEAM

**Principal Investigator** Kenneth Lim, *National Institute of Education, Singapore*

**Co-Principal Investigator** Teh Laik Woon, *Ministry of Education, Singapore*

**Collaborator** Wu Longkai, *National Institute of Education, Singapore*

**Researchers** Ahmed Hilmy, Yuen Ming De, Derek Chua, *National Institute of Education, Singapore*

**WHEN RESEARCH SCIENTIST** Kenneth Lim started his immersive learning project with the game *Second Life*, he had a good pedagogical intervention on his hands.

In 2009, he was working with just one school in Geography. Now, he works with 16 schools in a variety of subjects including Literature, Art, Design and Technology, and even Co-Curricular Activities, to name a few.

This was possible because he had the right conditions that allowed his intervention to become a popular teacher's choice.

**A Good Framework** Having a good intervention is one thing. But Kenneth knew a good framework was needed to help promote that intervention.

He developed the Six Learnings curriculum framework and Disciplinary Intuitions foundation theory to help scale his intervention to more schools and translate it into any subject area.

"Once you've got a good curriculum design framework that teachers understand," he explains, "then you're free to let the intervention bloom into all sorts of dimensions."

With the intervention, curriculum framework and foundation theory working together, Kenneth could now help as many teachers and students as possible.

**Learning in Action** The immersive environments created by Kenneth's intervention allow students to express their thoughts. Within this workspace, students engage in activities which help make their assumptions and beliefs more visible so that their peers and teachers can talk about them.

*Kenneth understands scaling up a good intervention needs a good framework for support.*



Previous research suggests that workbooks are where the actual learning happens as students are able to make mistakes and show their misconceptions.

Kenneth, however, takes it a step further by asking where these misconceptions come from. He suggests that they come from the students' intuitions.

"Intuitions are important because they inform the misconceptions that the students bring," he says.

This is where his immersive learning intervention comes in. The workspace the students experience is likened to the workbook and is designed with learning activities where students can surface misconceptions.

This allows teachers to not only be able to correct the mistakes, but also to understand why children are making those mistakes. It could be a fundamental flaw in their understanding or it could be wrong linkages being made to the context.

Whatever the reason, teachers are now able to go directly to the source and make proper plans on how to help the child.

**Valuing Research** Previously a Geography teacher, Kenneth sees the value in education research and what it can help achieve.

"It's important because I came from the teaching service," he says. "I know that my research and work with teachers is helping the students by making the learning more authentic."

Now as an education researcher, Kenneth reminds us that there is no one-size-fits-all approach to anything. It is important to take proven interventions and provide teachers with another tool that helps them teach a diverse range of students.

Even with all his success in research, Kenneth has always kept a humble but poignant goal in mind.

"I don't want to change the world," he says, "but knowing that students are having a better time than I used to have, that is what keeps me going." ■

*For a snapshot of Kenneth's immersive learning project on Second Life, see ReEd2, p. 8, visit [www.nie.edu.sg/research-publications/reed](http://www.nie.edu.sg/research-publications/reed).*

PROJECT NUMBER OER 13/10 LYT  
START DATE May 2011

The Development of a Framework for the  
Effective Translation of Educational Research  
into Sustained Practice in Singapore

PROJECT  
TITLE



# Ed Building a Collectivist Spirit

## PROJECT TEAM

**Principal Investigator** David Hung, *National Institute of Education, Singapore*

**Co-Principal Investigators** Imran Shaari, Lyna, *National Institute of Education, Singapore*

**Researcher** Yusuf Osman, *National Institute of Education, Singapore*

**NEW PEDAGOGICAL INNOVATIONS** are constantly being created. While there are researchers who dedicate their time to invent new innovations, there are also some who spend their time improving existing innovations.

Dr Imran Shaari and his team make up the latter group. Their project focuses on exploring existing successful innovations and the communities that surround them.

“We take successful innovations to the next level by building an understanding on the community that makes it successful,” says Imran.

**Community Dynamics** Looking at successful innovations, such as Collaborative Science Inquiry (CSI), Imran and his team seek to understand the dynamics of the community that help propel this innovation in a school.

“It is about community building,” says Research Assistant Yusuf Osman. “And how this can improve student performance.”

There are many components that make up a community. Some includes teachers, students, school leaders and even specialized practitioners such as engineers.

“Our main task is to study the community building efforts surrounding this innovation,” says Imran. “And then, explore how the effort may influence teacher and student learning.”

And for an innovation to be successful, understanding the structure and model of the community is critical. The team is looking into how the dynamics of a community can be re-enacted in other situations for success to happen.

**Re-enacting Success** The research team plans to explore the outcomes of possibly emulating the same community dynamics that they have found in CSI.

“We want to know how we can actually emulate the same community dynamics in another setting,” says Imran.

From there, they can identify how different communities work in different situations and how they work in pushing the innovation.

“We might also be able to provide suggestions on how the partnerships of the community function



*Imran (left) and Yusuf believe that the spirit of collectivism is important in education.*

in order to develop the educational landscape,” he says.

This helps improve existing innovations. “In every school, there are strengths and limitations,” adds Dr Lyna. “When different schools work together, they can tap on the strengths of other schools in order to eliminate the weakness of another.”

But most of all, it is also about sharing the pedagogical innovation among different schools.

**Improving Innovations by Sharing** Imran and his team have always believed in the power of sharing.

“NIE has creatively innovated a lot of things but some are unable to push these innovations one step further,” Imran says.

Rather than re-inventing the wheel, the team feels sharing ideas is the next step forward.

By looking at communities, the team sees how learning is done at a societal level, says Lyna. “So it would be good if schools can harmoniously collaborate to level up innovations.”

Despite the plenty of work that may be involved in cross-school collaborations, the research team is energized to push the innovation further beyond the boundary of just one school.

“This would require a shift from a very individualist mode of operating to a more collectivist type of values systems,” adds Yusuf, “where all schools can share resources and the types of pedagogies.”

And with more sharing of ideas, resources and innovations across schools, one will be able to truly say: *Every school is a good school.* ■

# Seeding Innovations through Teachers **Re**

## PROJECT TEAM

**Principal Investigator** Looi Chee Kit, *National Institute of Education, Singapore*  
**Co-Principal Investigator** Wu Longkai, *National Institute of Education, Singapore*  
**Researcher** Ye Xiao Xuan, *National Institute of Education, Singapore*

**DIFFERENT SCHOOLS** have different contexts. While a working innovation in one school may seem to benefit another, it might not always be the best fit.

An NIE research team took the opportunity to see how a good support system can help adapt an innovation to a new context.

“How do they adapt it to their own school contexts and goals?” asks Professor Looi Chee Kit, who leads the project. “We want to study the factors within the schools that might influence how the teachers implement the innovation.”

**Network of Support** After the successful project that used seamless learning to bridge formal and informal learning, Nan Chiau Primary School wanted to share this innovation with five other schools.

While many innovations are teacher-led, Research Scientist Dr Wu Longkai points out that seamless learning at Nan Chiau is a school-led innovation. A network of schools was established so scaling can be supported.

He shares that the support comes in two forms. “Vertical support is from the principal, vice-principal and heads of departments, which gives teachers more autonomy to do something more innovative.”

Horizontal support is given by researchers, policymakers and teachers from other schools. “This type of support gives them more confidence, more resources, and more readiness to implement the innovation,” Longkai adds.

This supportive structure is very important, says Chee Kit. Also important is the need for Nan Chiau teachers to take the lead in scaling the innovation.

“If the teachers see an innovation as part of their responsibility, they take ownership of it and will want it to grow,” he says. “They will push forward and share it with teachers in the other schools.”

**Teachers Taking Ownership** Chee Kit’s team observed that the school used a model of

dissemination, which the team calls “seeding” of innovation ideas, through teachers.

The “seeding teachers” from Nan Chiau provide another level of support to the teachers from five other schools.

Seeding teachers host bi-weekly sessions at Nan Chiau where they share about the innovation with the teachers from the five schools. Seeding teachers then allow these teachers to observe classes where the innovation is being implemented, so they can bring it back to the other schools to try out.

Seeding teachers also help figure out how seamless learning can be done in the five other schools over a sustained period of time.

“It’s about capacity-building,” elaborates Longkai. “Other school teachers learn about the innovation, they buy into the idea and they perceive that it will work. Then, they will be more ready to use it in their own schools.”

It is possible that the teachers of the five schools can create their own seeding teachers and share this innovation to their own network of schools.

With more networks springing forth, seamless learning could become a mainstay pedagogy in the Singapore education system.

Chee Kit and his team are looking into how their research can support this budding future. ■



*Chee Kit (middle) and his team hope their project can benefit a broader community in a sustainable way.*

# Research Highlights

**Ed** **CONGRATULATIONS TO** our NIE colleagues whose research projects were approved for funding in the 11th Request for Proposals by the Office of Education Research.

Project No.	Project Title	Principal Investigator
AFD 01/14 LCH	Implementing the 3Ps Professional Development Framework in the Design of a New Professional Development Curriculum	Lum Chee Hoo
AFD 02/14 BK	Enhancing the Pedagogy of Mathematics Teachers to Facilitate the Development of 21st Century Competencies in Their Classrooms (EPMT – 21st CC)	Berinderjeet Kaur
AFR 01/14 TLS	A Study on Developing Teacher Leadership and Engendering an Emerging Teacher-led Culture	Tan Liang See
DEV 01/14 RS	Re-designing NIE's Research Project Data Use and Management: Building Research Resources, Enhancing Research Ethics and Improving Research Practices	Rita Elaine Silver
DEV 02/14 LA	Making Sense of Social Media to Guide Research Agenda	Lubna Alsagoff
OER 17/13 WHL	Study on Why Students Who Were Offered Edusave Entrance Scholarships for Independent Schools (EESIS) Were Not Admitted into an Independent School (IS)	Woo Huay Lit
OER 01/14 OP	Community Music Education: Towards the Development of New Pedagogies for the 21st Century	Pamela Grace Costes Onishi
OER 02/14 AA	Towards Responsive Professional Development for Singapore Music Teachers. Phase 1: Mapping the Landscape	Alfredo Bautista Arellano
OER 03/14 JMF	How Do Experienced Learning Designers Differ from Novice Designers when They Design for Game-based Learning?	Jan Mingfong
OER 04/14 RB	Exploring the Functional Outcomes of Children with Hearing Loss in Singapore	Rebecca Bull
OER 05/14 TAL	Professional Learning of General Science Teachers: Epistemic Discourse and Understanding of Scientific Epistemology	Tan Aik Ling
OER 06/14 TKS	Formalising Disciplinary Literacy Teaching in Primary Science through a Writing-to-Learn Approach	Tang Kok Sing
OER 07/14 WLY	Situating and Contextualising Professional Development for Sustained Practice and Learning in School	Wang Li-Yi
OER 08/14 NHK	Examining Early Primary School Children's Self-regulated Learning Development	Ning Hoi Kwan
No. to be confirmed	A Two-tiered Approach to Supporting Pupils with Reading Difficulties in P3 Mainstream Classrooms	Tan Chee Soon

The full list of approved projects is available on the NIE website ([www.nie.edu.sg](http://www.nie.edu.sg)) under *Research@NIE*.

## New Publication

[CIEclopedia.org](http://CIEclopedia.org)



*CIEclopedia* is an online who's who database of noticeable contributors to the field of comparative and international education. By adopting an agent-centric approach to scholarship, it follows the life and works of individuals who have pitched in their share of developing a field that has evolved over decades and throughout the world. International in scope, *CIEclopedia* reflects the diverse membership of the field and their scholarship.

*CIEclopedia* was founded in 2006 by Sina Mossayeb (Founding Editor) at Teachers College, Columbia University with the support of Professor Gita Steiner-Khamsi. From 2009 to 2013, it was hosted by the Comparative Education Research Centre, The University of Hong Kong. *CIEclopedia* is now proudly hosted by OER, NIE.

With OER's Maria Manzon as its Editor, *CIEclopedia* invites contributions to this novel reflection of active learners and educators in comparative and international education studies. Submissions will be a valuable service to past, present and future generations in our field.

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