2018 NPDL Global Report

Joanne McEachen
Michael Fullan
Joanne Quinn

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New Pedagogies for Deep Learning: A Global Partnership

New Pedagogies for
Deep Learning
A GLOBAL PARTNERSHIP

WELCOME &

Acknowledgments

The views in this paper are the views of the researchers and do not necessarily reflect those of NPDL Cluster participants.

New Pedagogies for Deep Learning (NPDL) is an international initiative directed by Michael Fullan, Joanne Quinn, and Joanne McEachen. Our thanks to the Hewlett Foundation for their sponsorship of our wider deep learning work. For more information about the partnership, visit www.npdl.global.

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Contents

This report shares our collective learning as follows:

Executive Summary

As NPDL continues to grow both in numbers and in relation to the capacity of engaged students, teachers, school and wider school system leaders, parents, and the other members of its diverse global communities, *deep learning* continues to have a greater impact on the lives of learners both in school and beyond. Additional capacity building supports are making a difference not only for newly engaged participants but for all, and with each new year of engagement participating clusters are identifying and embedding new pedagogies and approaches that successfully develop deep learning competencies.

These pedagogies are widely shared through local and global *exemplar moderation* processes, which connect education professionals, students, parents and caregivers, and community members around the description of implemented deep learning experiences, their outcomes, and the embedded conditions and practices that brought those outcomes to life. The process has emerged as one of the most valuable professional learning and sharing opportunities for spreading deep learning and its outcomes throughout and between our schools and wider school systems. As a result, it will be one of the global partnership's primary focuses moving forward as we look to implement exemplar moderation in a wider number of individual schools, districts and regions. Globally, we're now in a position to gather deep learning conditions and competency ratings at multiple points in the learning process. To this point, measured *progressions* between multiple points of learning have demonstrated significant growth in students' development of deep learning competencies and in schools' development of the conditions that make them a reality, as a direct result of engagement with the NPDL framework and tools. Further, the success of local data collection processes has evidenced the need to adopt similar

processes across each of NPDL's clusters, supporting them to pursue individual measurement focuses and then share their findings throughout the partnership, so that their collective successes can make a difference for students and others globally.

After some five years of partnership-wide implementation and ongoing review, NPDL's suite of measures and other tools are currently in the process of refinement, and will be shared both throughout the partnership and publicly upon final revision. The formal review of the tools conducted in 2017 revealed that 1) the six deep learning competencies encompass those that are important for students now and in the future, and 2) the learning progressions that measure students' competency development can be streamlined to better meet teachers' measurement and assessment needs. Once refined in light of these and other findings and shared for the first time beyond participating NPDL school clusters, NPDL tools will connect a wider number of learning partners than ever before around the deep learning our students and communities truly need. We'll continue to develop that learning in partnership, and to share and collectively further the progress of learning partners around the world who are working together to progress it.

SECTION ONE

Another Year of Deep Learning

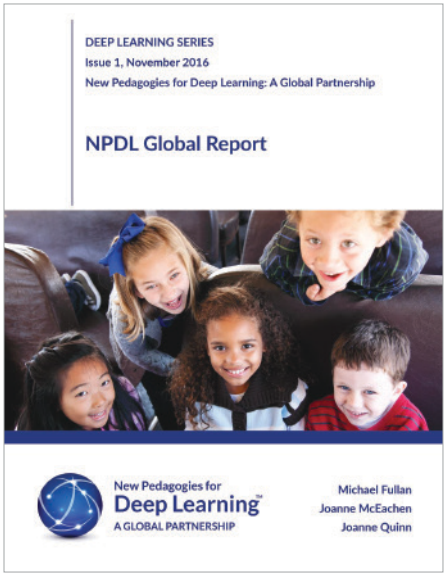
Since the publication of the first New Pedagogies for Deep Learning (NPDL) Global Report in November 2016,[1] the total number of participating schools has doubled, with the partnership now engaging some 1,500 schools in seven countries across the globe – Australia, Canada, Finland, Netherlands, New Zealand, United States, and Uruguay. Expansion has taken on different forms in each of NPDL's participating country "clusters," with Uruguay quadrupling in size and other clusters more than doubling as new districts or regions of schools or additional schools within already-engaged districts or regions have joined the network. In Canada, for example, multiple districts have expanded their NPDL participation from 10% to 100% of their schools – in all instances, experienced growth reflects the pursuit of system-wide deep learning in which the "6Cs" (character, citizenship, collaboration, communication, creativity, and critical thinking) are collective and embedded competency focuses at multiple levels of the school system.

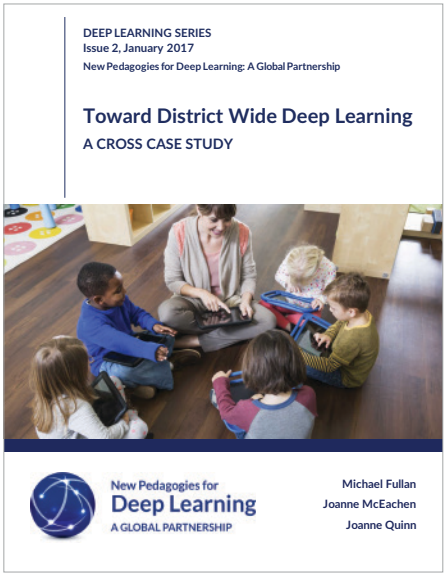
With another year and new collaborators has come a wealth of new learning and opportunities, including an ongoing series of NPDL publications, another global Deep Learning Lab, new tools and research opportunities, and a book showcasing where we are now and where we're all headed on our interconnected journeys with deep learning. What follows is only a sampling of the learning that's emerged and taken place over the course of another exciting year of progress with deep learning.

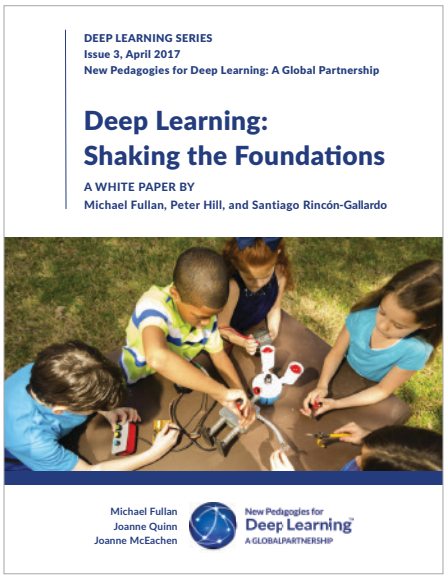
1 New Pedagogies for Deep Learning (2016). NPDL Global Report (1st ed.). Ontario, Canada: Fullan, M., McEachen, J., & Quinn, J. Retrieved from: http://npdl.global/wp-content/uploads/2016/12/npdl-global-report-2016.pdf

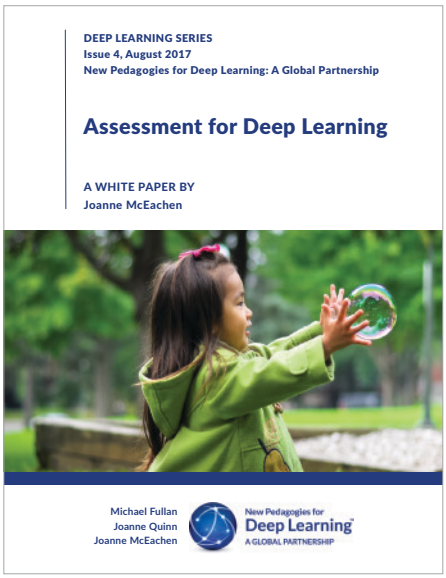
Deep Learning Series

In addition to the 2016 NPDL Global Report, 2017 saw the publication of three additional papers in the newly established "Deep Learning Series," designed to share insights and learning from throughout NPDL's clusters of schools. Issue 2, *Toward District Wide Deep Learning*, examines the deep learning implementation and growth in three Canadian school districts, focusing on how regular schools in regular school systems can change their and their districts' cultures to go deeper for all their learners.[2] The subsequent *Deep Learning: Shaking the Foundations* white paper took micro- and macro-level looks at the state of deep learning globally and its emerging implications.[3] Highlighted findings included the introduction of insights later published as "10 Ways to Get to Deep Learning Heaven," which put a finger on what exactly is "deep" about deep learning:









2 New Pedagogies for Deep Learning. (2017). Toward District Wide Deep Learning: A Cross Case Study (1st ed.). Ontario, Canada: Fullan, M,. McEachen, J., & Quinn, J. Retrieved from: http://npdl.global/wp-content/uploads/2017/01/npdl-case_study_1.pdf

3 Fullan, M., Hill, P., & Rincón-Gallardo, S. (2017). Deep Learning: Shaking the Foundations. Ontario, Canada: Fullan, M., Quinn, J., & McEachen, J. Retrieved from: http://npdl.global/wp-content/uploads/2017/07/DL-shaking-the-foundation.pdf

10 Ways to Get to Deep Learning Heaven[4]

- Going from simple to complex ideas
- Learning that is simultaneously personal and collective
- Learning that changes relationships and pedagogy
- Learning that sticks
- Learning that involves a critical mass of others
- Learning built on innovation relative to key problems and issues
- Learning that attacks inequity to get excellence for all
- Learning that engages the world to change the world
- Learning that creates citizens of tomorrow today
- Learning where young people make older people better

In *Assessment for Deep Learning*, we address growing challenges with regard to the assessment and measurement of deep learning, and share a more authentic approach to its assessment that "draws from a broad range of quantitative and qualitative indicators to reveal not only what students know, but also who they are, what they can do, and how they can continue to grow."[5]

What's becoming increasingly clear is that the time for deep learning is now. As more and more students, educators, and school system leaders respond to the call for learning that's connected to students' lives and that connects us to one another, what's shared will continue to take us to new depths of meaning and collective success. Along with what's shared in this Series, what *you* share with your learners and others every single day has the opportunity to make a difference for your own students, schools, and school systems, and others' as well.

4 As published in: Fullan, M., Quinn, J., & McEachen, J. (2017) Deep Learning: Engage the World Change the World. Corwin, a SAGE Company.

5 McEachen, J. (2017). Assessment for Deep Learning. Ontario, Canada: Fullan, M., McEachen, J., & Quinn, J. Retrieved from: http://npdl.global/wp-content/uploads/2017/09/Assessment-for-Deep-Learning.pdf

"No matter how you cut it, the time has come for concerted action… From our work in deep learning over the past five years we have seen a 'start slow, go fast' phenomenon. What you can expect is initial doubt, elements of wonderment, halting steps, and pockets of success. With good leadership, and a degree of patience, we have seen time and again a burst of development as groups and sub-groups of educators and students become more comfortable with the new way, and experience breakthroughs of insights, personal meaning, and collective enterprise… Deep learning gives every reason to join a movement that could be both personally and collectively fulfilling. The next 3-5 years will be crucial in sustaining the momentum. Our bottom line message is that this is not the time to be a bystander."

– ***Michael Fullan, Peter Hill, and Santiago Rincón-Gallardo,*** *Deep Learning: Shaking the Foundations, 2017*

NPDL Deep Learning Labs

From May 1-3, 2017, a group of over 400 educators, education leaders, community members, and students representing countries throughout the world met in Toronto, Ontario, Canada for an NPDL Deep Learning Lab (DLL) with sights set on sharing and uncovering ways to "engage the world to change the world."

NPDL Global Directors Michael Fullan, Joanne Quinn, and Joanne McEachen were joined by thought leaders including Dutch designer Daan Roosegaarde, 13-year-old Hannah Alper, author Alan November, and the Hewlett Foundation's Marc Chun, along with NPDL participants and others who led and participated in over 30 "Insight Sessions" over the course of the three-day event. Those already engaged with NPDL shared their implementation stories, successes and challenges, with presentation topics ranging from designing and assessing deep learning to taking it system wide and embedding it within a culturally responsive lens.

A prolific "deep learner" in his own right, Daan Roosegaarde shared six strategies for cultivating lifelong learners, doers and designers like himself[6].

Collaborate: Dig deep and grow our partnership.

Innovate: Be voraciously curious. Seek to challenge the status quo.

Illuminate: Shine a light on what you're learning so others can see your thinking.

Celebrate: Small wins lead to great change.

Advocate: Adopt an 'Engage the World Change the World' stance.

6 As presented at the 2017 NPDL Deep Learning Lab and adapted from: Fullan, M., Quinn, J., & McEachen, J. (2017). *Deep Learning: Engage the World Change the World*. Corwin, a SAGE Company. Pg. 14.

Strategies for Activating Deep Learners

- Support learners to be "infiltrators" and "shapers" of the future.
- Teach students to be *problem designers* – shift the thinking from "what is" to "what could be."
- Rather than just asking students to *solve*, support them to get *involved*.
- Foster the mindset that we're all *perpetual amateurs* who always have room to learn and grow.
- Believe that children will *exceed* all our expectations.
- Recognize that innovation and creativity are intrinsic elements of our humanity – *and let them shine*.

The learning continued in April 2018 with a DLL in Vancouver, British Columbia, Canada, where we joined together again to look at where we are and where we're going, and to share new insights into what's bringing us deeper. Thought leaders Jean Clinton, Pasi Sahlberg, Michael Stevenson, Marc Chun, and Rod Allen, along with other teachers, principals and leaders throughout the partnership who facilitated some 30 Insight Sessions showcasing their learning and progress, shared about the power of deep learning, its importance, and the difference it's making both in local contexts and globally. In the words of Australian Teacher Scott Millman, he and the other DLL participants have caught, and *are looking to spread*, the "deep learning bug."

While the impact of these global collaborative learning opportunities is deeply felt in the learning experienced and shared throughout the multi-day events, what's more important is the learning subsequently experienced by students in participants' countries and school systems globally, to whom educators and school leaders return with an even greater capacity to bring deep learning to life.

"Inspiring introduction for us into the world of NPDL!"

"Your conference was the most powerful professional learning I have had in my years as a teacher and administrator and served as a catalyst to spark teachers at my school."

More Ways to Build Collective Capacity

NPDL's capacity building approach is designed to provide and model differentiated, timely, transparent and responsive professional learning that supports individual schools and wider school systems to grow while also taking the global network deeper in the process.

In order to embed, grow and sustain deep learning, each individual entity and the partnership as a whole work to foster conditions such as shared ownership, enthusiasm, collaboration, innovative thinking, and knowledge building, and to develop cultures marked by celebration, pride, and mutual respect. In response to identified implementation needs from throughout the partnership, NPDL designed six transformative capacity building "modules" to support deep learning implementation in varying contexts (Defining Deep Learning; Building Precision in New Pedagogies; Using Learning Progressions; Designing Deep Learning; Assessing Conditions for Deep Learning; and Building Capacity for Deep Learning), and offers the following additional supports for all NPDL members looking to deepen their own and their students' learning.

Leadables

Lively articles great for sparking reflective conversations that relate to deep learning in each of our individual contexts.

Webinars

Virtual collaborative sessions facilitated by members of NPDL's global team connect us around valuable topics of interest in the time between Deep Learning Labs. Webinar topics have included leading learning conversations, assessment, learning partnerships and feedback, and how to optimize learning exemplars.

Feature Stories

These stories, drawn from deep learning exemplars shared by teachers throughout the NPDL partnership, describe a diverse range of learning experiences and their impact on learners' outcomes.

Virtual Collaborative Inquiry

NPDL members have the opportunity to invite and connect with colleagues around identified learning goals, using NPDL measures as a common framework for shared thinking.

Deep Dive: School Conditions

Schools looking to extend their learning and sustain the energy generated by deep learning have the opportunity to engage in a full-day, on-site collaborative learning experience designed to celebrate the school's accomplishments and identify next steps with NPDL's school conditions rubric.

Distinction Pathways

In order to recognize teachers, schools and districts that exemplify deep learning and what it takes to make a difference for their students, NPDL designed three "distinction pathways" corresponding to teachers, schools and districts, respectively. For each, the path starts with the learning, and continues with its *sharing*.

Exemplar Moderation

Explored in greater detail later in this report, the moderation of deep learning exemplars supports any school, district, or group of teachers and other education professionals to measure the effectiveness of pedagogical practices embedded in already-implemented deep learning experiences. It's a powerful professional learning opportunity wherever we are, and a great way to spread practice and learning throughout our schools and beyond.

Social Media

Regular newsletters, blogs, podcasts, and more are available for anyone looking to stay connected and up to date on exciting global learning as its occurring.

@NewPedagogies
#NPDL

NPDL Members: For modules, resources, and more on each of the opportunities above, visit the Capacity Building Support home page on the Deep Learning Hub.

Deep Learning: Engage the World Change the World

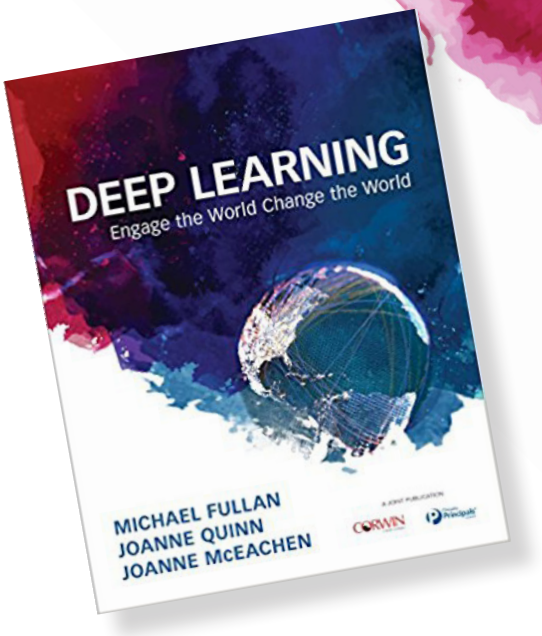
"This book offers a powerful set of ideas to enable deeper learning on a large scale. It provides examples at every level of the system – from student and teacher to classroom, school, and state – suggesting how learning may be radically redesigned to change schooling as we know it."

– Linda Darling-Hammond, President, Learning Policy Institute, and Charles E. Ducommun Professor Emeritus, Stanford University

Four years removed from the partnership's inception, this book shares the story of deep learning through the lens of the NPDL global partnership. It's been an amazing journey, and one that we realize is still in its beginning stages. But for those no longer in *their* beginning stages of deep learning implementation (and that's now a great number of schools in systems around the world), the learning emerging from their collective work with deep learning is more than enough to pave the way for the masses of deep thinkers and learners to come. For those of us already working within the NPDL framework and with its range of measures and tools, it's an opportunity to reflect on the work you and others are already doing and can do still. For those of us not yet engaged with deep learning in practice, it's an opportunity to take your practice to new depths. And for all of us, reading about and participating in our own and others' learning is a remarkable opportunity for engaging one another in ways that change the world for the better.

"Our best hope collectively is that deep learners inherit the world."

– Michael Fullan, Joanne Quinn, and Joanne McEachen, Deep Learning: Engage the World Change the World, 2017



What people are saying:

This book takes us on an exciting journey exploring why and how to deepen learning, and in so doing enables the teaching profession to rediscover the joy of teaching.
Lynn Davie, Director, Learning and Teaching Branch, Department of Education and Training, Victoria, Australia

Purchase or Download a Free Chapter here:
http://npdl.global/deep-learning-book/

SECTION TWO

A New Look for New Measures

NPDL's new measures of student, system and professional learning continue to connect partnership members around a shared language for developing and measuring deep learning competencies, conditions, and the practices that make them a reality. 2017 saw the expansion of NPDL's exemplar moderation process – a collaborative capacity building opportunity designed to connect educators and school system leaders around the measurement of pedagogical practice – at both global and local levels, resulting in the sharing of new pedagogies and approaches that best support students' development of the 6Cs. The partnership's data collection emphasis at this stage has shifted from baseline levels of development (as reported in the 2016 Global Report) to measured growth across rating periods within and, in some cases, between academic years. We'll examine case studies from clusters that have captured their and their students' progression at scale, and explore our ongoing deep learning measurement journey. Starting with the moderation process, let's take a look at how the measurement of deep learning is helping us bring it to life.

Global Exemplar Moderation

In both April and October of 2017, over 30 NPDL participants representing each of the partnership's clusters of schools connected online in the virtual moderation of submitted deep learning "exemplars," a term which refers to any written, visual or other description of an implemented learning experience, its outcomes, and the explicit practices leveraged to develop them (for more background on exemplars and moderation, see the 2016 NPDL Global Report, pgs. 20, 45-46).

The some 30 exemplars moderated during each respective moderation process were designed and submitted by NPDL teachers, with many being selected through individual school or cluster moderation processes for moderation at the global level. As measured by moderators, the four elements of deep learning design – learning partnerships, learning environments, pedagogical practices, and leveraging digital – are still widely *emerging* in the learning experienced in schools and described in shared exemplars. The following explorations of each of these interrelated pillars of our learning model illuminate where we are now as a partnership, as evidenced in submitted exemplars, and where to focus our attention for deeper outcomes in the experiences to come.

Learning Partnerships

Students and teachers aren't only partnering with one another, but successfully and creatively finding ways to partner with others between classes, schools, and even countries, and with parents and other community members outside classroom walls. Students are becoming increasingly engaged in determining, designing and assessing their learning. Increasing *equity* in learning partnerships is deepening learning not only for students, but for teachers, parents, community members, and all others with whom students' learning is shared.

Future Focus: Ubiquitous partnership is the goal – wherever there are instances in which our learners aren't engaged as active partners in their learning, it's important to look for ways to engage them all throughout the collaborative inquiry cycle. In addition, when students drive their learning they drive learning partnerships – where are there opportunities to support students to further their learning through the pursuit of relevant collaborators in their classes, schools, communities and beyond?

Learning Environments

Shared experiences demonstrate cultures of learning in which both students and their learning partners are supported to try new things, make mistakes, and learn from them in order to develop intended outcomes. Everyone, from students and teachers to school leaders and community members, is expected and supported to *learn*. The intentional expansion of learning environments into powerful physical and virtual spaces is connecting learners in interactive environments most suited to the intended learning at hand. The 6Cs are being fostered in learning experiences that respond to identified student needs and are driven by their interests.

Future Focus: Moving into and out of diverse and varying learning environments doesn't have to disjoint the learning. For seamless experiences, focus on the learning first and the "spaces" second – once we know the outcomes students need to develop, it's a matter of determining which environments will best bring those outcomes to life, when, and in what ways.

Pedagogical Practices

Learning partners are working intentionally within the collaborative inquiry process to assess, design, implement, and measure, reflect on, and change learning in ways that identify and respond to students' often widely varying needs. Teachers are effectively scaffolding learning in accordance with measured levels of development, and students are taking on active roles throughout the inquiry cycle through the processes of co-design and -implementation, the assessment of their own and others' learning, and even measurement of their competency development using "student-friendly" versions of the deep learning progressions.

Future Focus: While shared and often co-created success criteria are an emphasis in the majority of shared experiences, there's further opportunity to more explicitly connect students not only to their *learning*, but to their learning *outcomes*. How can a deeper and more explicit engagement with the 6Cs in conjunction with intended knowledge or other curriculum focuses better support learners to develop and leverage one in the direct development of the other?

Leveraging Digital

Students and their learning partners are leveraging digital technologies to gather information, communicate and connect with others, create new tools and learning, and otherwise enable or enhance their development of the 6Cs. Students are designing ways to generate timely and accurate learning feedback to inform future directions for learning, and utilizing digital tools as a lever for learning anytime, anywhere, and with anyone. The global focus is shifting from the digital tools themselves to identifying and leveraging suitable technology in the direct development of deep learning competencies and other intended learning outcomes.

Future Focus: One of the most powerful approaches for deepening students' learning is supporting them to share it with others, and digital technologies offer tremendous opportunities for making that sharing a reality. Whether it connects students and others locally or on a global scale, how can digital tools support your learners to share what they've learned and are learning with others, in ways that continue the learning and deepen it as a result?

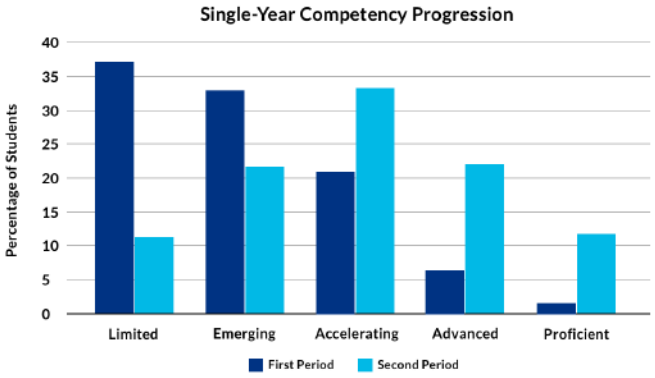
Given its value in uncovering and spreading proven pedagogies that are developing deep learning competencies, exemplar moderation has emerged as one of the most important professional learning experiences for deepening practice and, in turn, students' outcomes. For this reason, one of our primary collective "future focuses" is to embed moderation processes within a greater number of schools, districts and systems throughout NPDL, so that the value of moderation on a global scale is felt in a greater number of individual schools and classes as well. How might moderation take hold and make a difference in your own individual context? Look to the Deep Learning Hub for the resources you'll need, and to its published exemplars for an even closer look at successful deep learning assessments and practices.

Deep Learning Progression and Conditions Ratings

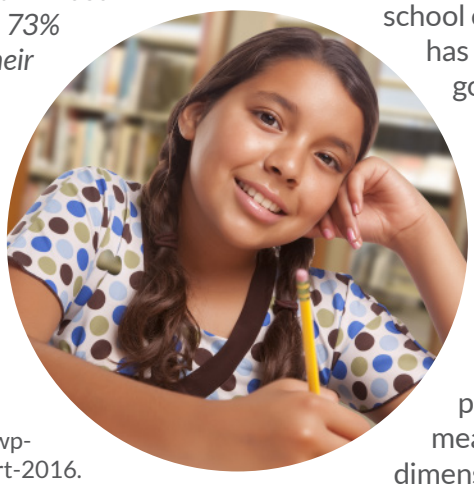
Throughout NPDL, teachers use *deep learning progressions* to measure individual students' development of the 6Cs, and principals and other school leaders use the *school conditions rubric* to measure their schools' development of the conditions that foster deep learning. In NPDL's 2016 Global Report, we shared students' and schools' baseline levels of development in relation to the 6Cs and school conditions, respectively, which both reflected *limited* or *emerging* global progression (on a scale of *limited*, *emerging*, *developing*, *accelerating* and *proficient*).

Traditional pedagogical practices weren't effectively developing deep learning competencies, and schools just beginning their journeys with deep learning, naturally, had yet to widely establish the conditions that support its growth. We also shared the journey of one group of NPDL schools, in which progression ratings were submitted for over 150 students at multiple points in the academic year to measure their progression. Of these students, *73% experienced measured progression in their development of focus competencies.*[7]

Drawing from NPDL's Uruguayan cluster as an example, the cluster has since placed a similar emphasis on measuring progression at multiple points in the learning process. In progression ratings data shared by the cluster and submitted by around 450 teachers, over 30,000 matched ratings were collected for nearly 10,000 students throughout the Uruguay cluster. The graph below demonstrates students' growth between rating periods, as measured across the deep learning progressions.



Ratings at the *limited* and *emerging* levels decreased by 26% and 11%, respectively, and ratings at the *developing*, *accelerating* and *proficient* levels increased by an average of over 12%. As demonstrated here and in other instances in which students' deep learning progression has been tracked and recorded at multiple points in their learning journey, work with new pedagogies and measures of deep learning are changing outcomes for students.



Used alongside the learning progressions, one of the measures making it happen is the school conditions rubric. The rubric has six dimensions – vision and goals, leading deep change, creating a learning culture, capacity building, new measures and evaluation, and leveraging digital – that encompass the conditions underlying the development of the 6Cs. Since 2014, the NPDL Australian cluster's participating schools have measured their progress on each dimension. As demonstrated by the

7 New Pedagogies for Deep Learning (2016). NPDL Global Report (1st ed.). Ontario, Canada: Fullan, M., McEachen, J., & Quinn, J. Retrieved from: http://npdl.global/wp-content/uploads/2016/12/npdl-global-report-2016.pdf. Pg. 17.

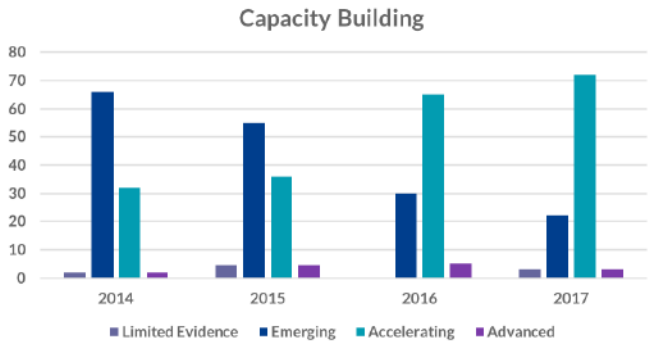
graphs on the following page, on a scale of *limited*, *emerging*, *accelerating* and *advanced*, the majority of schools were rated at either the *limited* or *emerging* levels across all dimensions in 2014. By 2017, the majority of schools rated themselves at the *accelerating* level across all dimensions excluding new measures and evaluation. The growth across each dimension for the cluster as a whole is illuminating – deep learning takes time, but with a focus on the competencies and conditions that are important for learners, schools are successfully fostering both.

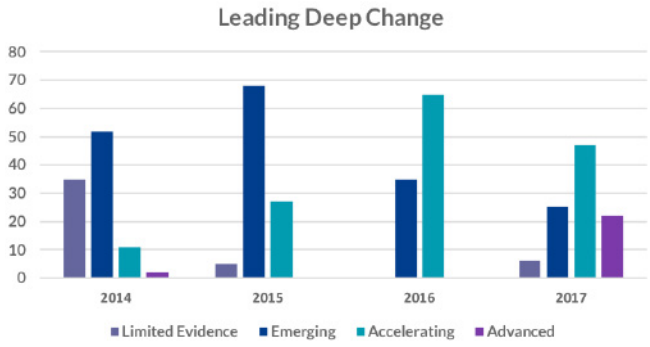
On the leveraging digital dimension, the amount of schools that rated themselves at the *limited* level fell from above 80% to under 10% between 2014 and 2017. While the cluster experienced a similar shift at the *limited* level for the new measures and evaluation dimension, it remains the most challenging dimension not only in Australia, but in every cluster throughout the partnership. Measures of deep learning are demanding – they call for a wider and more diverse range of evidence than we're often used to collecting in our school systems to determine levels of performance, because what we're measuring is *deeper* than what's traditionally measured.[8] It makes sense that it takes time to build measurement capacity, *and it makes sense that schools and individuals are building it* – over time, and with an unrelenting commitment to improvement. In order to further support that process of improvement, and as a result of the learning to emerge from over four years of working with new measures of deep learning globally, our measures have been refined, our approach to data collection has shifted, and the measures are ready for sharing worldwide.

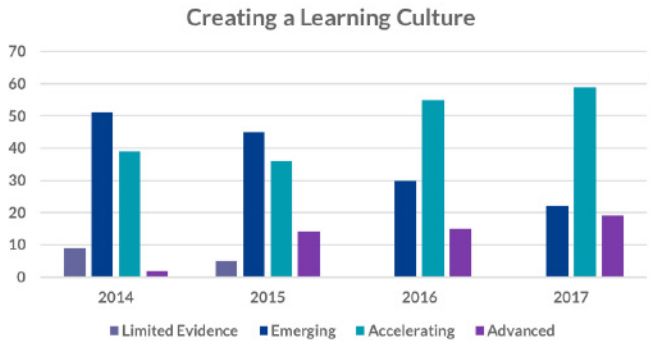
"deep learning takes time, but with a focus on the competencies and conditions that are important for learners, schools are successfully fostering both."

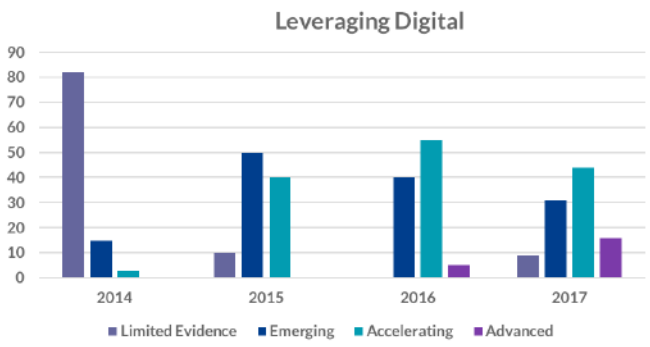
8 See: Davidson, E. Jane and McEachen, Joanne. Making the Important Measurable, Not the Measurable Important: How Authentic Mixed Method Assessment Helps Unlock Student Potential – and Tracks What Really Matters. Seattle, WA: Learner First, 2015. Print.

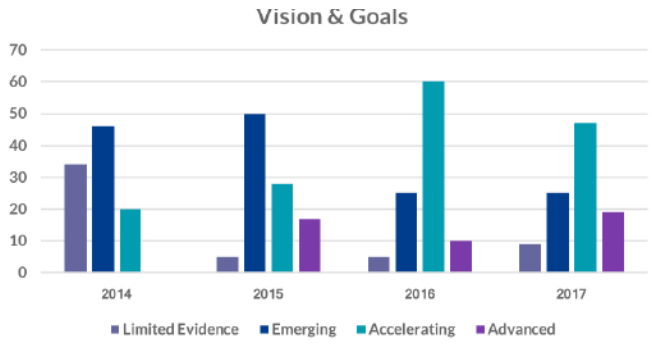
Australian Cluster Conditions Ratings Growth

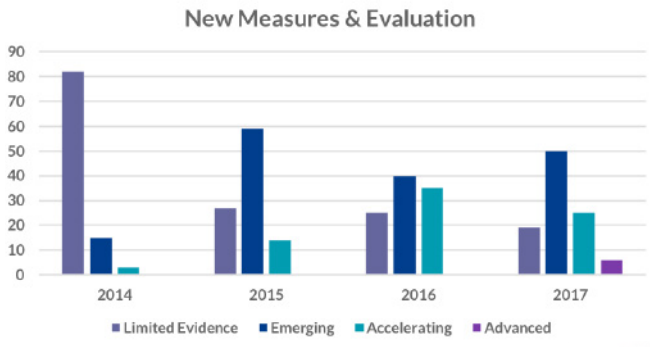












Partner Tested, Partner Reviewed, World Ready

At its inception, the NPDL partnership made a commitment to developing new measures of deep learning, implementing and trialing them in countries across the globe, collectively reviewing them for clarity and impact, refining them as necessary, and then disseminating them not only throughout participating clusters but for general use as well. In 2017, each cluster leadership team received a Suite of Tools review template with which to capture and share the feedback collected throughout their clusters over the course of their engagement. The "Suite of Tools" consists of the following measures and other tools:

- *Deep Learning Progressions* – measure student progress in developing the 6Cs.
- *Deep Learning Conditions Rubrics* – measure the school, cluster and system conditions required to bring deep learning to life.
- *New Pedagogies Learning Design Protocol* – supports teachers and other learning partners in the process of designing deep learning experiences.
- *New Pedagogies Learning Design Rubric* – measures the effectiveness of deep learning experience design.
- *Teacher Self-Assessment* – supports teaches to assess their capacity to design deep learning experiences that deepen learning for every student.

Collected feedback identified and evidenced key findings and areas of need across the set of tools, and most especially in relation to the learning progressions. The following key findings reflect the formal reviews submitted by cluster leadership teams in 2017, along with additional evidence gathered throughout the partnership's existence:

1. The 6Cs are the competencies that matter for students both in school and beyond – they encompass what's important for students to be able to *do* to succeed now and throughout their lives.

2. While the learning progressions capture each of the 6Cs in the detail required for their assessment and measurement, their dimensions can be further synthesized or streamlined without infringing on neither their intent nor the necessary interconnectedness within and between competencies.

These and other key findings continue to inform the ongoing review of NPDL tools. After the revised tools have been finalized, they'll be shared throughout NPDL's clusters and schools.

What's next for NPDL? *Greater and greater depth*. The partnership model and our collective work together have brought us a long way already, and that journey continues.

Clusters are identifying individual new measures research and development focuses with a continued commitment to sharing their learning throughout the global partnership, and the success of localized data collection processes (as evidenced in the earlier progression and conditions ratings case studies) has inspired a shift away from centralized data collection on the Deep Learning Hub and toward bespoke data collection systems in each individual cluster. Collecting data locally and then sharing it at the NPDL global level will enable learning and data collection focuses consistent with the varying emphases and privacy considerations unique to each individual context, while also allowing what's focused on in those individual contexts to make a difference for students globally. Further, as we move to the next phase of our work we're connecting with countries and agencies also developing new measures of the 6Cs as outcomes of deep learning. The hypothesis is that student graduates who are proficient in the 6Cs are more likely to flourish in the increasingly complex, unpredictable global world. The Organization for Economic Co-operation and Development (OECD), for example, has established a multi-year working group to develop such measures, and we and several of the countries we work with are participating in these developments.

NPDL is more than a set of tools – *it's a partnership*, and that partnership will continue as long as there are educators and other leaders set on collaborating to bring deep learning to life.

The following section celebrates the students, teachers, school and school system leaders, parents, and other community members in seven clusters around the world who are already doing just that.

SECTION THREE

A Journey Around the World

The depth of learning emerging from all throughout our partnership reflects an always growing understanding of and capacity with NPDL's framework, measures and processes. The learning experiences highlighted here from each participating country represent a fraction of the deep learning taking place in NPDL's clusters of schools, but their collective message is powerful – widely varying school systems with a diverse range of learners and system requirements are using the same measures and pedagogical approaches to develop students' deep learning competencies. Let's take a quick look around the world at what deep learning looks like in action.

Australia

At Rangeview Primary School in Melbourne, Australia, learners' interest in the "spooky stories" they'd been reading sparked their decision to create their own.[9]

Rather than diving straight into the writing, they chose to utilize their knowledge of Minecraft, a video game that allows for construction in a 3D world, to create the setting of and give first life to their stories. Learners' Minecraft creations were used to create story boards, which then framed the writing of scripts and subsequent video recording of their stories over the Minecraft settings. Learners' pride and excitement led them to publish their videos on YouTube to reach an "authentic global audience," and they shared them through QR codes on advertisement posters. Peer- and self-assessment were integral components of the experience every step of the way, with learners regularly seeking and providing support and feedback to deepen their creative outputs.

Notice the "flip" and the deep learning it enabled. Rather than starting from a position of working in Minecraft, students identified learning goals first and then looked to technology to support them to reach them. It's natural to look to dive straight into the main assessment focus of a given experience – in this case, the spooky story script. But simply adding one assessment to the mix – the creation of spooky worlds in Minecraft – directly deepened learners' performance through the direct development of deep learning competencies. In this experience, digital technologies enabled competencies like creativity, communication and collaboration, which in turn strengthened learners' figurative language, vocabulary, and overall writing outcomes. Understood through the lens of practice, the digital learning environment allowed for partnerships between students, wide-ranging assessment, and the measurement of deep learning competencies.

"From this narrative writing piece, I found that students who were reluctant writers wanted to write and were positive about their writing experience. I noticed students practice reading aloud and read to one another, wanting feedback to better their work.

With Minecraft, the 'experts' were happy to give advice, enter each other's worlds to help build something, and assist in creating special effects.

9 This case comes from a learning experience shared by Nicole Barnes, a Teacher at Rangeview Primary School in Australia.

Conversation prompted [learners] to improve their spooky house, which in turn enabled students to write a spooky story they hadn't thought of before. Many ideas [were] shared about how to create sound effects, and [about] the use of onomatopoeia.

This was not only a learning experience for my students, but for me as a teacher. Their understanding was far better than mine, and their imagination took over with the possibilities they understood." (Nicole Barnes, Teacher)

"It was easier to write the story after building the spooky house. I used imagination to create and build something that I normally wouldn't, but in Minecraft it is possible. I enjoyed teaching others about Minecraft." (Student)

"I liked how we could learn with each other in Minecraft. If I needed help or if I needed to help others, we entered into each other's worlds and helped that way. It was cool. I thought I knew a lot about Minecraft, but working with others I learned much more. I like writing, but knowing that my story would be published on YouTube made me want to write better." (Student)

Canada

As demonstrated by learning partners at Stirling Public School in Ontario, Canada, work with deep learning doesn't strictly facilitate *human* connections.[10]

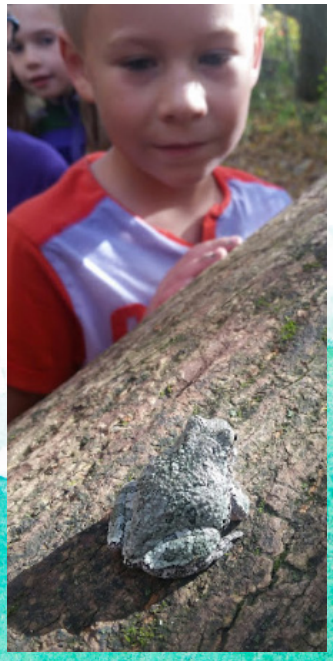
Teacher Terri Kirkey's grade-two class has two primary pillars: 1) fostering a culture of inquiry and 2) celebrating difference makers. The learning environment is such that students are supported to "wonder" and explore their interests, and even to be "experts" in areas they already know a lot about. Students talk about what it means to make a difference in others' lives and the world, look to people in their local and global communities who are doing just that, and explore ways *they* can make a difference with their own learning.

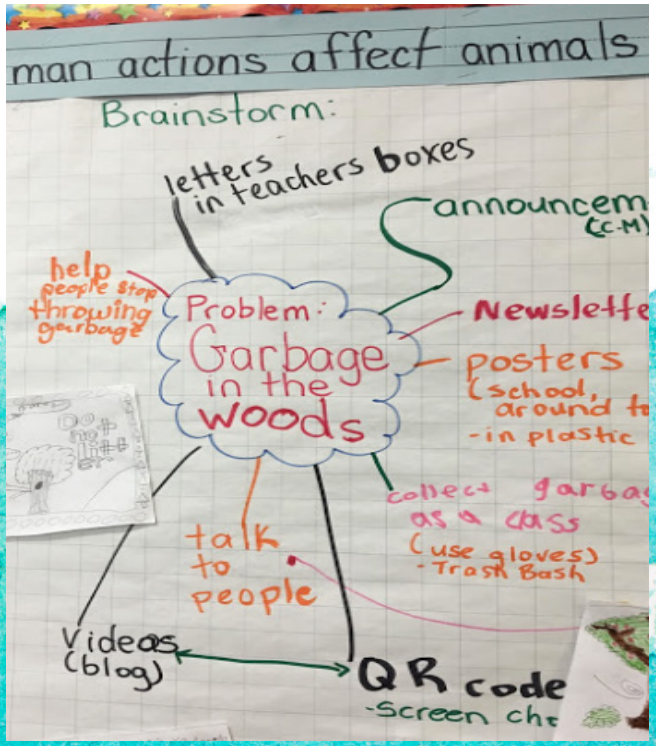
Forming curriculum links in Science, Reading, Writing, Oral Communication, and Media, and with an emphasis on the citizenship competency (particularly showing a genuine interest in human and environmental sustainability), learners set out to develop their sense of awareness for the natural environment and the world around them, develop their sense of responsibility as stewards of the earth, contribute to collaborative discussions and work collectively for solutions to environmental problems, and become more resourceful in answering their questions and wonderings. The big ideas?

1. Human and animal lives are interconnected.
2. Our actions and human choices affect the world around us, including the animals that live in it.
3. We are responsible for making a difference.

Throughout the ongoing, year-long inquiry, students engaged intentionally with the inquiry cycle and made connections between states of matter and air and water systems. They ventured into their "Learning Forest" throughout the inquiry process to learn more about the animals in their very own backyard, and decided it was their responsibility to protect them and to be more knowledgeable about who lives in their forest. They celebrated that learning can happen anywhere at any time, and tried to think of the learning environment as the "3rd Teacher." Building

10 This case comes from a learning experience shared by Terri Kirkey, a Teacher at Stirling Public School in Hastings and Prince Edward District School Board in Canada.





on interconnected assessments throughout the year, student curiosities and questions drove the direction of the learning, and they documented that learning on their "Learning Journey Wall." Students communicated their learning to parents and others weekly through their class blog, directly engaged parents in their inquiry throughout the year, and used a final assessment as an opportunity to share all they'd learned about why it's important to take care of our water.

"As we approached new learning, we often asked the question, 'So what?' Why are we learning this? Can we connect this new learning to our past learning experiences, and how can it shape our learning for the future? We celebrated connections between what we already knew and what we learned, and began to recognize that these connections help us to deepen learning." (Terri Kirkey, Teacher)

"Of course we [visit the forest]! We visit to learn more about our animals and take care of them... like our beaver!" (Student)

"My child's engagement and excitement for outdoor inquiry-based learning… has generated a lot of great dialogue at home. [My son] has expressed that learning in the forest is really interesting and exciting. He stated that he loves to spend time with nature and discover new things. His favorite part is experimenting with stuff and trying new things with nature. [He] feels that he can think differently in the forest and that he has learned a lot about things he didn't have much knowledge about before." (Parent)

Finland

At Oulujoki School in Oulu, Finland, the city-wide emphasis on wellbeing led learning partners to develop a school-wide experience connecting wellbeing, curriculum goals, and deep learning competencies to the lives of every student.[11]

The driving question at the outset of the learning experience was "What does the word 'wellbeing' mean to you?"

"What does wellbeing mean to you?"

The question was presented to the parents' council and to the student council as well, the latter consisting of two members of each of the school's classes. Student council members went back to their classes with the same question and gathered students' ideas, and all partners' thoughts were then synthesized to uncover the following key dimensions of wellbeing:

1. Rest and sleep
2. Exercise
3. Health
4. Culture
5. Safety

In order to learn about and develop in each of these areas, students and their parents and teachers brainstormed about which community partners might best support their learning. After reaching out to a variety of potential community partners, over 200 workshops were collectively decided on, developed, and offered to learners, who attended workshops based on their own interests and needs. After the experience, the learning continued with learners designing and hosting their own workshops for other students, sharing their own talents and gifts in the direct development of others'.

Students kept a "wellbeing diary" throughout the experience...

Students kept a "wellbeing diary" throughout the experience, in which they recorded or described their hours of sleep, exercise, and social time. At the end of the experience, students analyzed their diaries and determined a "personal trainer plan" aimed toward how to improve their wellbeing. By connecting the curriculum to a community-wide goal, the deep learning competencies, and the lives and interests of each individual learner, students developed as learners and community members and in ways important both inside and outside of school.

11 This case comes from a learning experience shared by the teachers of Oulujoki School in Finland.

"Our new national curriculum emphasizes the deep learning skills… We have [just] started with the new curriculum, so [the] process is still at its early stages, but we have started talking about these competencies with the students and parents… This learning task was one of the first steps toward the new learning culture in our school." (Teachers)

Netherlands

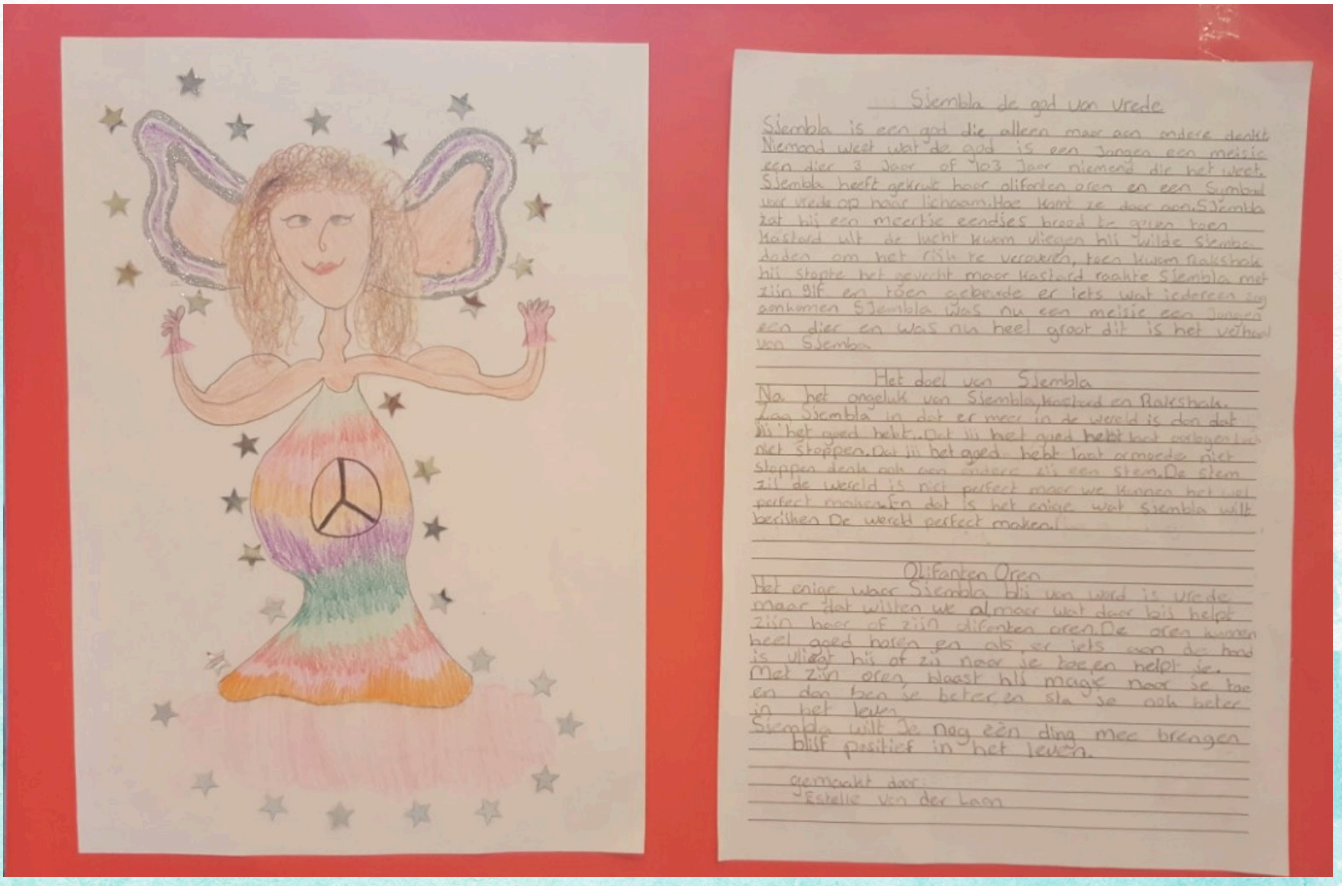
At OBS de Harpoen, kindergarten through sixth-grade students set out to learn about the major religions of the world and to share their learning with others.[12]

Based on initial pre-assessment data, it was determined that there was a significant difference in students' levels of knowledge in relation to religions and cultures that differed from their own. Working collaboratively as a design team, teachers developed a unit centered on developing students' understanding of religion through a range of cross-curricular assessments and through the development of key dimensions of the citizenship competency as well.

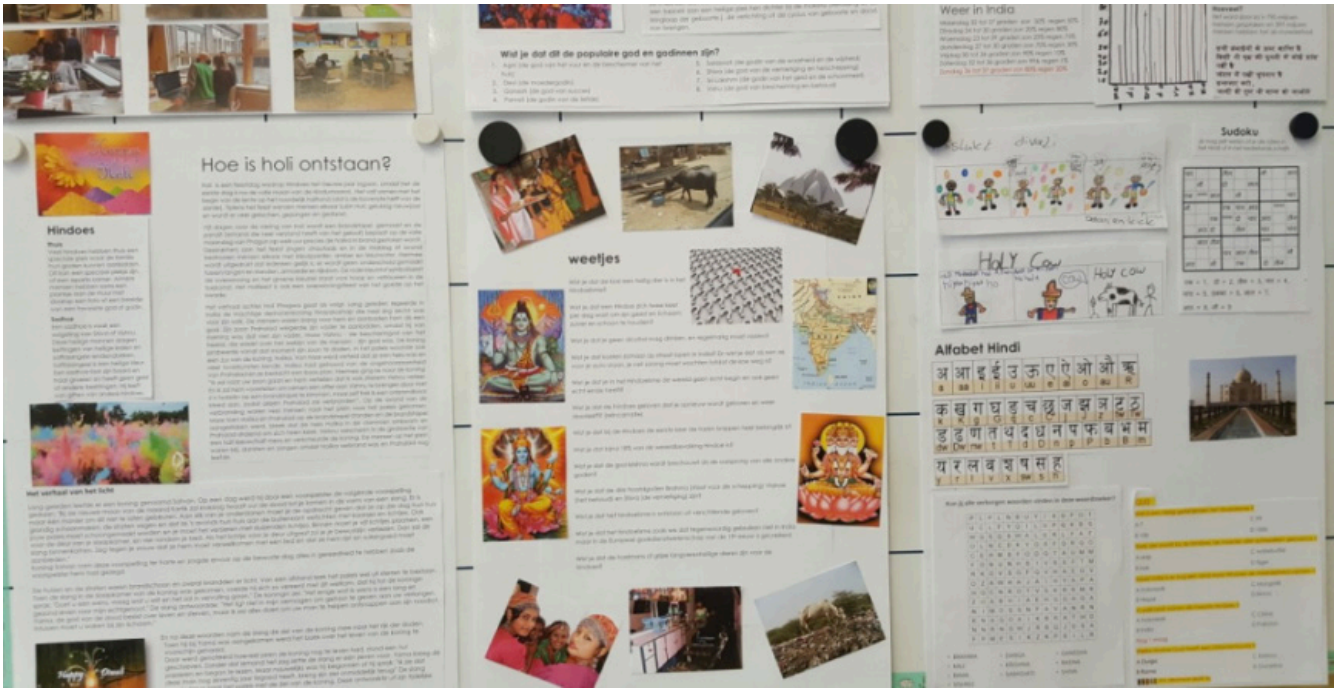
...developing students' understanding of religion...

After kicking off the inquiry with a brainstorm assessment built around the learning experience's key themes, classes throughout the school determined religions of focus. The final assessment they chose to work toward was a school-wide newspaper highlighting each class's learning for everyone to read and learn from, called the "*Just Believe It (JBI)*."

Individual assessments throughout the experience included the identification of relevant research questions, written reports, a visit to a community mosque, interviews with and visits from religious leaders in the community and "experts" from students' own families, and mind maps to support students to connect and



12 This case comes from a learning experience shared by learning partners at OBS de Harpoen in the Netherlands.



visually represent their learning. In addition to learning about the religions themselves, students engaged in valuable collaborative learning around journalism and the production of newspapers, through which students determined what to include in their newspaper and co-researched and -developed articles for inclusion in the JBI.

Cross-curricular, collaborative, and personally relevant learning, an authentic approach to assessment that incorporates a wide range of assessment data to determine levels of progress and performance, and the creation of a school-wide newspaper to share and showcase learning – all represent powerful approaches to deepening learning, most importantly the value of sharing our learning with others.

New Zealand

In Christchurch, New Zealand, seven schools working with the NPDL framework co-designed a project that would connect to students across age groups and support their emerging theme of students as "change makers."[13]

Focusing on the NPDL citizenship competency and aligned with the competencies of the New Zealand curriculum, collaborators designed a learning experience around the story of Parihaka and the Māori people's peaceful resistance throughout New Zealand's history. The big ideas of the experience were that change can be brought about by peaceful means, people take action individually and collectively in response to community challenges, those actions have consequences for communities' histories and present and future states, and students are citizens of the world who can make a meaningful difference and seek social justice. The driving question: "*What is something you would like to see changed to have a positive impact in your world or the world of others, now and into the future?*"

"What is something you would like to see changed to have a positive impact in your world or the world of others, now and into the future?"

To kick off their learning journey, students collaborated with the local Māori community at the site of Parihaka to share their learning intentions and the reasons behind their focus on Parihaka, and the community provided them with important background information and some of the resources they needed to initiate their learning. Students collaborated with one another and their community throughout their inquiry into the Māori people's peaceful resistance and its significance, presented speeches showcasing their learning and their emerging roles as change makers, and celebrated and shared their learning at a community-wide celebration day. Each school designed their own spin-off projects and other assessments along the way, all built around the impact that students can make in their schools, the lives of others, and their wider communities. Students' levels of development on two dimensions of the citizenship competency were measured pre- and post-experience, with students demonstrating significant growth along the progression for each dimension and the competency as a whole. Working together to solve challenges of personal and cultural relevance, learners developed key curricular knowledge and competencies while developing as citizens capable of making a real difference both now and in their futures.

13 This case comes from a learning experience shared by Addington Primary School, Cashmere Primary School, Christchurch South Intermediate, Sacred Heart Primary School, Thorrington Primary School, West Spreydon Primary School, and Somerfield Primary School in Christchurch, New Zealand.

"When you take the story of Parihaka back to your schools talk about… that our children are absolutely important to our communities, that all children need to be heard, to be respected, to have a say in the way things happen in their lives." (Māori Community Partner)

"Working together collaboratively in this way has meant that our cluster goal of equal opportunities for all our students no matter what school they attend has truly been met. All our students have benefitted from us working together and have knowledge that they can take forward with them into the future." (Teacher)

United States

In Wendy Atkinson's fourth-grade class at Lucille Umbarger Elementary School, a new focus on collaborative inquiry exposed an opportunity to identify or design new materials to support students to learn more deeply through the inquiry lens.[14]

Focusing on the forms of energy, rather than using an already-existing textbook students and their learning partners decided to create their own. After identifying and exploring case studies relating to various forms of energy, students determined the energy form they were most passionate about and formed groups based on their shared interests.

"students determined the energy form they were most passionate about"

In addition to groups' explorations of wind, geothermal, solar, electrical, and other forms of energy, a visit to the local SPARK Museum "sparked" one group's interest in the Tesla coil. They determined that their contribution to the textbook would be a chapter dedicated to their visit to the Museum and to detailing what the coil was originally intended for, the purposes it serves now, and why it didn't quite live up to Nikola Tesla's original vision. Other groups took a similar research-based approach to the writing of their chapters, focusing on key points of information about their chosen energy, its uses and benefits for humans, and its cost and sustainability.

The end result? A published digital textbook donated to the school library and for use by future fourth-grade classes for years to come. In this way, students' learning isn't only leveraged in the support of one another's learning, but in the support of deep learning that's student centered and student designed, and that's highly sustainable in its own right.

14 This case comes from a learning experience shared by Wendy Atkinson, a Teacher at Lucille Umbarger Elementary School in Washington State, United States.

Uruguay

A group of learning partners at a school in NPDL's Uruguay cluster leveraged the value of robotic technologies in addressing a challenge of global importance.[15]

In light of the Food and Agriculture Organization's (FAO) declaration of the "International Year of Pulses," learners set out to study and address the problems associated with sustainable food access and production. Research identified issues in the areas of modern family life, in which the amount of time spent in homes makes it challenging to care for plants, and space, given the effects of rural migration and urbanization in limiting the feasibility of growing our own food. A driving question emerged: "*How can you plant legumes and grow them without care?*"

"How can you plant legumes and grow them without care?"

And so did the answer: "Programming them. Although plants cannot be programmed, a computer can be programmed, which leads us to the search for an interface between the machine and the plants."

Framed within the curriculum areas of geography, science, and digital technologies, the learning experience was designed to develop learners' perseverance and resilience, creativity in searching for and developing novel ideas and solutions, and collaborative capacity through engagement with digital technologies. Students designed a small greenhouse complete with a drip irrigation system, and which allowed for more hours of artificial light. Partnering with a student's parent working in the field of systems engineering, learners defined the variables that can be manipulated to enhance plant growth and explored possibilities for designing a device that controls them. They identified a robotics kit already in production that would provide the programming capability they required, and then ran into another challenge – they didn't have one. Students reached out to a nearby Civil and Systems Engineering Center for support, beginning a continuing partnership between learners and the engineers at the Center. The Center expressed that its technology wasn't only at their disposal for solving this specific challenge, but that learners would always be invited to propose and participate in new projects in the field of robotics.

"We advanced in the collaborative work within [our] group and… with people outside our educational center, [raised] awareness of young people about robotic engineering, and [developed] citizens who contribute to society in different fields from the technological area." (Alejandro Do Santos, Teachers)

What might similar experiences look like in your own individual contexts, and how can you support your students to use their learning to make a difference in others' lives and the world?

15 This case comes from a learning experience shared by Alejandra Do Santos, a teacher in the Uruguay cluster..

Concluding Summary

There's no better time than now to bring deep learning to life.

While there's a lot of ad hoc work on deep learning involving individual schools, very little embeds strategies from the outset to go to scale with whole districts, municipalities, states and provinces. The work of pioneering learning partners in NPDL's Australia, Canada, Finland, Netherlands, New Zealand, United States, and Uruguay clusters and elsewhere has demonstrated what it takes to make deep learning a reality as a *system endeavor*. The picture that's emerging comes into greater and greater focus with each new year of working together. The outcomes of our collective work continue to speak to the viability of a global partnership approach to the measurement and development of deep learning competencies, and that approach will be important as long as the 6Cs are competencies that matter no matter where we are in the world. For those of you working to develop these competencies in your own individual context, your work is informing the direction of education globally and leading to the design of deep learning measures and other tools that are ready to be shared with the world.

The outcomes of our collective work continue to speak to the viability of a global partnership approach to the measurement and development of deep learning competencies that matter no matter where we are in the world.

Continue to work with and for your learners and to share your learning every step of the way, and celebrate the capacity of collective deep learning as it continues to make a difference in the lives of students and the world.

Contact Us

Contact us or see our regular newsletters, blogs, podcasts, and tweets to find the support that's all around you.

@NewPedagogies; #NPDL

Email
info@npdl.global