

Chapter 7

COLLABORATION COUNTS

Inquiry That Shifts Practice

Cultivating Collaboration and Capacity

Of all the conditions that fuel deep learning, collaboration is at the heart of them. It is not collaboration as an end in itself (people can collaborate to do nothing or to do the wrong thing). Because deep learning involves innovation, and highly focused and specific new practices, it requires means for developing and accessing good ideas. If teachers are to make a rapid shift to using the new pedagogies, they need support from working with others to identify effective practices in their repertoire and to push new thinking and innovative practices. In a recent study of deeper learning in high schools, Jal Mehta (2016) noted,

With all the talk of 21st-century skills and deeper learning, you might think that we have moved into an era where doing this kind of teaching and learning was the rule and not the exception. That couldn't be further from the truth. We can hope someday that we move to a world in which the larger systems are organized to incentivize and support deep learning, but we are not living in that world today. This means that teaching in the ways that promote deeper learning for all students is a subversive and countercultural act.

While there will always be the teacher outliers, the pioneers who are able to transcend the system and create pockets of excellence, we are interested in how to help large numbers of teachers, ultimately all teachers in a school, district, or jurisdiction, take on the new pedagogies that foster deep learning. We cannot rely on individual teachers to turn the tide one by one, but rather need an approach that mobilizes whole schools, districts, and systems to rethink their practice and provides models for that reflection and action planning.

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“Alone we can do so little; together we can do so much more.”

—HELEN KELLER

If the teachers and leaders are not thinking deeply, it's unlikely they will create those conditions for their students.

Schools that are on the move toward building precision in deep learning begin by cultivating a *culture of learning* for both the educators and the students. If the teachers and leaders are not thinking deeply, it's unlikely they will create those conditions for their students. The schools and districts that are cultivating cultures of learning and moving most quickly with the new pedagogies build capacity using a range of strategies.

Strategies for Cultivating a Culture of Learning

- Establish norms and relationships that foster transparency of practice
- Build common language and skills in using a research-based instructional repertoire
- Create intentional mechanisms for identifying and sharing innovative practices
- Provide sustained opportunities for teachers to build their capacity—knowledge and skills—in using the new practices with feedback and support

What Is Capacity Building?

We started using the term *capacity building* over a decade ago to illustrate that much more than professional learning was required to make substantive long-lasting change in classrooms, schools, and systems. *Capacity* refers to the skills and competencies that individuals and groups must acquire to accomplish something of value. Thus mobilizing and sustaining whole system change consists of

collective capacity, which we define as the increased ability of educators at all levels of the system to make the changes needed to improve results; and

capacity building, which is defined as the process of developing the knowledge, skills, and commitment of individuals and organizations to achieve improved results.

Capacity building is still a broad term, so it is essential that schools and districts assess starting points and then identify precisely the content for their capacity building efforts. The four components of the *coherence framework* can provide an organizer for identifying the sets of skills and knowledge that must be developed in any organization focused on continuous improvement and innovation.

Four Areas for Capacity Building

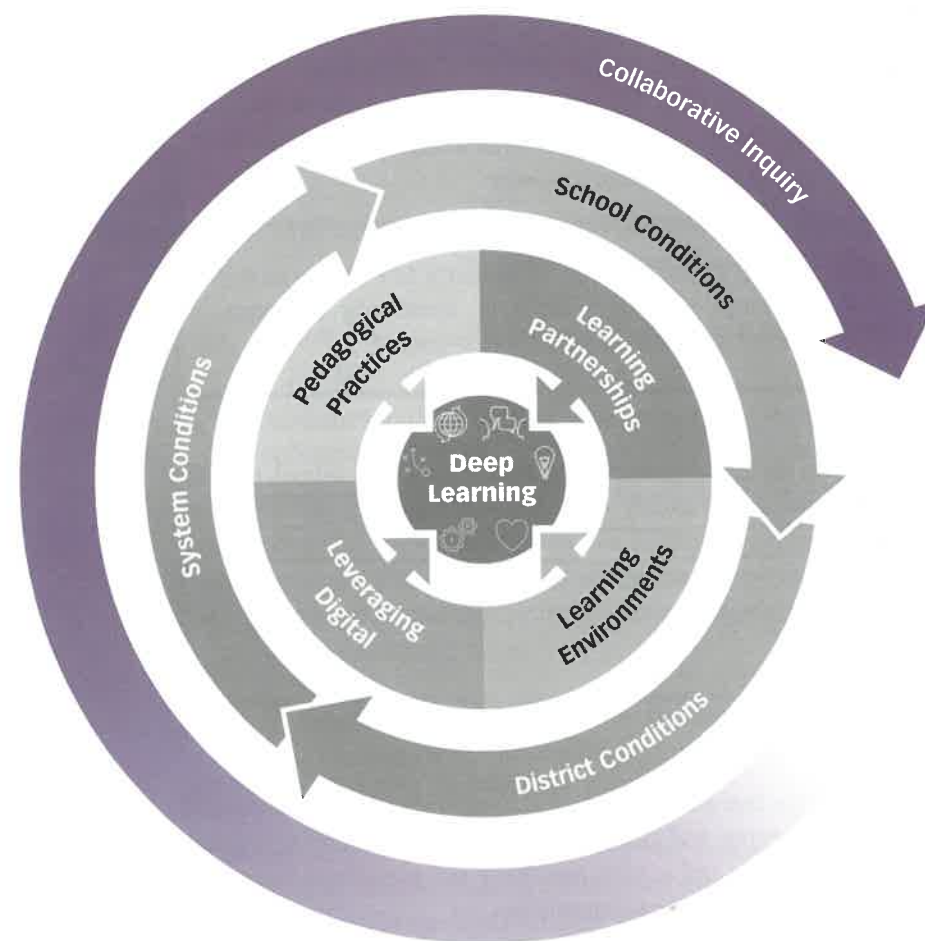
1. **Change leadership**—building shared focus, strategy, and commitment of diverse groups
2. **Collaboration**—developing relationships and cultures of learning that *learn from the work*
3. **Pedagogy**—increasing precision in pedagogical practices that deepen the learning for all
4. **Assessment**—expanding skills in identifying evidence, monitoring progress, and measuring impact

Transforming the learning-teaching process requires a sustained, multidimensional approach to capacity building that *cultivates a culture of learning while fostering the acquisition and practice of new skills, knowledge, and attitudes*. In our deep learning work, capacity building opportunities are *fostered* at all levels—classroom, school, district/cluster, and globally—and include

- Developing a shared knowledge and understanding of a set of tools and processes to design and measure deep learning
- Institutes that are multiday sessions with immersion in aspects of deep learning, and global deep learning labs that bring together practitioners and experts regionally and globally to share their expertise and build new knowledge
- Resources and exemplars of deep learning experiences created by teachers that are hosted on the deep learning hub that is a communication, collaboration, and data collection platform

The diversity of access and range of supports are designed to meet the varied needs. A key feature of all approaches is to amplify and accelerate the learning of new practices by leveraging collaborative learning. In previous chapters, we outlined the global competencies that are the heart of deep learning and described the four elements that foster their development. This chapter zeros in on one powerful process, *collaborative inquiry*, which is part of our comprehensive capacity building approach to deep learning. Collaborative inquiry helps teachers, schools, and districts to examine current models, practices, and assumptions for learning and to design systems that create the conditions that will support deep learning to flourish. While this process is used at every level of the New Pedagogies for Deep Learning (NPDL), we focus in this chapter on the powerful role it plays in enhancing the learning design and assessment process in schools and classrooms, as depicted in Figure 7.1.

Figure 7.1 • Collaborative Inquiry Supporting Learning Design



Source: Copyright © 2014 by New Pedagogies for Deep Learning™ (NPDL)

The Collaborative Inquiry Process

What is collaborative inquiry, and why is it important?

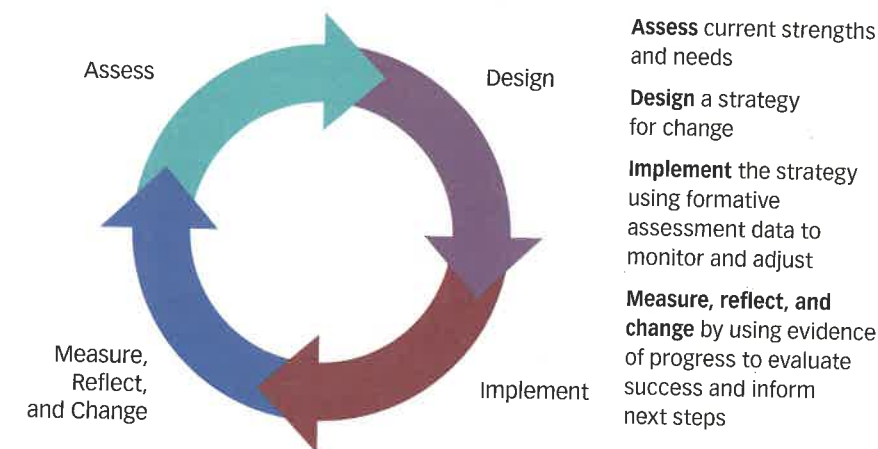
Collaborative inquiry is a process that explores the professional wonderings and questions of educators by examining existing practices and assumptions through engagement with colleagues. This process has gained prominence as a powerful strategy for change because it simultaneously promotes professional learning and contributes directly to improved student learning (Comber, 2013; Ontario Ministry of Education, 2014b; Timperley, 2011). Collaborative inquiry is not only a method for problem solving and refining individual practices but also a system approach for using evidence of student learning to build collaborative school teams and generate shared professional knowledge that can be applied. Finally, while students and student work are the focus of collaborative

inquiry, increasingly we are seeing students playing a role in the process as partners. Students are beginning to participate in identifying areas of inquiry, capturing evidence of their learning, and assessing that learning. Students become experts of their own learning experience. Collaborative inquiry is thus a powerful and practical form of capacity building that gives adults a deep learning model and experience that mirrors what we are hoping they will do with students. Engaging in this process creates a stance of openness to new learning and enables educators to work together to focus their professional learning.

NPDL supports teachers and students in a continuous process of collaboration in shaping deep learning experiences, as well as providing a method to assess the progress of learning and inform future learning experiences.

The modified collaborative inquiry process depicted in Figure 7.2 has four simple phases (adapted from the Deming Institute, n.d.).

Figure 7.2 • Collaborative Inquiry Process



Source: New Pedagogies for Deep Learning™ (NPDL). Retrieved from www.npd.global/Deep Learning Hub.

We examine next two ways this modified collaborative inquiry process is supporting a significant shift of practices in our NPDL partnership:

1. *Learning Design*—collaborative design of learning experiences; and
2. *Moderation*—a collaborative process of assessing student growth and assessing the quality of the learning designs to foster deep learning.

Collaborative Learning Design

Getting started in deep learning design accelerates when teachers collaborate within and across schools and when they have protocols, examples,

and a process for working together. Connecting face to face or virtually with those who share your goals helps with problem solving the challenges and with committing to stick with new behaviors. This common focus on deep learning and the intentional sharing of practices leads to collective cognition and a realization by teachers that they are not working in isolation.

The collaborative process to design deep learning experiences uses the four phases.

Designing Deep Learning Experiences Collaboratively

Phase I: Assess

The first phase begins with assessing where students are, considering the curriculum expectations, and building on student interests to establish learning goals and success criteria. *Learning goals* are established based on an assessment of student needs, strengths, and interests as well as proficiency in the six global competencies. *Success Criteria* are identified to describe the evidence that would document that the learning goal has been achieved. Mixed method assessment is used to assess the degree of understanding and skill development.

Phase II: Design

The second phase involves designing learning experiences that engage students in acquiring the competencies to meet the learning goals and success criteria. This step includes the selection of the most effective pedagogies, consideration of the learning partnerships needed, development of an environment that fosters a culture of learning, and use of digital that leverages learning. Working collaboratively on these learning designs increases innovation because teachers are stimulated by the ideas of other teachers and the students themselves. While time consuming initially, teachers find that the protocols help them focus their energies, and after the first few designs, they can build on each other's expertise, are more innovative, and actually save time as they share the design workload.

Phase III: Implement

During the learning experience, the teacher monitors the learning, scaffolding as needed, asking questions, and guiding deeper discoveries by asking questions such as: "How well are the students learning?" "What evidence do I/we have of the learning?" "What do students need next to deepen their learning?" During this phase, teachers may observe in

each other's class or share responsibility for students by grouping across classes for specific tasks or interests. Students develop skills in both peer and self-assessment. Students may even begin to lead the learning. As one teacher put it, "I used to think it was scary to let the students lead the learning, and now I think that it is one of the most valuable ways to create authentic learning for students as it allows them to take ownership and develop new ways to learn, express, share, and create their thoughts and ideas."

Phase IV: Measure, Reflect, Change

In the final phase of the process, teachers collaborate to document student learning. They consider a broad range of formal and informal assessment evidence from student work products and performances to measure growth in both academic content and competencies to inform their decisions. Student data then feeds into the next cycle of learning and provides rich input for the next learning design.

Skilled users of collaborative inquiry describe this process as a way of thinking about the work rather than being separate from the normal work. Sharing the learning designs across grade teams, departments, schools, and even globally provides vivid and powerful glimpses of what may be possible. Teachers view these *exemplars of learning experiences* not as something to be replicated but as a catalyst for thinking about how to deepen the learning of their own students.

One exciting evolution of the global partnership has been the development of global challenges. A global challenge poses a problem or inquiry that is of interest to a wide range of learners and invites teachers and schools from countries to participate. Students create products or outcomes over the same period of time. They use digital platforms for idea generation and iteration. The creative process of solving a common challenge, while taking into account different country perspectives and contexts, triggers meaningful dialogue, deepens knowledge, and fosters critical thinking. View the design prompt for a recent Deep Learning Task: UN Rights of the Child, in Figure 7.3.

Students and teachers across the globe took up the challenge and then shared their work on Twitter during a Deep Learning Lab held for 400 teachers and leaders in May 2017. This connectivity of teachers, leaders, and students is impressive. We are seeing that the language of deep learning has crossed country borders so that students and teachers can come together virtually or face to face and have highly impactful conversations of depth. There is a positive contagion that is helping the ideas spread like wildfire. On the next few pages, following Figure 7.3, we have captured a few of the student products that were posted as tweets to give you a glimpse of the passion for humanity that emerged.

Figure 7.3 • Global Challenge: UN Rights of the Child, Canada

Global Deep Learning Task: UN Rights of the Child #NPDlchildrights

Task Goal and Description:
You and your learners are invited to participate in a Global Deep Learning Task while members of your country's/district's leadership team are attending the Deep Learning Lab in Toronto, May 1 to May 3. Learners and conference attendees will have the opportunity to be part of an online collaborative conversation on a topic of global relevance to students.

Big Idea: *We live in a complex, interconnected, and ever-changing global community that we hope to be governed by the inalienable 'Rights of the Child,' as set out by The United Nations.*

PROMPT FOR LEARNERS/STUDENTS:
Based on your own knowledge and experiences, choose a right (or rights) which you believe to be the most critical for the safety, growth and development of youth around the world. Be prepared to share your understanding of that right and your action plan to ensure that right is recognized and supported in your town/city/nation or in a global context.

Platform:
The Global NPDl Twitter Chat will begin May 1st at 8:00am (EST-Toronto) and last for 3 days to accommodate the time changes of the participating countries. Participants will post using Twitter #NPDlchildrights. Tweets may include, but are not limited to links to student videos, websites, blog posts, plans, artefacts, art work, discussions, etc.

Instructions to Educators/Learners/Students:

Before (Prior to May 1):

- Educators should review the following documents, as appropriate, with learners prior to the start of the Twitter Chat:
 - <https://www.unicef.org/rightsite/files/uncrcchildfriendlylanguage.pdf>
 - <http://www.youthforhumanrights.org>
 - Link to Picture Book/Graphic: <https://www.unicef.org/rightsite/files/rightsforeverychild.pdf>
 - [https://www.unicef.org/rightsite/files/Frindererklarfr\(1\).pdf](https://www.unicef.org/rightsite/files/Frindererklarfr(1).pdf) (Child-friendly French)
- Learners are to pursue an understanding of, and create an action plan for, the UN Right of the Child that is most accessible/relevant/suitable to them.
- Learners are to create a possible action plan to share in a live Twitter chat during the Deep Learning Lab by using the #NPDlchildrights. Tweets may include, but are not limited to links to student video websites, blog posts, plans, artefacts, art work, discussions, etc.

During (May 1 to May 3):

- AMDSB NPDl Leads will moderate the live Twitter conversation with NPDl learners from clusters around the globe where learners will share and discuss their ideas and action plans with each other using the #NPDlchildrights.
- During the live Twitter chat participants are encouraged to question, challenge, and celebrate each other's contributions and learning by responding to Twitter #NPDlchildrights.
- Attendees of the Deep Learning Lab in Toronto will be encouraged to contribute to the live Twitter conversation as it unfolds using #NPDlchildrights.
- Big Ideas/Connected Themes will be projected at the Deep Learning Lab.
- Participants are encouraged include their country, school, and grade in an initial tweet.

After the Deep Learning Lab in Toronto:

- After the conversation, participants will be encouraged to complete at least one action on their plan and to continue collaborating with other learners in an ongoing Twitter chat from around the world using #NPDlchildrights.

NPDl Progression/Dimension Connections:

Critical Thinking	Communication	Collaboration	Creativity	Character	Citizenship
Collaborative Knowledge construction	Leveraging Digital	Social, emotional, and intercultural skills	Considering and pursuing novel ideas and solutions	Self-regulation and responsibility for learning	Solving ambiguous and complex problems in the real world to benefit citizens

Pedagogical Practices <ul style="list-style-type: none"> Task is designed based on the interest and needs of all students Learning is personalized Student choice is embedded in the task Collaboration opportunities are continuous Task is authentic (based on real problems, real questions) Innovative strategies that leverage digital Clear learning goals Clear success criteria 	Learning Environment <ul style="list-style-type: none"> Task incorporates student voice Task requires purposeful learning partnerships Task accounts for the interests and needs of all students Learning is interactive Learning environment is authentic Learning environment includes virtual component
Learning Partnerships <ul style="list-style-type: none"> Task requires purposeful learning partnerships Task ensures equity among partners Clear, transparent learning goals for all partners Clear, transparent success criteria for all partners 	Leveraging Digital <ul style="list-style-type: none"> Digital enables efficient and meaningful collaboration Digital is used to share new knowledge Task requires the use of digital

Source: Designed by Avon Maitland School District, Ontario, Canada (April 2017). Thanks to the staff of the Avon Maitland District School Board.



Two students made this sketchnote for #npdlchildrights on a ceiling tile for child labor.

An infographic advocating children's right to join clubs and make friends with other children. #npdlchildrights

All children have the right to make friends and join clubs - Article 13

Countries impacted:
- CHINA
- ETHIOPIA
- LEBANON
- MALI
AND MANY OTHERS INCLUDING CANADA

WHAT I'M GOING TO DO
I AM GOING TO SUPPORT RIGHT TO PLAY BECAUSE THEY ARE A FOUNDATION THAT GIVES KIDS THE OPPORTUNITY TO LEARN THROUGH PLAY.

STORY OF EMMANUEL
10-YEAR-OLD EMMANUEL WAKES UP EVERY MORNING AT 6AM TO WORK IN THE COCOA FIELDS. HE DEDICATES HIS TIME TO WORKING AND NEVER GETS TO PLAY.

KIDS JOINING TEAMS WITH OTHER KIDS TEACHES THEM TEAMWORK, LEADERSHIP AND PROBLEM SOLVING.

People from the University of Missouri believe sports also help in school. As their website stated, "sports require memorization, repetition and learning—skill sets that are directly relevant to class work."

THIS RIGHT MATTERS BECAUSE IT IS INHUMAN AND YOU SHOULDN'T BE ABLE TO GAMBLE WITH SOMEONE'S LIFE

You have the right not to be kidnapped or sold.

#npdlchildrights
1.2 million children are trafficked each year

IN SRI LANKA CHILDREN ARE SOLD FOR CHILD LABOR

JOIN HANDS TO STOP CHILD TRAFFICKING

EVERY MINUTE OF THE DAY...

SRI LANKA, THAILAND, BRAZIL, UNITES STATES, AND CANADA ARE THE TOP CHILD SELLING COUNTRIES

My action plan: is that I will contact my M.P. to help keep kids safe from this.

My action plan is that I will contact my MP (member of parliament) to help keep kids safe from kidnapping.

My team is building H₂O filters to remove mercury for FNMI (First Nations Metis Inuit) communities. #npdlchildrights @ocdsb @TheGlobalGoals

Ma équipe globale L'eau. Avec l'aide de nos amis de l'école des Filles de l'eau avec nos amis. Les membres nous ont aidés pour le filtre à eau de l'école. Avec nous avons créé un concept. La conception est pour les enfants globaux. La conception est une idée qui parle des enfants. La conception est pour les amis globaux. Le but de ce projet pour inspirer les élèves de la 3e année.

What actions are we taking to help?
- We are building water filters to help with the polluted water for Northern FNMI communities.
- How others around the world also have needs and rights.

My team is building H₂O filters to remove mercury for FNMI (First Nations Metis Inuit) communities. #npdlchildrights @ocdsb @TheGlobalGoals

YOUR RIGHTS! YOU SHOULDN'T BE TAKEN OR SOLD!

WHY?
THIS RIGHT MATTERS BECAUSE IT'S NOT RIGHT TO TAKE A CHILD FROM THEIR FAMILY.

ABOUT?
SOMETIMES THEY SELL THE CHILDREN TO OTHER PEOPLE FOR MONEY. THE PEOPLE USE THEM FOR WORK AND MORE.

COUNTRIES?
SOME OF THE TOP COUNTRIES TO SELL CHILDREN ARE SRI LANKA, THAILAND, BRAZIL, UNITED STATES, AND CANADA

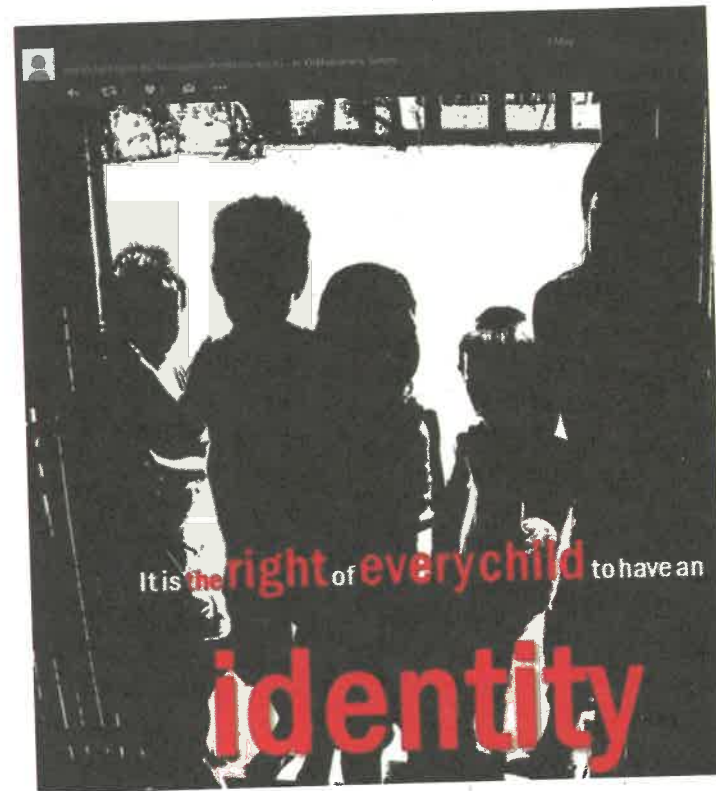
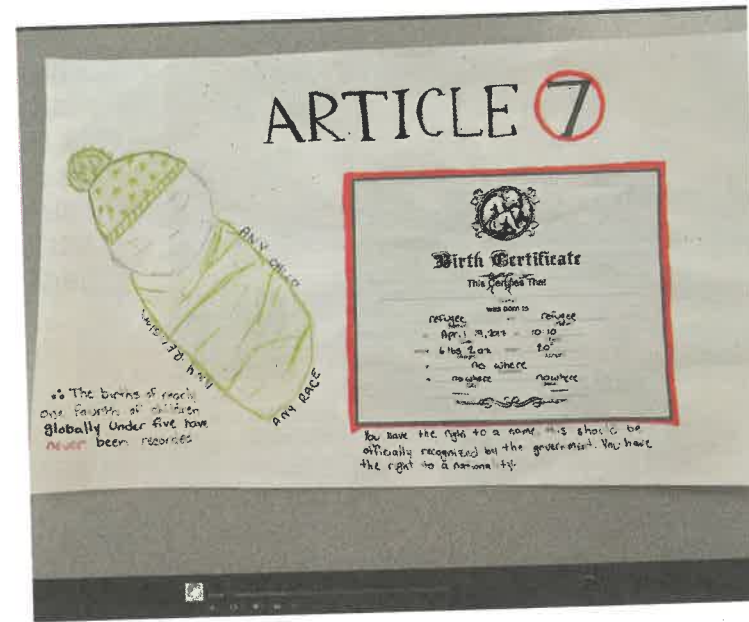
EXAMPLE?
IN BRAZIL THERE ARE HALF A MILLION CHILDREN WHO ARE BEING SOLD AS WORKERS AND FOR MANY OTHER USES SOME BEING AS OLD AS 12.

ACTION PLAN?
I WILL TELL A MAYOR ABOUT THE IMPORTANCE ABOUT THIS RIGHT SO EVERYONE KNOWS.

JOIN HANDS TO STOP CHILD TRAFFICKING

Students shouldn't be taken from their families. #npdlchildrights

Madison and Miranda, you have the right to a name. You have a right to a nationality. #npdlchildrights @scdsb



It is the right of every child to have an identity #npdlchildrights #kirkkonummi #veikkolankoulu at Kirkkonummi, Suomi.

Teachers and students use the deep learning competencies to anchor the design of deep learning experiences such as this global challenge. Teachers then share the learning designs and student work samples in what we call *exemplars*. These examples demonstrate the richness that evolves as the common language and understanding guides the work and serves as a catalyst for creating even more deep learning. The four elements of learning design examined in Chapters 5 and 6 guide teachers to create environments that use new partnerships, pedagogies, and digital to accelerate and amplify learning. The next stage of inquiry is to collaboratively look at the results of the learning designs and make decisions for subsequent steps during the moderation process.

Collaborative Assessment

The fourth phase of the collaborative inquiry process—*measure, reflect, change*—can be very powerful, and yet it is often the most neglected in day-to-day practice. Time to collaborate is scarce; it is more expedient to assign grades than look deeply into the quality of learning; and meaningful professional dialogue takes skill and knowledge. However, we have seen that the process of collaborative assessment (what we call *moderation*) of student work products and performances results in a deeper understanding of what the students have learned and builds professional reliability and validity for a more consistent determination of progress. The power of the process lies in the professional discussion about the learning and the sharing of effective strategies in preparing for the next stage of learning. This professional discussion generates new knowledge and is a catalyst for refining practice. In short, moderation is a strategy to examine and improve pedagogical practice.

In NPDL, we have used the process of moderation to engage teachers, other school leaders, and NPDL leadership teams at all levels of the partnership in professional dialogue centered on deep learning design, implementation, measurement, and outcomes. After teachers have designed, implemented, assessed, and reflected on a chosen deep learning experience, they have the opportunity to assemble and share examples. *Deep Learning Exemplars* are the examples of learning design, implementation, assessment, and outcomes that describe how deep learning develops and what it looks like in action. The intention is to develop a shared language and understanding around deep learning—its design, outcomes, and the new pedagogies that most effectively develop the 6Cs for all learners. The process provides teachers and leaders with examples of deep learning that can be leveraged in their own local contexts.

Moderation occurs at three levels:

- **School**—After teachers have shared their Deep Learning Exemplars with one another, participants engage in professional dialogue (moderation) to discuss the degree to which exemplars demonstrate and foster deep learning.

The power of the process lies in the professional discussion about the learning and the sharing of effective strategies in preparing for the next stage of learning.

- **Cluster**—Once schools have selected their deepest examples and shared them with their cluster or district team, cluster and school leaders, along with teachers, engage in a similar moderation process to select the richest examples of deep learning experienced in their cluster or district. These exemplars are then submitted for moderation (further collaborative assessment) at the global level.
- **Global**—Global moderation consists of a multi-week process in which groups of country leaders and teachers engage in discussion around new pedagogies, deep learning, and review the submitted deep learning experiences. The process results in the selection and sharing of globally moderated Exemplars throughout NPDL and to the wider education community. We take up the global moderation in more detail in Chapter 9.

Let's Consider the Typical Process at a School

Creating a culture of trust and transparency is essential for moderation to thrive. Successful moderation requires strong protocols, skilled learning partnerships among teachers and leaders, and the development of a culture of learning. One way to build the culture of trust and transparency is to establish shared norms. The four norms below have helped NPDL schools initiate, support, and accelerate the use of collaborative inquiry and the moderation process.

Four Norms to Accelerate the Collaboration

1. Assume the teacher has provided his or her best thinking at the time.
2. Presume that all details of the task and the thinking behind it cannot be fully shared within this example.
3. Be slow to judge. Recognize that we cannot fully know all that occurred in the class before this task or what will happen after.
4. We all need to assume a learning stance.

Teachers select a deep learning experience that will be moderated (examined) by peers. They provide an outline of the learning goals, success criteria, competencies addressed, and the new pedagogies used. They may describe the learning design using the four elements to identify the pedagogical practices selected, the types of learning partnerships and how they were fostered, the learning environment that was utilized both inside and outside the classroom, as well as how they have leveraged digital to

facilitate or amplify learning. They include samples of students work and the mixed methods they used to assess student progress during the learning experience. This may be done in a grade level team, by department at a high school, or by vertical or mixed teams as a professional experience.

Using a protocol to establish behavioral norms guides the discussion and makes the best use of time. Providing behavior prompts and sentence starters can enhance open sharing and more positive engagement (see Figure 7.4). This is especially important while people are gaining confidence in sharing.

Figure 7.4 • Protocol for Collaborative Assessment (Moderation)

Positive Behavior Prompts	Sentence Starter Prompts
<ul style="list-style-type: none"> • Pose questions to reveal and extend your thinking and to check in on the thinking of others 	"I see evidence of . . ."
<ul style="list-style-type: none"> • Pause to allow time for other contributors to reflect before responding. 	"I noticed . . . and it appeared that . . ."
<ul style="list-style-type: none"> • Share your ideas, inferences, and relevant facts, knowing you can adjust your thinking along the way 	"What I perceive from this is . . ."
<ul style="list-style-type: none"> • Provide specific references to the learning to support your thinking 	"I'm looking for more evidence of . . ."
<ul style="list-style-type: none"> • Distinguish data from interpretation 	"Maybe it can be considered another way . . ."
<ul style="list-style-type: none"> • Presume positive intentions of group members and of the teacher sharing the work 	"An assumption I am exploring is . . ."
	"Taking that one step further . . ."
	"I came to this thought by looking at . . ."
	"This example made me wonder . . ."
	"What got me thinking when I looked at . . ." (Gardner, NPDL presentation, 2017)

Source: Adapted from Gardner, M. (2016). Retrieved from www.npdل.global/Deep Learning Hub.

Participants use the behavioral prompts to guide them through the four steps of examining the work.

- Step 1:** All participants review the learning design and student work independently and use the tools and rubrics to assess both student progress and the quality of the learning design, assessing how well it fostered acquisition of the 6Cs.
- Step 2:** Participants discuss the learning design and multiple sources of evidence provided in the student work samples and the rubrics. As a group they reach consensus on where they would collectively

rate the learning design on the four elements (learning partnerships, learning environments, leveraging digital, and pedagogical practices) and how they would rate the student progress.

Step 3: As teachers moderate the student work to assess progress, they begin to use that data to inform the next steps in student learning.

Step 4: As teachers look more deeply at student progress, they often note that students could have made more progress if the learning experience had been designed differently.

The increased precision in pedagogy that emerges from the deep professional dialogue is building teacher confidence and leading to more innovative practices that meet the relevant needs of all students. The same elements that contribute to deep learning for students have been as crucial for adults.

Learning Redesign

When teachers collaboratively examine learning designs and student progress, they build a deeper understanding of how students learn and how design decisions can influence that learning. The insights have strongly influenced changes in practice and led us to create a protocol for the *learning redesign process* as an extension of the final phase of the collaborative inquiry cycle—*Measure, Reflect, Change*. Learning redesign has become a powerful capacity building approach because as teachers become more transparent in their practice day by day, they see new ways to improve learning designs that will impact their students' progress. The power of this is illustrated in an experience shared by our Australian cluster.

Early in the NPDL journey, Wooranna Park Primary School, State of Victoria, Australia, created their first deep learning unit, titled *The Enigma Mission*. They used the six competencies as a foundation and established learning goals and success criteria that challenged the 10- to 11-year-old students to pursue a passion project using the inquiry model. They captured the student experience on video and noted that students explored a range of areas from paleontology to DNA. The high degree of student engagement, student voice and choice, articulateness of goals, and depth of inquiry are evident in Video 7.1, *Wooranna Enigma Mission*, at www.npdl.global. The final step of the process was to assess collaboratively the student work and progress.



Initially, teachers were very impressed with the passion, ownership, independence, and resourcefulness of the students. As they began to examine the work of the students, they found that while most had excelled when given the choice to select their enigma mission, not all students had achieved to the same degree. As they analyzed the results more deeply, they determined that students who were less successful had not identified as rich

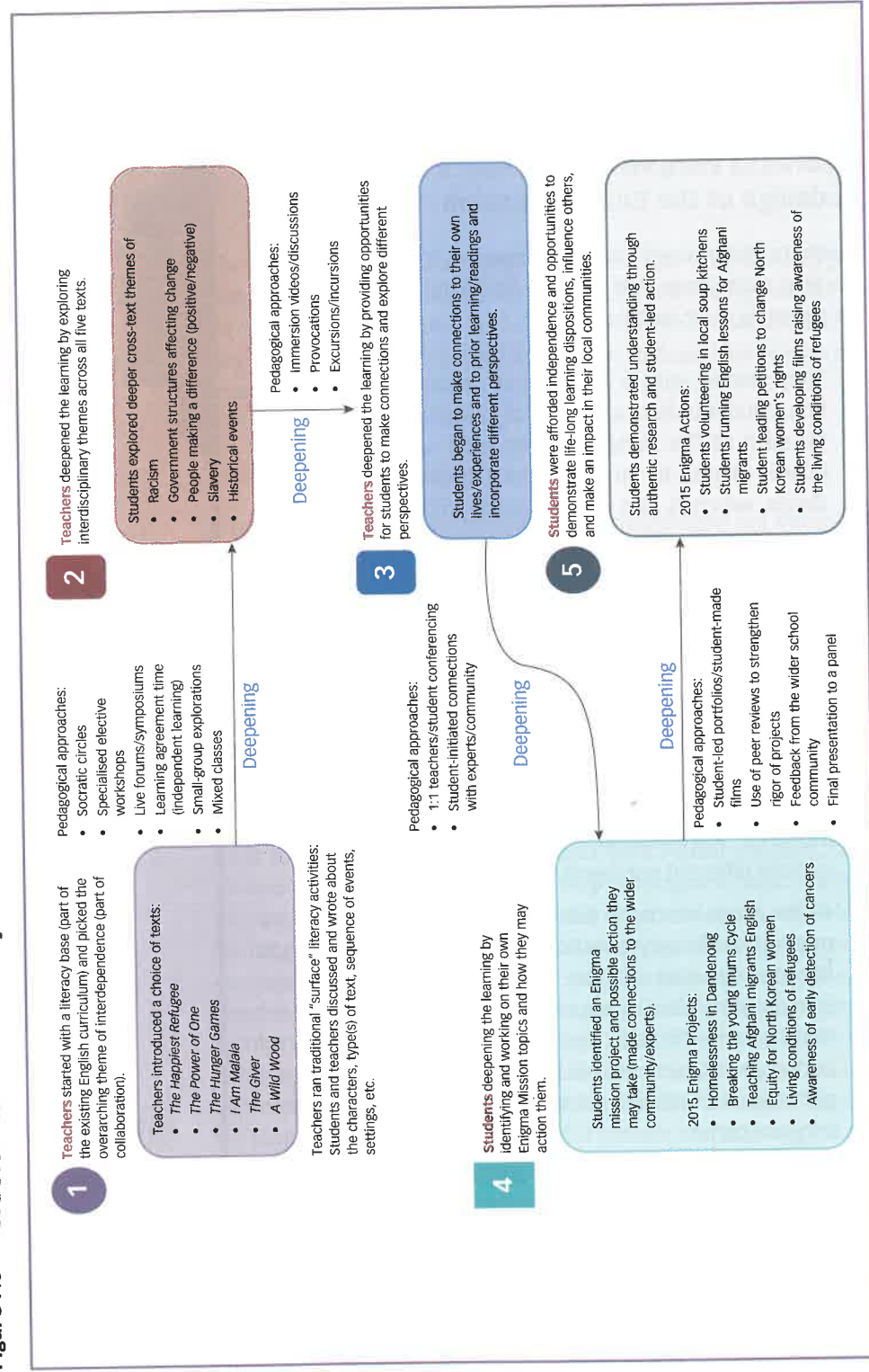
an inquiry problem. As they dug deeper, they realized that some students did not possess as wide a world experience as others and that this had hindered them in creating an enigma mission with more scope. Their redesign of the enigma mission deep learning experience is portrayed in Figure 7.5.

Wooranna Park Primary School's Redesign of the Enigma Mission

Teachers determined that they needed to provide a deep learning experience that gave all students a rich foundation for selecting their inquiry.

1. They started with a literacy base linked to the curriculum. Students had a choice of thought provoking novels such as *The Hunger Games* and *I Am Malala*. All the novels related to an overarching theme of interdependence, which is part of the collaboration competency. A wide range of pedagogical practices was used to deepen student thinking such as live forums, symposiums, and Socratic circles.
2. Next, teachers deepened the learning by exploring five themes across all the texts: racism, poverty, government structures affecting change, slavery, and people making a difference. Once again they were deliberate in using a range of pedagogical practices: provocations, immersion videos, excursions, and discussions.
3. Students were supported to make connections and explore different perspectives.
4. At this stage, students then developed their own enigma mission and inquiry question and the method they would use to action their mission. This step came after an extensive range of learning experiences that extended student thinking and options. Again teachers used a range of pedagogical practices including peer review, student-led portfolios, schoolwide feedback, and presentations to an external panel.
5. The final step was moving to action. Students used the research from their enigma mission to develop a way to action their findings in the real world. These actions ranged from working in local soup kitchens and running English lessons for Afghani immigrants to developing films that raise awareness of refugee issues.

Figure 7.5 • Wooranna Park Primary School Redesign: Measure, Reflect, Change



Source: Wooranna Park Primary School, State of Victoria (Department of Education and Training). Thanks to Jennie Vine, Assistant Principal; Anessa Quirt, Grade 5/6 teacher; Grade 5/6 staff 2015; Ray Trotter, Principal; teaching staff, students, parents, and community partners of Grades 5 and 6 during 2015.

This process of learning redesign has been a powerful catalyst for changing practice when all three elements of the final phase of collaborative inquiry are utilized. The Enigma Mission is a vivid example of the powerful precision in pedagogical practices that emerges when teachers have time to collaboratively *measure* student progress using multiple measures of growth, *reflect* on the impact their pedagogy has had on student progress, and then *change* the learning design for a future deep learning experience or use the findings to craft the next learning design in that sequence.

Final Thoughts

For NPD, the process of collaborative inquiry has been a powerful catalyst for shifting practice as part of a comprehensive capacity building approach. The deep collaborative work combined with greater transparency of practice is transforming learning design and assessment of student progress. The process of working together to improve the understanding of what learning is and could be, generating evidence of what's working and what is not, and making decisions about next steps leads to improvement and innovation. As they tackle the emerging issues and challenges, educators begin to understand how to achieve both equity and excellence.

In Chapter 8, we turn to the bigger picture by examining the learning conditions and practices in schools, districts, and systems that foster the development of the 6Cs that are needed to propel deep learning. This fourth component of the deep learning framework is essential if we are to move from pockets of innovation to whole system change.

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