

A GUIDE TO BECOMING A

21

ST

CENTURY TEACHER

Supported By:



[www.unicef.org/myanmar](http://www.unicef.org/myanmar)



Pearson

[www.pearson.com](http://www.pearson.com)



MAWLAMYINE  
UNIVERSITY

Written & Designed By:



[www.pointB.is](http://www.pointB.is)

---

A GUIDE TO BECOMING A 21ST CENTURY TEACHER

---

Rochelle Ardesher  
Creative Director, Writer & Images

Sonya Blazey  
Designer

Htet Yin Tun  
Facilitator

Aung Naing Soe  
Facilitator

Myo Ei Ei San  
Space Manager

Gregory Antos  
Technical Director & Writer

Sein Sein Lin  
Illustrator

Wint Hte  
Facilitator

Thu Thu  
Senior Finance Manager

May Thu  
Translator

Naw Tha Ku Paul (Mie Mie)  
Senior Program Manager

Denise Gershbein  
Advisor

Yin Yin  
Facilitator

Sandra Shum  
Finance Director

Aung Thura Tun  
Finance Assistant

This guide was authored by Point B Design + Training (PointB) from program work commissioned by UNICEF Myanmar. For more about PointB, please visit: [www.pointB.is](http://www.pointB.is)



Our deepest gratitude to the teachers and students in Myanmar who co-created this guide with us. Special thanks to Pearson; UNICEF UK including Amber Woods and Esther Evans; UNICEF Myanmar Adolescents Team including Noriko Izumi, Teona Aslanishvili and Yu Yu Aung; UNICEF Global Innovation Centre including Tanya Accone and Stuart Campo; and the leaders of Mawlamyine University, Rector, Dr. Aung Myat Kyaw Sein and Pro-Rector, Dr. Mie Mie Sein. Thank you for supporting this 21st Century Skills program with a spirit of openness, collaboration and experimentation.

This guide is intended to give you the information and skills you need to create your own 21st Century Learning Classroom. [A Guide to Becoming a 21st Century Teacher](#) by Point B Design + Training/UNICEF is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License. <http://creativecommons.org/licenses/by-nc-sa/4.0/>

**This is a guide for TEACHERS.**

**Teachers can use this guide to create a 21st century classroom. This guide contains background materials, tools & practices.**

**You can use this guide on your own, in a teacher working group or as part of a teacher training.**

## THIS GUIDE

21st Century Skills are important because as the world changes, education must adapt so that we can better prepare students with the skills necessary to be successful in life, work & community in the 21st Century.

EXPERIENCE and PRACTICE are at the heart of 21st Century Skills. That's why you will find theories are always paired with practice. We recommend that when you learn, you apply what you have learned. In this way, your teaching practice will spiral and develop with you over time. Feedback is important. So find other teachers who will support you.

You can share or download a digital copy of the [A Guide to Becoming a 21st Century Teacher](#) at: [www.pointB.is/21CSGUIDE](http://www.pointB.is/21CSGUIDE). Use this link to also access tutorial videos, testimonials and extra resources here.

And if you or your school/organization/business would like training in 21st Century Skills, feel free to contact us at: [learn@pointB.is](mailto:learn@pointB.is)

# CONTENTS

## SECTION 1 INTRODUCTION 1-19

- Partners & Supporters 1
- This Guide 2-3
- Contents 4-5
- Foreword 6-9
- What You Need to Use this Guide 10-11
- Setting a Vision for Your 21st Century Learning Classroom 12-19

## SECTION 2 21ST CENTURY MINDSETS AND PRACTICES 20-59

- Mindset #1: Mindfulness 22-23
- Practicing Mindfulness 24-29
- Mindset #2: Curiosity 30-31
- Practicing Curiosity 32-35
- Mindset #3: Growth 36-37
- Practicing Growth 38-39
- Mindset #4: Empathy 40-41
- Practicing Empathy 42-45
- Mindset #5: Appreciation 46-47
- Practicing Appreciation 48-49
- Mindset #6: Experimentation 50-51
- Practicing Experimentation 52-55
- Mindset #7: Systems Thinking 56-57
- Practicing Systems Thinking 58-59

## SECTION 3 21ST CENTURY SKILLS 60-67

- The 5Cs 62-63
- The 5Cs Checklist for Teachers 64-65
- The 5Cs Checklist for Students 66-67

## SECTION 4 SELF-DISCOVERY 68-93

- Cultivating a Mindful Teaching Intention 70-71
- Setting an Intention 72-73
- SuperPower & SkillShare 74-77
- Classroom Canvas 78-81
- Learning System 82-83
- Immersion 84-87
- Finding Meaning in Research Data 88-89
- 21st Century Skills Matrix 90-93

## SECTION 5 21ST CENTURY SKILLS BUILDING FOR TEACHERS 94-107

- Teacher As A... (Roles of a Teacher) 96-99
- Classroom Management 100-101
- The Experiential Learning Cycle 102-103
- Question Formulation Technique (QFT) 104-105
- Collaborative Learning 106-107

## SECTION 6 INTEGRATING 21ST CENTURY SKILLS INTO YOUR CLASSROOM 108-135

- Daily Reviews 110-111
- Think, Pair, Share 112-115
- Jigsaw 116-119
- Parking Lot 120-121
- Why x5 122-123
- Visual Tools 124-125
- Brainstorming 126-129
- Prototyping 130-131
- Curiosity Projects 132-133
- Thanks 134
- References and Resources 135



## FOREWORD

BY: ROCHELLE ARDESHER, CO-DIRECTOR/FOUNDER, POINT B DESIGN + TRAINING

IN THIS GUIDE TO 21<sup>ST</sup> CENTURY SKILLS, WE ARE EXPLORING THAT CENTRAL QUALITY WHICH MAKES LEARNING AND TEACHING COME ALIVE AND FEEL WHOLE.

Imagine a classroom. This classroom includes the teacher, students, learning space, and the lesson being learned. Within this classroom there are multiple relationships between the teacher and students, students and other students, students to the lesson being taught, and everything to the learning space. Contemplate for a moment: What makes learning come alive here? When does learning feel whole? What are the most essential qualities of learning?

This quality of learning is not easy to describe. In 2017, we at Point B Design + Training (PointB) began working together with UNICEF Myanmar, Pearson, Mawlamyine University, school teachers, students, trainers and directors from non-formal and formal education systems to understand the question:

### HOW MIGHT WE HELP LEARNING AND TEACHING COME ALIVE AND FEEL WHOLE IN A CHANGING MYANMAR?

Our intention was to find ways that we, as a learning community, can better prepare young people for life, work and community in the 21st Century. In our process, we discovered that

learning and teaching in the 21st Century is based on the relationship between a teacher, students and the curriculum. We learned that what is important is the connection between the teacher, student and curriculum.

### The learning system.

Today, the learning system needs to connect to an environment that is changing at a faster and faster rate in the 21st Century. Changes in technology and the economy present new challenges for us and our learning systems: How do we adapt to and thrive in an ever-changing world? What skills do we need to be “life ready” citizens and workers in the 21st Century? What skills will we need to build

successful careers? And what skills will we need to be change agents in a changing world?

In order to adapt to and thrive in change, there is a certain set of skills called **21ST CENTURY SKILLS** that can be extremely helpful for teachers and students to better prepare for life, work and community in the 21st Century.

21st Century Skills start with a **CURIOSITY** to understand complex problems, to find patterns within them and ultimately, respond to

them with some small or tangible action. To do this, **COLLABORATION** or working in groups helps because you gain different perspectives.

Multiple perspectives are gathered through effective **COMMUNICATION** because, in order for groups to work well together, communication skills are needed to different points of view and ideas better. To be able to take each person's ideas, understand them within the present context and evaluate them critically (with **CRITICAL THINKING SKILLS**) is important because this is how we begin to think **CREATIVELY** and come

up with new ideas, new ways of being and new ways of adapting to the changing world.

While there are wide ranges of skills associated with 21st Century Skills, these **5Cs** (curiosity, collaboration, communication, critical thinking and creative thinking) are the foundation and the focus of this guide.

In many ways, this guide is a working prototype or draft, which we hope we can continue to develop and grow together with you and your students.



# WHAT YOU NEED TO USE THIS GUIDE

## A SIMPLE LIST OF MATERIALS YOU WILL NEED TO CREATE A 21ST CENTURY CLASSROOM

21st Century Learning does not need to be complicated. In fact, our motto at PointB is “keep it simple.”

Before you get started with this guide, it is helpful to have the proper materials ready to activate 21st Century Learning in your classroom. Here is a list of simple materials and tips to help teachers activate learning in any type of classroom space:

### COLORED PAPER CARDS

Take A4 paper in all different kinds of colors and cut them into 8 smaller pieces. Keep stacks of paper on tables and around the room. Colored cards help democratize learning making it easy for each person to contribute his or her ideas and learnings to a team or class.

### NEWSPRINT (ALSO CALLED FLIPCHART)

Find a place in the classroom where you can hang or keep a stack of newsprint paper. The tools through this guide and activity can be easily transferred on to a newsprint so that students can be engaged in group and team work. Get students to draw tools onto large newsprints. This gives them ownership and creative freedom around tools and ideas. Keep it simple.

### MARKERS & PAPER TAPE

Make sure you have plenty of good markers and paper tape available for students. Markers and pens make it easy to add ideas to colored paper cards and newsprints. Encourage students to draw and write big so that their ideas may be easily shared and seen. Paper tape lets students add colored paper cards to newsprints and makes it easy to move ideas around or add new ideas.

### WHITE/CHALK BOARDS

Whether you have a whiteboard, chalkboard or even just a wall, be creative and find ways to encourage students to post their ideas on colored cards or newsprints. Remember, you don't need a lot of fancy gadgets to create a 21st Century classroom. Keep it simple and give students the tools to be active learners.

### FLEXIBLE LEARNING SPACE

As you can see, you don't need to have fancy technology or lots of equipment to create a 21st Century classroom. All you need is a flexible space that can adapt to your students and lesson. Learning space can make a big difference so pay attention to how you want to stage the room for different types of learning: Whole class, group work, pairs, individual.



# SETTING A VISION FOR YOUR

# 21<sup>ST</sup>

## CENTURY LEARNING CLASSROOM

MEETING THESE 12 GOALS WILL BRING 21ST CENTURY  
LEARNING TO LIFE IN YOUR CLASSROOM

SOURCE: PEARSON

Before we get into specific mindsets, skills and practices of 21st Century Learning, it's important to set the intention of what 21st Century Learning actually looks like and feels like. To do this, we turn to Sir Michael Barber, former Chief Education Advisor of Pearson, who shares 10 things that effective 21st Century teachers share in common in his YouTube video (<https://www.youtube.com/watch?v=twOkLXDmNtO>). We've also added 2 things to Sir Michael Barber's list that we feel are important for 21st Century Learning.



### HIGH EXPECTATIONS OF EVERY STUDENT

Teachers who expect that every student can achieve high standards set up an environment that promotes their students to achieve those high standards. Education research has shown conclusively that teachers expecting their students to learn enhances student learning.

In the mid 20th century, it was quite normal for education systems to teach some, but not all, students to high standards. Everyone would get the basics but only some would achieve high standards.

In the 21st century, given the changes in technology and the economy, it is essential that we set out to achieve high standards for all. This is a very demanding task that we, the education profession, need to take on because children who leave school well educated have many, many more opportunities in a 21st century society and economy. The children who leave school without an education are really going to struggle in the 21st Century.



### 100% PARTICIPATION

We are only going to achieve high expectations and standards for all, if every student participates in the learning process. A lesson in which only some of the students are participating isn't good enough in the 21st Century. So when a teacher is standing up in front of the class and lecturing, how is she or he making sure that every student is engaged? The important thing is to make sure students are engaged — their eyes are on the teacher or they're interacting with each other or they are engaged in a task. 100% participation is not one student, but all students.



### INTERACTIVITY, COLLABORATION & SOCIAL LEARNING

Learning is both deeply personal and intensely social (Edward T. Hall, *The Drive To Learn*). A 21st century classroom is not necessarily a quiet place. Though at times students may be in deep reflection, often there is a kind of buzz of intellectual activity and excitement. In a 21st Century Classroom there should be lots of interaction, collaboration and social learning for students. The teachers who can create this are what Professor John Hattie from the University of New Zealand describes as “Teachers As Activators.” Teachers who can create an atmosphere of interactivity and learning are absolutely critical to the 21st Century.

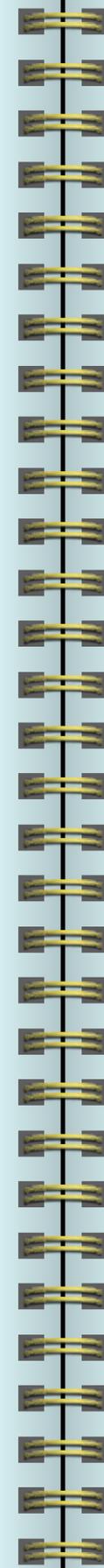


### INFORMED PEDAGOGY

Informed pedagogy is a level of thinking analytically and in an evidence-based way about why a certain part of teaching is taught in a particular way. The best teachers in the best education systems across the globe are able to give a rationale for why they are teaching a lesson in that particular way.

Any teacher, whatever she or he is teaching, should be able to explain and give a rationale if interrupted and asked “why are you doing it this way?” The rationale needs to be better than “Well, I’ve always done it this way.” It should be a rationale that says “I learned this from my colleagues” or “We planned the lesson on the basis of the student work we did last time and we thought this would work but we’re going to review it” or “I’ve looked at the research and it suggests that this is a powerful way to teach this sequence of algebra or geometry.”

Informed pedagogy is very difficult to do on your own. It takes a culture in the school that encourages that kind of pedagogy and dialogue among teachers.



### PERSONALIZED LEARNING

It’s one thing to teach a class of 30 to 40 students. It’s quite different to actually know each student really well and to know what each student needs to do to get from where they are in their learning process to their next step of learning. That’s what personalization is all about. It’s about engaging each child in thinking through how they get over the barrier to whatever it is that they need to learn next. To do that, teachers need to know learners well. They need to know different strategies and not just to teach to the whole class but to tailor their teaching, follow up and give feedback to each individual student as well as to the class as a whole. Personalization is the key to getting students to high standards.



### MASTERY & DEEP LEARNING

If we can achieve the first five areas listed above, then mastery will fall into place. Mastery is teaching students so that they don’t just cover the topic or lesson but they actually master that piece of knowledge or skills so that they can use it again and again in different contexts. They understand what the concept is, why the concept is the way it is and how to use the concept in different contexts. That kind of mastery takes practice. It takes deep learning, not just surface learning. Great teachers in the 21st Century are going to have to enable all students to gain mastery of the core elements of the curriculum.



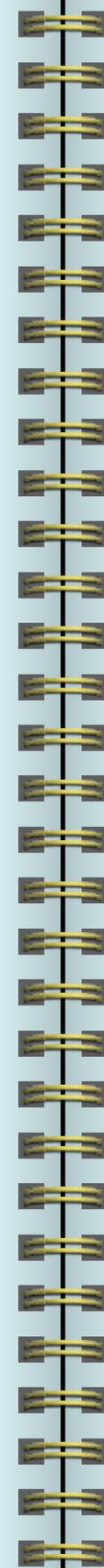
### CHALLENGE & INSPIRATION

Learning is difficult. Anyone who reflects for a while on the tough things they learned will find that often it was not fun and it made their brain hurt. Maybe they felt a lack of confidence and so it felt really painful. But when they get over the hurdle and finally crack it, they feel joyful and satisfied. Faced with a difficult challenge without a really good teacher to push through, we might give up. The great teachers in the 21st Century can challenge you, inspire you and enable you to get over whatever it is that is preventing you from learning something so that you can finally learn it.



### CONSTANT & CONTINUOUS FEEDBACK

Teachers need to know all the time whether what they are doing is working or not. Good teachers can do that from seeing the attention of the class, asking questions to check learning from individual students or the whole class, marking students' work to see if everyone has achieved learning outcomes or not. Students need feedback like this of an informal nature on a daily and weekly basis, so that they can contribute to and be responsible for their own learning processes. Students also need more formal feedback and assessment to understand whether they have mastered content and skills. Assessments also allow teachers to compare how well their students learned to a certain set of content or performance indicators. The 21st Century teacher is going to be evidence informed and she uses data to adapt and refine her teaching to support her students learning processes.



### INCREASING THE USE OF TECHNOLOGY

It's hard to imagine as the 21st century unfolds that classrooms and schools will not be transformed by technology in the way that huge swaths of the economy have been transformed and indeed, our daily lives. Especially, the daily lives of students by access to Internet, computers and smart phones.

Increasing the use of technology in the 21st Century classroom will require 3 changes: hardware, pedagogy and systems. You need to have the technology working and successful. You have to change the way teachers teach and their pedagogy. And you have to adapt the school system and curriculum to get the best use of the technology. This will take time and teachers need to be open to learning and learning from their students about how technology can be blended into learning. Technology can never replace a good teacher, but when it is blended into teaching and learning it can help strengthen learning outcomes and help students gain practical skills to transfer to other areas in their work and life.



### COLLABORATIVE PLANNING & REVIEW

The kind of skills listed above — interactivity, 100% participation, informed pedagogy, personalization, etc. — make it very difficult for teachers to acquire these skills all on their own. A culture of collaborative planning, review and constant learning in every school will make it possible for all teachers to master the skills needed to teach 21st Century Skills.

The way that schools are organized can help to encourage collaboration: Teachers planning lessons together. Teachers learning from each other. Working on action research or community projects aimed at understanding needs, relevance and new solutions for how learning can connect back into a student's life. Giving teachers time to watch each other teach. And to sometimes visit other schools. Collaboration is essential to growing 21st Century teachers and students across a whole education system.

# 11



## CREATING A CULTURE OF INNOVATION & CREATIVITY

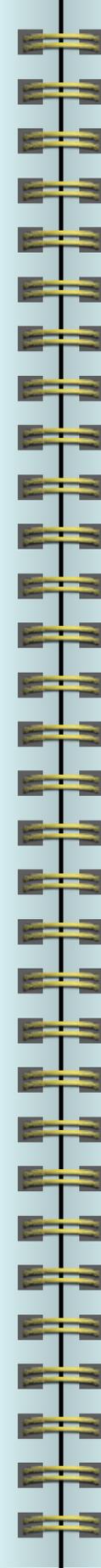
In the 21st century, relationship and connection are emphasized over separateness and isolation. With complex challenges and issues facing societies around the globe, creativity and innovation are highly dependent on a connected, collaborative culture within organizations, schools and businesses.

How are we creative? How do we come up with solutions and take ideas forward? How do we look at the world as an opportunity to do something new and better rather than a problem in need of one correct answer? When we think like this, the world of the future ceases to be some place that we will end up and instead becomes a place we create. We, as humans have been creating from the beginning of our existence as a species.

Innovation is an integrative process that enhances self-awareness and mindfulness to develop flexible perspective-taking along with cognitive abilities of divergent, convergent, analytic, synthesis and creative thinking to develop and test ideas to improve our world.

Though we are often sidetracked by school systems pushing us to “find the right answer,” all human beings have the capacity to be creative, generate new ideas, develop products, systems, and structures that enhance our capacities to think, live and grow both as individuals and as groups.

Learning to see things differently helps us to find new ideas, problems to solve and ways to solve them. Cultures that encourage innovation and creativity help students and teachers to become intrinsically motivated rather than looking for external rewards. Research shows that in creative classrooms, students learn to value curiosity and enjoy the search for a good answer rather than just finding the right answer. Students learn to constantly strive to connect and create something that is more simple, applicable, beautiful, novel, balanced, precise or expansive. In creative classrooms, students and teachers learn to play with ideas instead of fearing them.



# 12



## TEACHING TO CREATE LIFELONG LEARNERS

Albert Einstein said that “insanity is continuing to do the same thing over and over and expecting different results.”

Naturally, as humans, we fear the unknown and change. But a 21st century learner understands how to lean into this fear. With great curiosity and a desire for learning, a 21st Century Learner confronts the unknown with the excitement of an opportunity to learn. 21st century learners understand how to step out of their own biases, beliefs and perceptions, so that they may welcome in the unknown and the mysterious.

As a result, a 21st Century learner understands the importance of being a continuous, lifelong learner. This means that not only do 21st century learners gain knowledge, they gain the confidence to constantly search for new and better ways of thinking, being and doing.

In the 21st Century, learning can no longer be divided into one place where knowledge is acquired and another separate place where it is applied. Acquiring and applying knowledge are now continually overlapping as the 21st century world is characterized by an extraordinary outpouring of ideas, data information, stories, issues and problems. This compels businesses and industries to continually adapt algorithms, methods, systems, approaches or formula for their implementation.

21st century students and teachers are continually striving for improvement, continually growing, learning, adapting and modifying both what they know and how they know it. Their confidence and inquisitiveness allows them to continually take a perspective of growth mindset in which they see situations, conflicts and issues not as problems, but rather as opportunities. Every situation or experience is a new opportunity to learn, to be creative, to grow, to collaborate and to be helpful.



#### THIS SECTION INCLUDES:

21st Century Mindsets	20-21
Mindset #1: Mindfulness	22-23
Practicing Mindfulness	24-29
Mindset #2: Curiosity	30-31
Practicing Curiosity	32-35
Mindset #3: Growth	36-37
Practicing Growth	38-39
Mindset #4: Empathy	40-41
Practicing Empathy	42-45
Mindset #5: Appreciation	46-47
Practicing Appreciation	48-49
Mindset #6: Experimentation	50-51
Practicing Experimentation	52-55
Mindset #7: Systems Thinking	56-57
Practicing Systems Thinking	58-59

# 21<sup>ST</sup> CENTURY MINDSETS & PRACTICES

READINGS ON THE 7 MINDSETS  
WITH 7 PRACTICES TO ACTIVATE THESE  
MINDSETS WITH STUDENTS AND TEACHERS

HOW MIGHT NEW MINDSETS  
SHIFT OUR VIEW OF THE WORLD  
AND OUR ACTIONS TO CREATE  
MORE EQUANIMITY, POSSIBILITY  
AND CREATIVITY IN THE 21ST  
CENTURY?

Carol Dweck, author of “Mindset: The New Psychology Of Success” writes “For twenty years, my research has shown that the view you adopt for yourself profoundly affects the way you lead your life.”

Mindsets shape the way we understand, view and act in the world. A mindset can have one of two qualities: contraction and expansion. When we pay attention to the frame or lens we are using to observe, think,

understand, create and act in our daily life, we see that mindsets have the ability to make us feel contracted or expanded. Contraction is that quality when our mind, body and spirit feel tight, narrow, restricted, diminished, or negative. Expansion, on the other had, is that quality when we feel light, energetic, open, free, optimistic, collaborative, abundant and a sense of growth or learning. According to Dweck, the quality of our experience is based on our mindset or perception of our self, others and the world.

With practice we can actually acquire expansive mindsets that help us to activate and develop the 21st Century Skills of curiosity, critical

thinking, creative problem solving, communication and collaboration.

In our research, we have found **7 ESSENTIAL MINDSETS** for learning and teaching in the 21st Century:

**MINDFULNESS, CURIOSITY, GROWTH, EMPATHY, APPRECIATION, EXPERIMENTATION** and **SYSTEMS THINKING**.

The following pages illustrate these mindsets and provide simple ways to practice together with your students and peers. Each mindset is paired with a 21st Century Koan — a story, dialogue, question or statement, which is used in Zen Buddhism to provoke “great doubt” and test a student’s progress in his or her practice.

MINDSET #1

# MINDFULNESS

*If you can change the way you see,  
you can see the way to change.*

A strong intention holds sincerity in a positive place that nurtures equanimity, creativity and possibility. Through mindfulness, teachers in the 21st Century are learning how to sense and develop intention — the energy, purpose and vision that drives all learning processes. A 21st Century learning relationship between teacher, students and curriculum is rooted in an understanding of one's personal intention and the co-creation of a shared intention.

Very simply, intention is a deep understanding of **WHY LEARNING MATTERS?** What do I really want my

students to learn in this lesson? How will my students be able to apply their learning within their community, work and life? Is there a specific behavior or mindset change that is important for my students to gain in this lesson? What learning outcomes do I want my students to achieve in this activity?

Teachers and students can begin to practice mindfulness through self-reflection, discovery, insight and action. In this way, mindfulness becomes integrated into each learning experience.

To start, begin to notice what you pay attention to. Observe how what you pay attention to makes you feel. Pay attention to your breath and body. Notice how experiences and interactions feel in your body. When do strong emotions or sensations like joy, fear, excitement, frustration, anger or sorrow arise? Emotions are natural, but they don't have to control you.

The more we practice mindfulness, the better we become at managing our inner and outer worlds and responding to life with more awareness and compassion towards our self and each other.



# PRACTICING MINDFULNESS

## 5 EXERCISES FOR STUDENTS AND TEACHERS

**Essential Understanding** *Paying attention to what goes on inwardly (thoughts, emotions, feelings, habits and experiences) influences how we see what goes on outwardly and vice versa.*

### LEARNING OBJECTIVE

To develop skills in how to observe and develop awareness of our own perceptions, habits, beliefs and pattern so that we may awaken leadership within the self, community and organization.

### EXERCISE #1 : LISTEN FOR SILENCE

Instruct students to get comfortable in their chairs. Have them close their eyes and try to quiet their mind — they can try to feel as if their mind is open like the sky.

After a few moments, tell the students: “I will ring the bell 3 times. Each time I ring the bell, I want you to listen to it as mindfully as you can. Listen for the exact moment when you cannot hear the bell anymore. When you cannot hear the bell anymore, you can raise your hand.”

After the instruction, ring the bell. Allow the students to sit with the sound until they raise their hand. Ring the bell 4 or 5 times giving 10 or 15 seconds after the sound fades away from the previous bell strike before ringing the bell again.

### REFLECTIVE QUESTIONS

Could you determine the exact moment when you could not hear the bell? What did it take to hear that?

---

What got in the way or distracted you from this?

---

What was your mind like at the moment the sound stopped? Was it active or peaceful? What was the feeling like inside your body at that moment?

---

Ask students to try to practice this listening for the silence around them during the day. Even when there is noise around listen for the silence behind the noise.

**EXERCISE #2 : ROADWAY**

Instruct students to get comfortable in their chairs. You can also do this outside in your community or any place where you can stand on the side and watch the world go by.

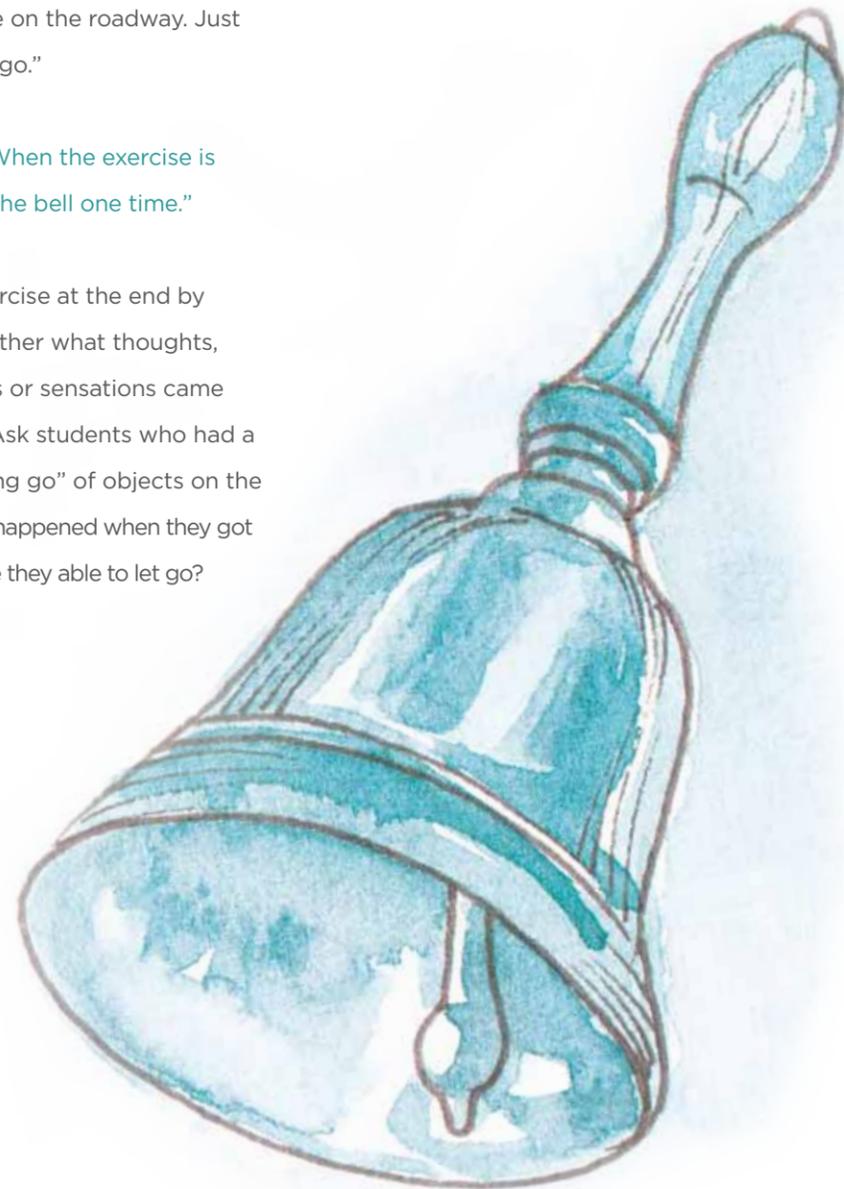
Ask students to close their eyes and try to relax and quiet their mind. Tell students, "When I ring the bell three times I want you to picture a roadway. Picture yourself walking up the roadway, watching everything coming towards you."

Tell students, "As you breathe and watch the roadway, see if you can pay attention to your thoughts, urges, emotions or sensations. Watch them come down the roadway. As they come closer to you, just watch them come and go and get back to watching to see what comes down the roadway

next. Try not to attach or push away what you notice on the roadway. Just let it come and go."

Tell students, "When the exercise is over, I will ring the bell one time."

Process the exercise at the end by discussing together what thoughts, urges, emotions or sensations came up for people. Ask students who had a hard time "letting go" of objects on the roadway. What happened when they got stuck? How were they able to let go?



**EXERCISE #3 : ONE WORD**

Instruct students to get comfortable in their chairs and close their eyes. Guide the students to take three deep breaths. With each breath, ask students to see if they can relax and clear out their minds more and more.

Tell students, "When I ring the bell three times, I am going to say a set of words. I will say a word and then pause for a moment. Then I will say another word and pause for another moment and so on and so forth. Your job is to notice what comes up in you when I say a word. Go with me from word to word to word and just pay attention to what happens inside of you. I will ring the bell one time to end the exercise." Pause and allow for silence before beginning the activity. Say whatever word comes to mind and then pause for about 10-20 seconds. Ring the bell 3 times. Then, continue with a new word. Repeat this process for about 3-5 minutes.

**TIP**

Use normal everyday words. Every once and awhile, try throwing in some "off-the-wall" words to throw the students off (i.e. camel, snot, nose hair, piggy bank, tutu, etc.) and make them think differently.

**REFLECTIVE QUESTIONS**

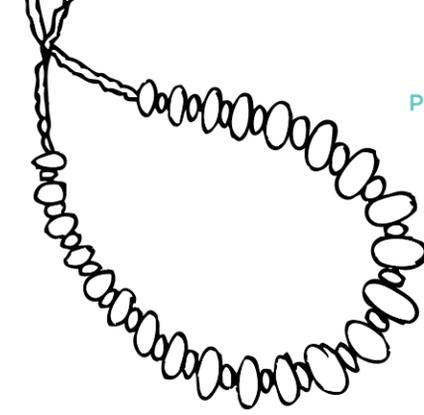
What kind of thoughts, urges, sensations, images or emotions arised in you with each word?

What helped you to let go? When did you feel stuck?

How we can observe all those without getting "stuck?"

How can mindfulness help us in our daily lives?

This exercise is a good way to give students confidence that they CAN observe without getting stuck on or reacting to what they observe.



**EXERCISE #4 : JUST THE FACTS**

Get students to learn how to “describe” using “JUST THE FACTS.”  
Remind them to describe:

- Only what they observe
- Add nothing, subtract nothing

Place objects on the table (a flower, a shoe, a glass with some type of liquid, beads, a banana, etc.). Instruct students to describe each object one at a time using their describe skill.

If students get into thoughts, opinions or extras, then start to call them out or get “nit picky” by reminding students to just “observe” this, use a “non-judgmental stance” and to get back to using “just the facts.”

**REFLECTIVE QUESTIONS**

How did it feel to communicate in “just the facts?”

---

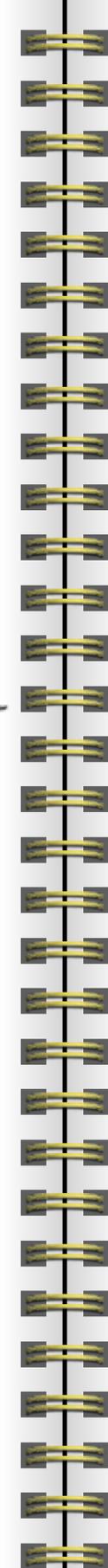
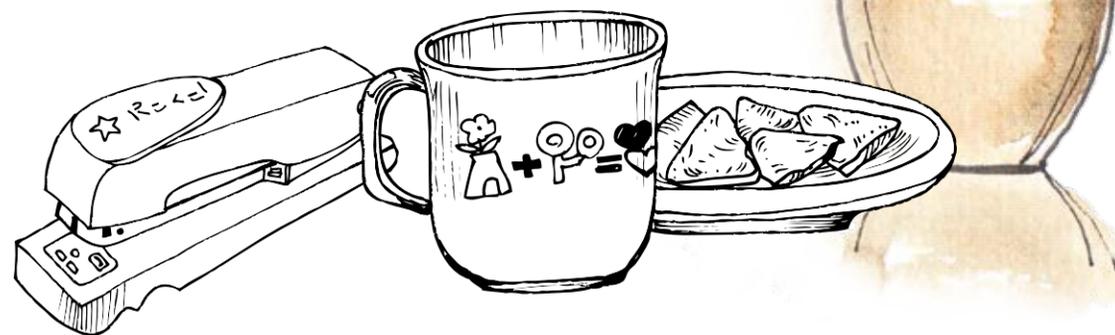
What was challenging? What was easy?

---

What kinds of assumptions do we usually make? How do assumptions get in our way of seeing things as they really are?

---

How can we use this kind of mindfulness activity, where we see things as they really are (reality) and respond to them in that way?



**EXERCISE #5 : A SPECIAL PLACE IN YOUR MIND**

Ask students to close their eyes and try to quiet their mind. Guide students to take three deep breaths.

Tell students, “Imagine you are sitting in a beautiful place. A place that completely inspires you. What does this place look like? Use your mind to visualize this place. Try to see what inspires you and what makes you feel totally peaceful. When I sound the bell, I’ll ask you to open your eyes.”

Allow 3-5 minutes to pass. Sound the bell and ask students to open

their eyes. Ask students if anyone would like to share what they saw. Discuss how holding a space of peace and inspiration in our minds can help us in our every day lives? Why is this important?





**THE FISH IS  
THE LAST TO SEE WATER.**

MINDSET # 2

## CURIOSITY

For human beings, curiosity is one of the basic and natural mindsets. Young children are the most curious because they are open, full of wonder and questions. Children are always looking at the world, as if for the first time. As we grow older, unfortunately, we learn to hide or push down our curiosity. In the 20th century, our schools and workplaces trained us to believe that there is only one right answer. We learned to obey, follow the rules and not ask questions. All throughout history we find that the most creative and innovative people have defied these rules and exercised this quality of curiosity.

Fundamentally, curiosity is about asking questions, wondering why, how and what if? Curiosity is looking into the future and trying to interpolate what could be. Beyond a desire to ask questions, with a curious mindset, you have to be willing to let go of your own point of view — to let go

of where you are so that you can see something from a different perspective with new eyes. In Zen Buddhism, this is called “Beginner’s Mind” because it is the practice looking at the world as a beginner or as if for the first time. To do this we need only to open our minds to be free of judgment, biases and assumptions so that we can observe what is really here without preconceived thoughts or ideas. Many times this means that we need to unlearn what we have been told so that we can see the world as it really is.

Curiosity is at the core of any learning classroom in the 21st Century and as teachers, we can learn to be champions and activators of curiosity in our students. When a teacher takes on a curious mindset, she encourages her students to ask questions, think critically and deeply about concepts, and experiment to come up with new ideas or innovations to the challenges in their community. Our students are

used to answering lots of questions within their school studies. But how many are also taught to ask questions? A 21st century teacher is not a teacher who only asks students to answer questions but helps students to question life and seek answers to their questions. Nurturing curiosity in our students is the single most important way for learning to come alive in the 21st Century.

# PRACTICING CURIOSITY

HERE IS THE ANSWER. NOW, WHAT IS THE QUESTION?  
ACTIVITY FOR STUDENTS AND TEACHERS

**Essential Understanding** *It has been said that all learning starts with a question. So what is more important in teaching than sparking and developing curious minds?*

#### Time

10-20 minutes

#### Difficulty

Easy to Difficult (varies depending on level of questions)

#### Materials

Paper, pencils, markers, newsprint or A4 paper

#### 21CS Focus

Curiosity  
Growth  
Critical Thinking  
Creative Thinking  
Communication  
Collaboration

#### LEARNING OBJECTIVE

Renowned astrophysicist Neil de Grasse Tyson, said “I believe that a curious mind is a precursor for a life of passion, success, and lifelong learning.”

With this activity we will flip the traditional role of a teacher from the one who asks all the questions to the one who elicits questions.

The student role then changes from answering questions to formulating and asking questions. This is to encourage questioning and initiate curiosity, which is an entry way into learning and the rest of the 5Cs

(curiosity, critical thinking, creative thinking, collaboration and communication). So what if we could teach our students to be lifelong learners? This question then is perhaps followed by the question, “How might we teach our students to question everything?”



#### HOW

The first steps in developing curiosity and questioning can be modeled by the teacher. Take the time to show curiosity about concepts and ideas in the curriculum — no matter what the content the teacher can model curiosity by asking questions like:

“I wonder why \_\_\_\_\_?”

“How might we \_\_\_\_\_?”

“What if \_\_\_\_\_?”

In lectures, try to present new information in chunks of 10 to 15 minutes and give students 2-3 minutes to process it, coming up with questions in that time. Link subject areas to real world examples.

Also find out about your students and find links in your curriculum to what they are already passionate about, whether it is rap music, football, space, travel, or fashion. For example: “I wonder why this pattern is so pleasing to people?”

When students ask questions give them positive reinforcement to help them to feel competent and confident in the risk of asking questions in class.

In this Activity, “Here Is The Answer. Now What Is The Question?”, start by giving students answers and ask, what is a possible question in which this could be an answer?

#### EXAMPLES:

*If the answer is Blue, then what is the question?*

*If the answer is Asking Questions, then what is the question.*

You may want to ask students to come up with an open question in which the answer is only part of the answer. Then move onto topics in which students may think of open and closed questions. Use questions about the world around us, Such as: “We love to look at a sunset, “How does a Sunset work?”

See the following page for types of types questions to guide your students.

### HERE IS THE ANSWER. NOW WHAT IS THE QUESTION? CONTINUED

#### TYPES OF QUESTIONS

Great questions start with 5Ws and 1H: WHO, WHAT, WHERE, WHEN, WHY & HOW?

Do you know what kind of questions you ask most frequently in your classes? As a teacher, there are lots of different types of questions you can use to activate 21st Century Learning in the classroom. Remember to use a variety of different types of questions and encourage students to also ask different types of questions.

#### OPEN QUESTIONS

We use open questions to gather more information and personal experiences. Open questions do not have just one answer, but open students' thinking to many possibilities, ideas and pathways. Open questions may be used to promote group discussion or student interaction.

- "Tell me about a time when..."
- "How would the story have been different if..."
- "What might happen if..."

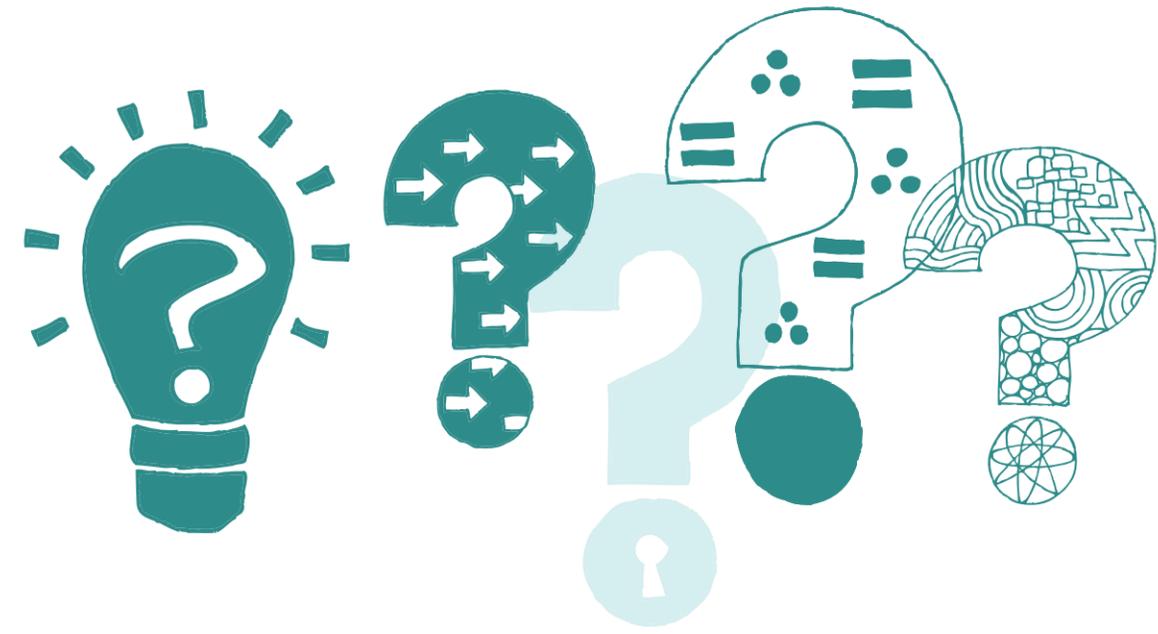
#### CLOSED QUESTIONS

Teachers might use closed questions during a lesson to check a student's understanding or to focus thinking on a particular point. Closed questions typically focus on finding the exact answer and can be used to check a student's level of commitment with either a "yes" or "no."

- "Do you like this or that?"
- "What is the correct answer?"
- "Who wrote this story?"

#### PROBING QUESTIONS

Probing questions are used to follow-up, find more details, clarify understanding and/or to prevent misunderstanding. Probing questions require students to go beyond their first response. Follow-up questions



by the teacher are formed on the basis of the student's response.

- "What do you mean...."
- "Tell me more..."
- "How do you feel about..."
- "Why..."

#### LEADING QUESTIONS

Leading questions are phrased to lead, prompt or encourage a desired answer. Questions typically already imply or contain an answer within the question. Leading questions may also be used to check an assumption.

- "I love this road, don't you?"
- "How bad was his speech?"
- "You will make mohinga tomorrow, right?"

CAUTION: Be careful of using too many leading questions in your lesson as they may not encourage students to develop higher level thinking skills.

#### IMAGINATIVE QUESTIONS

Imaginative questions encourage students to connect or relate their learning to a part of their everyday life or community. Imaginative questions allow students to gain deeper understanding of concepts, visualize future or alternative possibilities using different time, place or actions.

- "Imagine..."
- "What if..."

## MINDSET # 3

**GROWTH**

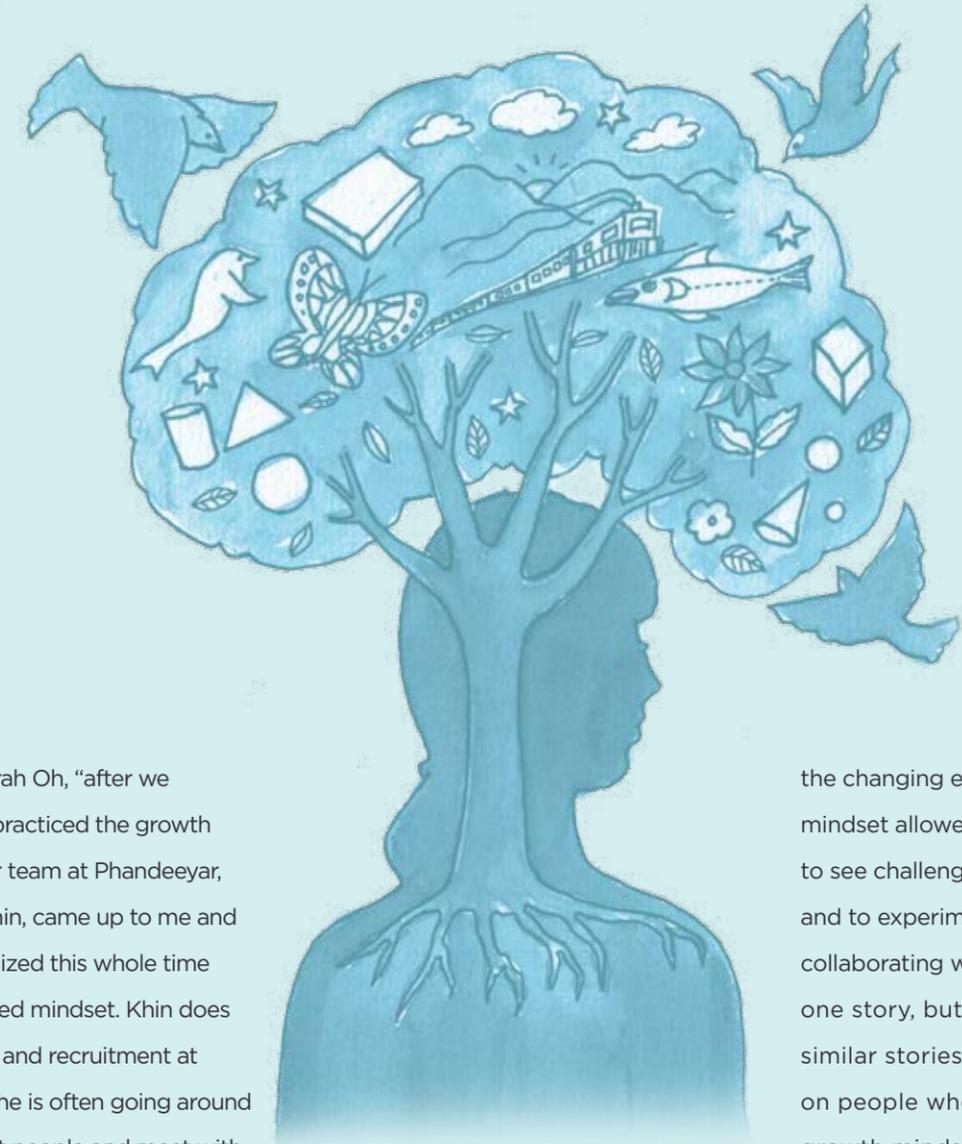
*In the Beginner's Mind there are many possibilities.  
In the Expert's Mind there are few.*

In our research for this guide, we spoke with Sarah C. Oh, former Head of Strategy and Social Impact at Phandeeyar — a community tech hub in Yangon that is fostering Myanmar's technology & innovation ecosystem. In Sarah's opinion, the mindset that has had the most profound impact on Phandeeyar's team and work is the growth mindset. "When we introduced the growth mindset to our internal team at a staff exercise, I immediately noticed a difference in how people were dealing with problems and how they approached collaboration in teams."

The growth mindset is a simple idea discovered by world-renowned

Stanford University psychologist Carol Dweck, who has conducted decades of research on achievement and success. Dweck found that a growth mindset is very different from a fixed mindset, in which people believe that their basic qualities, like their intelligence or talent, are fixed traits. With a fixed mindset, you believe that you cannot change and that things are out of your control. People with a fixed mindset spend their time documenting their intelligence or talent instead of developing them. They also believe that talent alone creates success—without effort. According to the research of Dweck, they are wrong.

With a growth mindset, people believe that their most basic abilities can be developed through dedication and hard work—brains and talent are just the starting point. This view creates a love of learning and a resilience that is essential for great accomplishment. Virtually all the legends throughout history have had these qualities. Teachers, both formal and non-formal, friends, and parents all can either support the development of a growth mindset or contribute to a child's enclosure within a fixed mindset. Often the key is to focus on effort instead of achievement, to praise a student's effort more than his or her level of achievement.



According to Sarah Oh, "after we introduced and practiced the growth mindset with our team at Phandeeyar, my colleague, Khin, came up to me and said that she realized this whole time she has had a fixed mindset. Khin does a lot of outreach and recruitment at Phandeeyar so she is often going around Yangon to recruit people and meet with organizations for planning. Many times people say they cannot come or they are busy and it can be very challenging. Khin told me that in the past

each time she would face a problem she would grow very depressed, upset and frustrated. After practicing the growth mindset, Khin told me that she realized she needed to adapt and change herself to be able to work with

the changing environment. The growth mindset allowed her to be more open, to see challenges as a way to learn and to experiment with new ways of collaborating with others. This is just one story, but I have heard so many similar stories of the positive affects on people who have adopted a growth mindset."

As Sarah's story shows, teaching a growth mindset creates motivation and productivity in the worlds of business, education, sports and beyond. It enhances relationships because people are open to learning from one another, to developing new ideas and skills, and to collaborating together to create something new or innovative.

# PRACTICING A GROWTH MINDSET

## 9 DOTS CHALLENGE FOR STUDENTS AND TEACHERS

**Essential Understanding** *A growth mindset teaches us that intelligence, skills, habits and knowledge can be developed through dedication and hard work.*

**Time**  
5-10 minutes

**Difficulty**  
Hard

**Materials**  
paper with 9 Dots on it  
a pencil or pen

**21CS Focus**  
Growth  
Curiosity  
Collaboration  
Critical Thinking  
Creative Thinking

### LEARNING OBJECTIVE

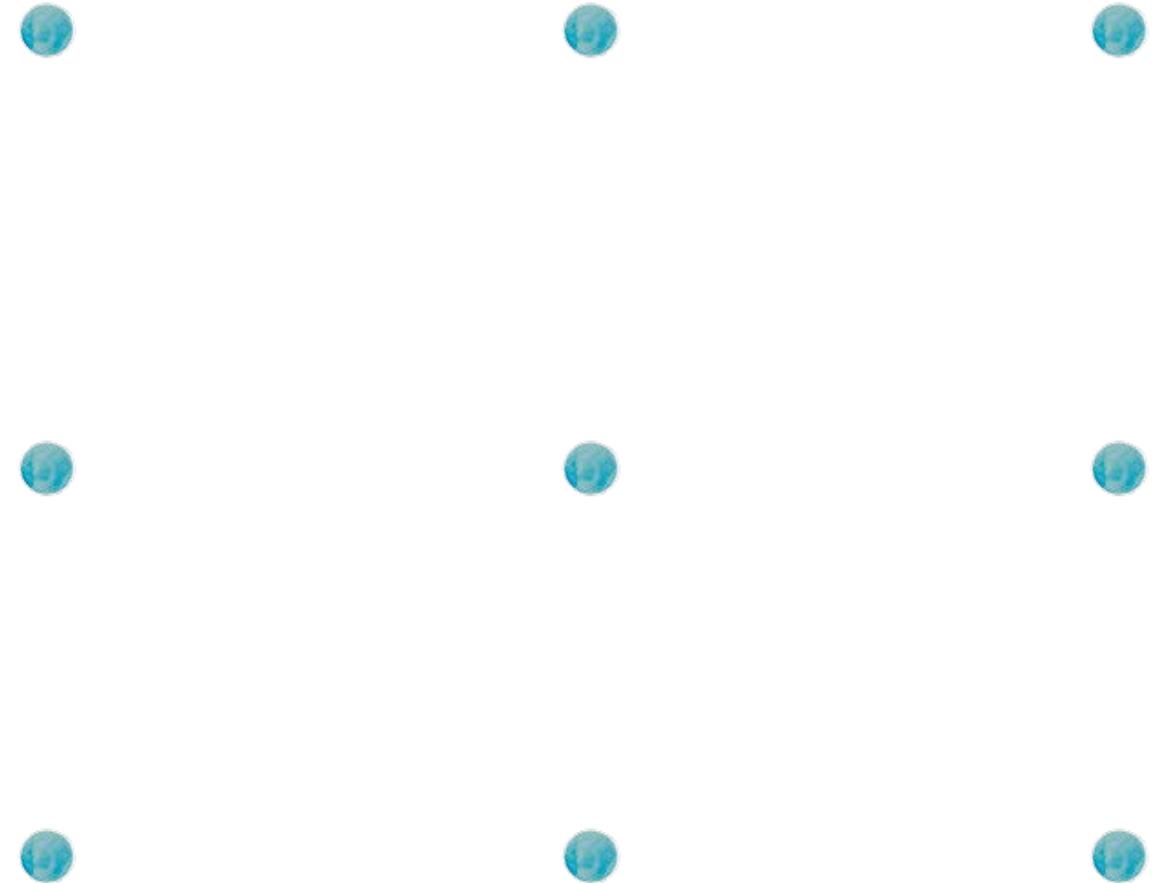
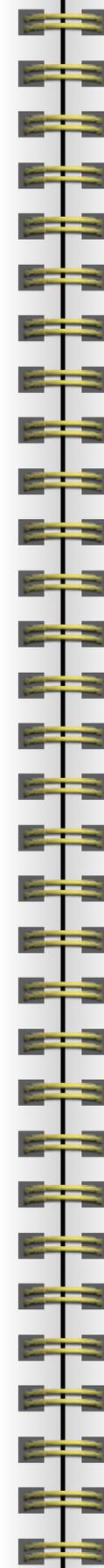
To experience how our perception of the world through mental models, assumptions, mindsets can constrain what we see and our ability to learn and grow in the 21st Century.

### HOW

Draw a 9-dot pattern on a sheet of paper as seen on the right. You will have five minutes to join all nine dots but you have to follow 2 simple rules:

1. You cannot draw more than 4 straight lines
2. You cannot lift your pencil from the paper.

Lines may be drawn at any angle and when you are done, every dot must have a line passing through it. If you are doing this with a class of students, you can have them work in pairs or in groups of 3. Whenever you are ready, set the timer and begin.



### REFLECTIVE QUESTIONS

- What did you do to solve the problem?  
\_\_\_\_\_
- What assumption did you make that kept you from being able to solve this problem?  
\_\_\_\_\_
- How do assumptions hold us back?  
\_\_\_\_\_
- Can you give another example of how an assumption kept you from being able to solve a problem?  
\_\_\_\_\_
- How can we remove or deal with assumptions in other parts of our life?  
\_\_\_\_\_
- How can working together and listening to each other can help us challenge our assumptions and break through barriers to learning and personal growth?  
\_\_\_\_\_

## MINDSET # 4

## EMPATHY

*If you're not willing to be changed by what you hear, you're not really listening.*

"Our interest in what is true about another person equals love. When we practice empathy we listen with an openness that allows others to be just as they are." To listen is to lean in softly with a willingness to be changed by what we hear.

Research tells us that empathy is a pre-requisite for compassion. When you practice empathy, you are experiencing what it is like to walk in someone else's shoes. From empathy comes compassion or mindful action. Compassion is empathy in action. True compassion isn't sacrifice. It is mutually

beneficial for both people.

We met Min Khant, an assistant teacher at the English Access Microscholarship Program (ACCESS) in Mawlamyine, Mon State, during a seven week course we held at Mawlamyine University called "Design Thinking for 21st Century Learning." After practicing empathy in the course, Min Khant began to apply what he learned back into his classroom with his students. "You know, before when I used to lesson plan I would just think about what do I need to do and what I need to teach. I never thought about my students. I began applying

empathy to my teaching and really understand the needs of my students and to see each student as a different learner. Now, my lesson planning is much different because I focus more on what are my students going to do and what are they going to learn. It really has changed our learning relationship so much because students are more engaged in the lesson and I feel like I can connect better with them."

According to Brene Brown, a research professor at the University of Houston Graduate College of Social Work, the difference between empathy and

sympathy is that empathy drives connection whereas sympathy drives disconnection. Brown has spent the past ten years studying vulnerability, courage, authenticity, and shame. In her research, she learned from nursing scholar, Theresa Wiseman that there are **FOUR ATTRIBUTES OF EMPATHY:**

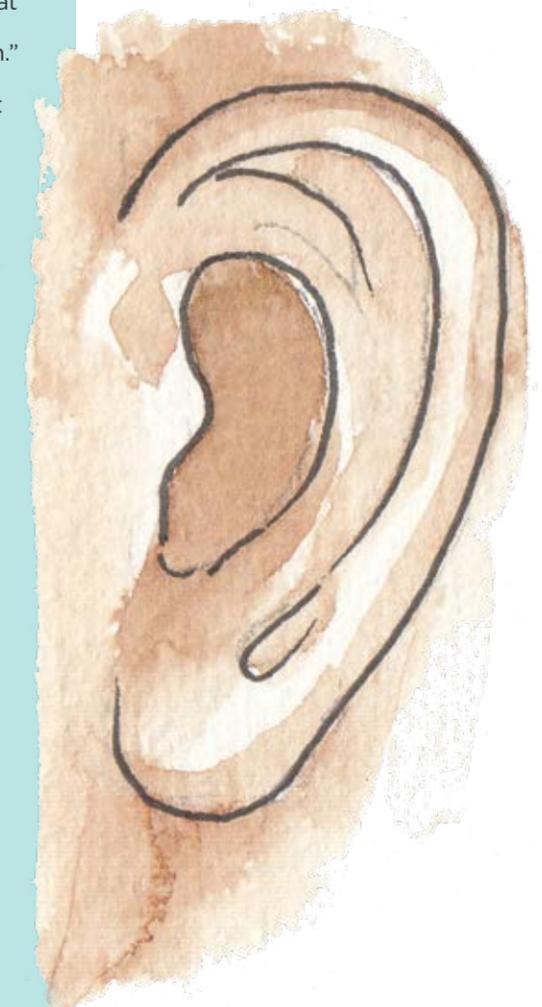
**1. PERSPECTIVE-TAKING:** the ability to take the perspective of another person or recognize their perspective as their truth.

**2. NON-JUDGMENT:** listening to another person without judgment.

**3. RECOGNIZING EMOTION:** to understand another person's feelings.

**4. COMMUNICATION:** to communicate the understanding of that person's feelings.

Brown has found that to practice empathy is to practice holding a sacred space for another person. Brown teaches us that "empathy is a choice and it is a vulnerable choice because in order to connect with you, I have to connect with something inside of myself that knows that feeling. In the face of difficulties, we try to make things better. But the truth is: rarely does a response make something better. What makes something better is connection." Teachers like Min Kant are finding that applying empathy towards students drives connection in learning.



# PRACTICING EMPATHY

A SEQUENCE OF 3 EXERCISES FOR STUDENTS AND TEACHERS

**Essential Understanding** *Empathy is at the heart of 21st Century Learning. With a deeper understanding of what students and teachers see, feel, and experience, effective integration of 21st Century skills is possible.*

**Time**  
15 minutes per exercise

**Difficulty**  
Easy

**Materials**  
None

**21CS Focus**  
Mindfulness  
Growth  
Empathy  
Appreciation  
Communication  
Collaboration

## LEARNING OBJECTIVE

To practice skills of empathy including active listening, differences between empathy and sympathy.

## HOW

The following exercises can be done as a sequence or as individual exercises that can be integrated into any lesson or topic.

## EXERCISE #1 : EMPATHY VS. SYMPATHY

On the white or chalk board, write the words “Empathy” and “Sympathy.”

### THINK

Ask students to take a few minutes to think about the meaning of empathy and sympathy. Ask them to use their notebook to write down the differences between empathy and sympathy. Encourage the students to give examples of each from their real life.

### PAIR

After 3-5 minutes, ask the students to find a partner and discuss together what they have both written down. Give them about 3-5 minutes to share with their partner and add to each other’s lists.

### SHARE

Now ask the whole class to share what they have written down. Ask for volunteers to contribute one idea to either Empathy or Sympathy. As the students give their ideas, the facilitator can write these on the white or chalk board. Facilitators should try to involve all students and encourage those who are shy or in the back of the room to also speak up and contribute their ideas.

**DISCUSS AND REFLECT** together as a class how empathy is different than sympathy. Discuss together how we can use empathy in our class or projects.

## EXERCISE #2 : EMPATHY VIDEO

(OPTIONAL)

Watch this short animated YouTube video by The RSA of a beautiful talk by Brene Brown, a research professor at the University of Houston Graduate College of Social Work, who discusses the differences between empathy and sympathy:

<https://www.youtube.com/watch?v=1Evwgu369Jw>

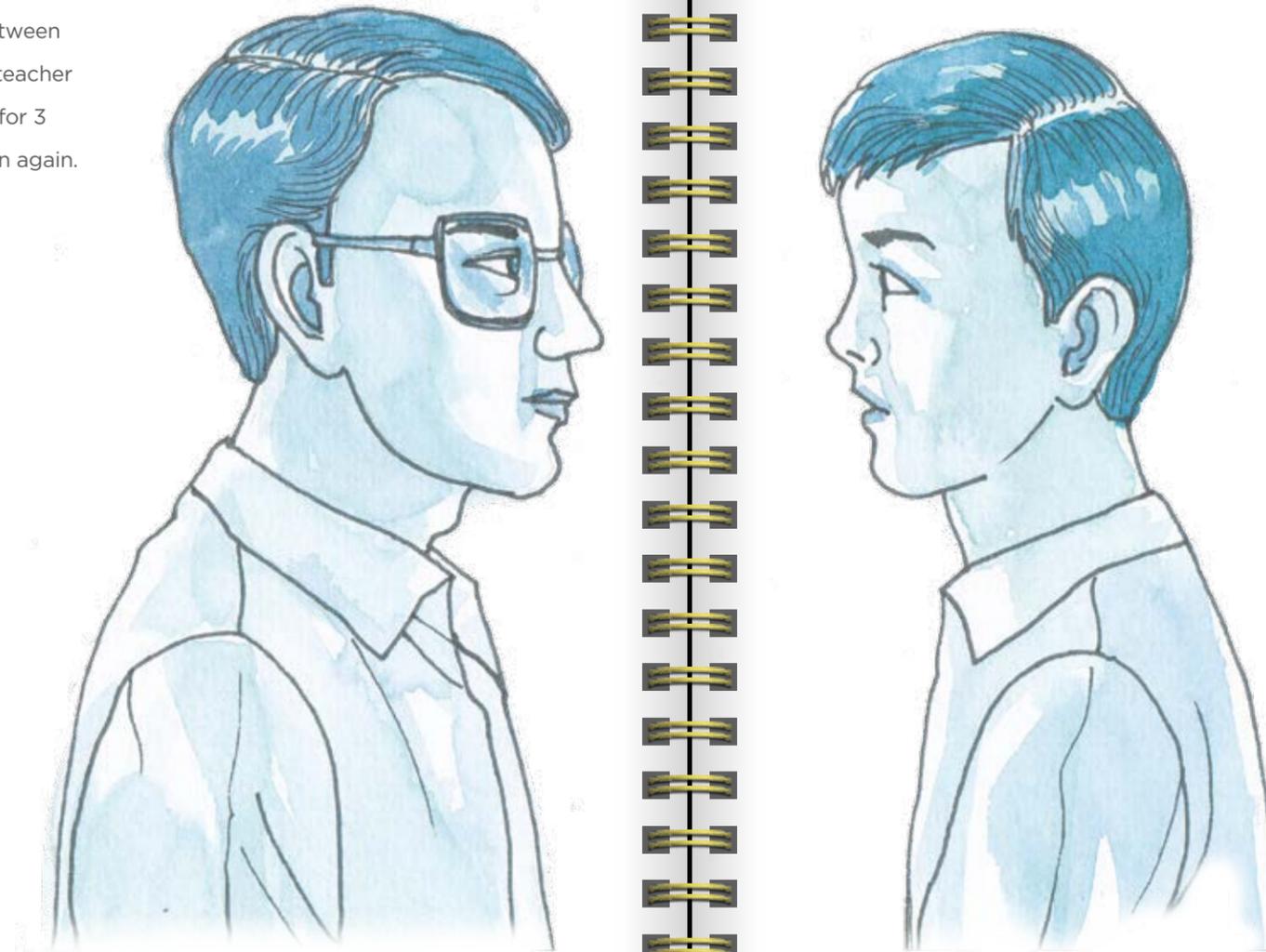
Discuss this video together with your students. Note, this video is in English and is best used with ESL students with the subtitles on. Teachers may want to pause occasionally to clarify points and discuss together with their students as they go. We love this video!

**EXERCISE #3 : MINDFUL LISTENING**

Mindful Listening is a practice in active, empathetic listening. It is a practice that will help you become more aware of your mind and your mental habits during conversation. As you become more aware of your mental habits in your day to day conversations, you'll also have more power to change it. Here's how this practice works:

Find a partner. Each person will take turns speaking. The first person will speak for 3 minutes, uninterrupted. When you are in the speaker role, all you need to do is talk for 3 minutes. The topic doesn't matter. Speak from your heart. You don't have to fill the entire 3 minutes. If you run out of things to say, just stop speaking and sit in silence until you feel like talking again. The listener role is simply to actively listen. The listener is not allowed to speak.

The teacher or facilitator will ring a bell when 3 minutes are done and the turn is over. You'll want to switch between speaker and listener roles. The teacher or facilitator will reset the time for 3 minutes and partners may begin again.



**REFLECTIVE QUESTIONS**

- How did it feel to be the speaker?  
\_\_\_\_\_
- How did it feel to be listened to by someone else?  
\_\_\_\_\_
- How did you know if he or she was really listening? What were the verbal or non-verbal ways that your partner showed you that he or she was actively listening?  
\_\_\_\_\_
- How did it feel to be the listener?  
\_\_\_\_\_
- Did you feel the urge to share your own story?  
\_\_\_\_\_
- Did you feel the urge to offer advice?  
\_\_\_\_\_
- What emotions did you experience while listening?  
\_\_\_\_\_
- Was it easier to be the speaker or the listener? Why?  
\_\_\_\_\_
- Why is empathy important? How can we apply empathy in our study, work and life?  
\_\_\_\_\_



**BE GRATEFUL TO EVERYONE.**

## MINDSET # 5

# APPRECIATION

Appreciation is recognizing, accepting and loving the differences in each person. When a teacher practices appreciating each student, he or she is clearing the way for the true nature within each student to come alive and feel whole. Appreciation is also linked to the growth mindset. A child with a growth mindset appreciates a challenge and is easily motivated to try to solve the problem and test him or herself and learn and grow from the challenge. A child with a fixed mindset is afraid of challenges and is fearful of making a mistake or not knowing “how to do something” and be diminished in the eyes of others.

The American poet, Walt Whitman, famously said, “I contain multitudes.”

These “multitudes” are the differences within each person and they are what keep the learning process fresh and interesting. When a teacher is able to relate to her own complexities and qualities inside, she begins to cultivate self-acceptance that expands her capacity to embrace and accept others as well. Appreciation allows us to accept the way that those we teach are different from us — their backgrounds, values, perspectives, qualities, sensitivities, preferences, ways of doing things, and finally, their destiny.

The Indian teacher Swami Prajnanpad taught, “To see fully that the other is not you is the way to realizing oneness... nothing is separate, everything is different... love is the appreciation of

difference.” The 21st Century teacher practices appreciation by recognizing and allowing differences among students to co-exist and exchange. By doing this, students gain skills in collaboration and communication as they learn to appreciate differences in skills and strengths, learning styles, experiences, ideas and levels of understanding. Appreciation is essential to 21st Century Learning because the problems of today are so complex and great that in order to solve them effectively, students will need to be able to work with people from different cultures, ethnicities, socio-economic backgrounds, religions, genders and languages.

# PRACTICING APPRECIATION

## WEB OF APPRECIATION ACTIVITY FOR STUDENTS AND TEACHERS

**Essential Understanding** *An appreciative mindset helps us to recognize, accept and love the differences within each person in a group, team or class.*

**Time**  
10-15 minutes depending on the size of the group

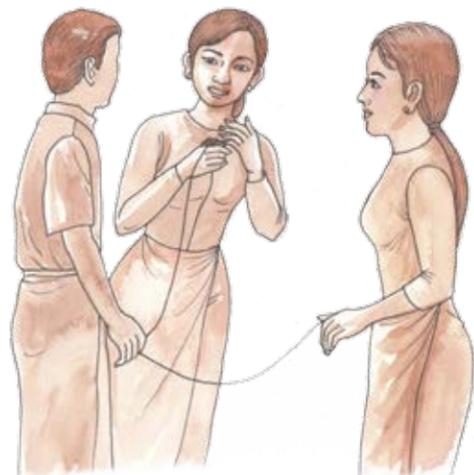
**Difficulty**  
Easy

**Materials**  
Ball of string or yarn

**21CS Focus**  
Mindfulness  
Empathy  
Appreciation  
Systems Thinking  
Communication  
Collaboration

**LEARNING OBJECTIVE**

To share what we appreciate about other people who we are either working or learning with so that we may recognize each person's unique qualities.



**HOW**

Using a ball of string, work in your group, team or class to construct a Web of Appreciation. You can stand as a group in a circle or simply ask people to stand wherever they are in the room.

To begin, the first person will hold onto the end of the string and toss the ball of string to someone else in the group. The first person will state something he or she appreciates about the person who is now holding the ball of string. Appreciation can be for



a characteristic, value, action, behavior or achievement.

Once the first person has spoken words of appreciation, the receiving person will toss the ball of string to another person in the circle.

Continue the process until everyone in the group has become part of the web. Students should be given freedom to toss the ball of string to whoever they feel inspired to give words of appreciation to.

The resulting web symbolizes the connectedness of the group, available support, the trust factor, and love of each person. If you like, at the end of this activity you can use a pair of sharp scissors to eventually cut the connecting strings, symbolizing that we must all return to our own lives, but that the connection and relationship between us will continue even though we do not always see it so clearly.

Cutting the string can be a very poignant moment, a sad but realistic commentary of our changing lives. Dull scissors substantially reduce the effectiveness of this exercise.

**WRAP-UP**

Ask the students to reflect on how they experienced this activity. Reflect and discuss together the following areas:

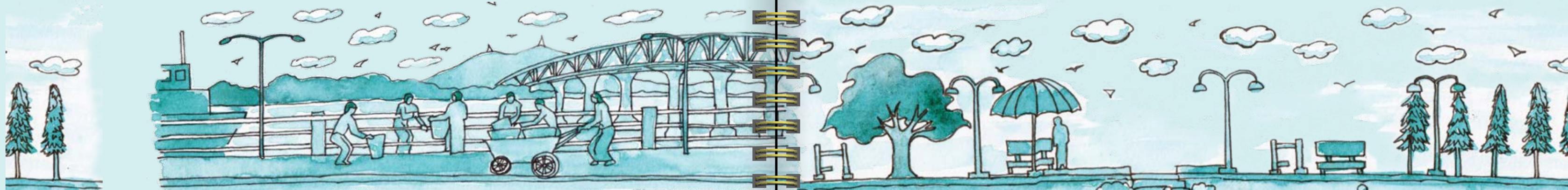
What are the differences or similarities of what we appreciate about each other?

What are the different things we appreciate about people in different circumstances? For example in one activity we may appreciate one thing and in another something else. What does this web of appreciation symbolize?

How can we use this web of appreciation going forward? How can this web support us to develop 21st Century Skills of collaboration and communication?

**TIP**

Prompt students to appreciate recent actions and ask them to avoid appreciations of material qualities or objects like "I like your clothes."



MINDSET #6

# EXPERIMENTATION

*Start where you are. Use what you have.  
Do what you can.*

What matters most in getting and keeping a decent job today is not how much you know, but rather what you can do with what you know. We can use an experimental mindset to close **“The Knowing-Doing Gap”**: what Jeffrey Pfeffer and Robert I. Sutton of Harvard Business School describe as the challenge of turning knowledge into actions consistent with that knowledge. According to Pfeffer and Sutton, “memory often serves as a substitute for thinking. People often do what has always been done without reflecting. Even when they confront a new problem, problem solving means drawing from past precedents, customs of often unknown origin, stories about

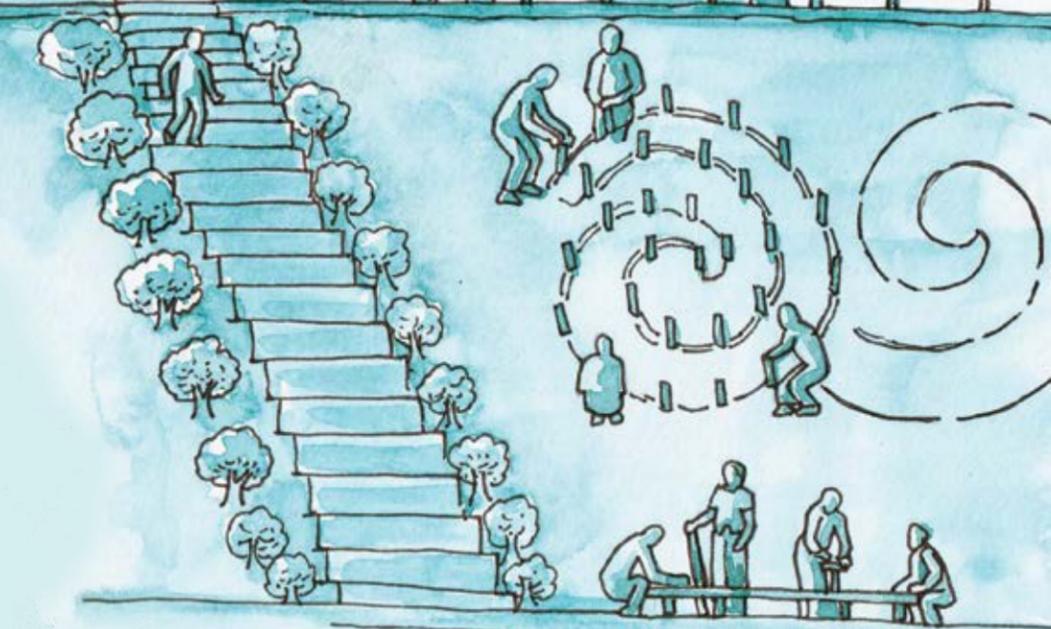
how things have always been and used to be, and standard operating procedures.” In the 20th century, it became common practice for teachers to act as knowledge brokers who specialized in collecting knowledge about a specific subject area, storing it, and then transferring the information to students. In the 21st Century, with advances in technology and access to information, the role of a teacher has shifted from knowledge broker to teacher as a person, facilitator, presenter, skills-builder, professional, lifelong learner, and mentor of learning. In this way, learning happens best when knowledge

is applied. Without taking some action, learning is more difficult and less efficient because it is not grounded in real experience.

An experimental mindset helps teachers and students to open up to the process of trying a lot of things, learning from what works and what does not, thinking about what was learned, and trying again. The best teachers are constantly experimenting with new activities and methods to engage their students in learning and help connect knowledge to the real world. They also ask for feedback from their students in order to work together to adjust teaching and learning styles for the group of students.

Teachers can build a culture of experimentation in and out of the classroom by giving students time and space to explore and discover without limitations. Teachers can also work together to form “teacher working groups” focused on sharing and building lesson plans, upgrading teaching practices and giving feedback on teaching performance.

All learning involves some “failure,” and good teachers help students and other teachers to see their mistakes as something from which they can continue to learn.



# PRACTICING EXPERIMENTATION

PAPER DROP ACTIVITY FOR STUDENTS AND TEACHERS

**Essential Understanding** *Effective experimentation and collaboration supports diverse groups of leaders, community members, teachers and students to develop solutions for big, interconnected issues.*

**Time**  
30 minutes

**Difficulty**  
Medium

**Materials**  
Measuring tape, a target on the floor approximately 9 inches across (target can be drawn on paper and taped to floor), sheets of plain A4 paper – enough for each team to have 3 or 4 sheets to practice with, a white or chalk board to keep score, markers, masking tape (optional), a string or rope that can be used to drop the paper over the top.

**21CS Focus**  
Growth  
Experimentation  
Curiosity  
Communication  
Collaboration  
Critical Thinking  
Creative Thinking

## LEARNING OBJECTIVE

Working in collaborative groups, design a paper object that lands and stays on a small target when it is dropped from a height of about 6-8 feet.



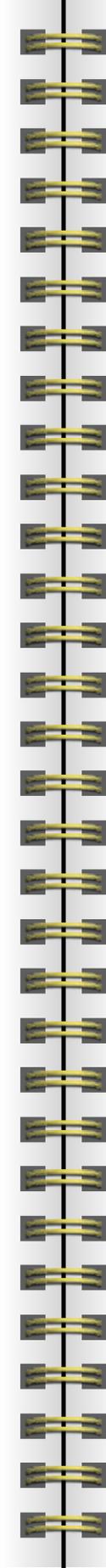
PAPER DROP CONTINUED

PREPARATION

Find a place where you can extend string or a rope at about 6–8 feet in height between two posts or pillars in a room. Use a ladder or chair for people to stand on to drop the paper over the string or rope.

Draw on a newsprint or white / black board with the teams across the top and the 3 rounds for dropping on the left columns, as shown below:

ROUND	TEAM 1	TEAM 2	TEAM 3
1			
2			
3			



HOW

The Paper Drop Activity comes from the book, Raptor, by Sam Sikes and is a great activity that relates both to experimentation and collaborative learning. In addition, it requires few special props.

Each team gets 3 attempts to drop a sheet of A4 paper from 6-8 feet high and try to land the paper on the target on the floor. You don't have to use the whole sheet of paper but may decide to drop only one piece (not many small pieces). Fold, tear, or ball up the paper into any shape you wish.

Choose a design that will fall down and hit the target and stay on the target. If after the first attempt you would like to change your design, refold or get a new sheet of A4 paper.

The team that drops a piece of paper that lands on the target or closest to the center of the target and stays there without bouncing away will receive the highest number of points – say 10 points. The team that comes next closest then receives 5 points and the team that is third receives 3 points.

Do this for 3 rounds of drops. Give each team 10 minutes to discuss and design their original paper to drop the first time and then in each succeeding round each team receives 5 minutes of “design time” to redesign their piece of paper to allow it to drop straight and stay on the center of the target.

Choose one member of your team to drop your designed paper. The entire paper object must be above the string (which is tied at 6-8 feet high) when you drop it. For safety whenever someone steps on the chair or ladder to drop the paper two other team members stand next to the person as spotters to make sure the dropper doesn't fall in all the excitement.

VARIATIONS

Instead of going in rounds, simply give teams a time limit to hit the target and stay there. This variation shows team the value of planning for a short time before taking action and or planning during the action to come up with better designs. A poor design will still land on the spot infrequently even if you make more

drops than another team. A team with a good design and delivery process can win every time.

REFLECTIVE QUESTIONS

How well did your team work together?

What are some patterns in the way your team worked together?

What did you learn from each drop?

How did you use your learning?

How did teams influence each other?

What implications does this activity have for your class?

What 21st Century Skills did your team use in this activity?

# SYSTEMS THINKING

*Remember, whatever you do has an impact.  
What goes around, comes around.*

The pioneering American environmental scientist, teacher, and writer, Donatella Meadows, describes in her book, *Thinking In Systems*: “At a time when the world is more messy, more crowded, more interconnected, more interdependent, and more rapidly changing than ever before, the more ways of seeing, the better. The systems-thinking lens allows us to reclaim our intuition about whole systems and

- **hone our abilities to understand parts**
- **see interconnections**
- **ask “what if” questions about possible future behaviors, and be creative and courageous about system redesign.**

A system isn't just any old collection of things. A system is an interconnected

set of elements that is organized in a way that achieves something. If you look at that definition closely for a minute, you can see that a system must consist of three kinds of things: elements, interconnections and a function or purpose.”

Systems thinking is all about a different way of seeing and thinking. In 21st Century Learning, a teacher is focused on managing the learning system that consists of the teacher, students and curriculum. The role of the teacher is to manage the relationship and interconnections between the parts in the learning system. For example, some of the interconnections that take place everyday in a learning classroom are: the relationship of students to students; the relationship between teacher and students; feedback

between teacher, students and the whole class; adaptations to curriculum to meet the needs of students; class time; classroom or learning space; and connections between the curriculum and the community to make learning relevant and transferable. These kinds of interconnections are often harder to see, but as a teacher practices systems thinking these interconnections become more visible and easier to manage.

If interconnections are hard to see, functions or purposes are even harder. The best way for teacher and students to create a shared learning goal or purpose is to make a conscious effort to co-create one together for the whole class and for each individual learner. As learning processes take place,

teachers can help manage individual student learning and whole class learning by revisiting learning goals throughout the school year and gathering feedback on how student performance relates back to learning goals.

One of the biggest benefits of using systems thinking in schools, may be the development of systems citizens. As Jay Forrester, founder of System Dynamics at the Massachusetts Institute of Technology (MIT) says, systems citizens are “people who have better capacity and motivation, as citizens, to address the complex real world problems that confront them.” Teachers and students who are able to practice a systems thinking mindset today will be better prepared to solve the challenges of tomorrow.



# PRACTICING SYSTEMS THINKING

## COUNT OFF ACTIVITY FOR STUDENTS AND TEACHERS

**Essential Understanding** *Systems thinking is about seeing how things connect to make a whole.*

**Time**  
15-20 minutes

**Difficulty**  
Hard

**Materials**  
None

**21CS Focus**  
Mindfulness  
Growth  
Systems Thinking  
Curiosity  
Communication  
Collaboration  
Critical Thinking  
Creative Thinking

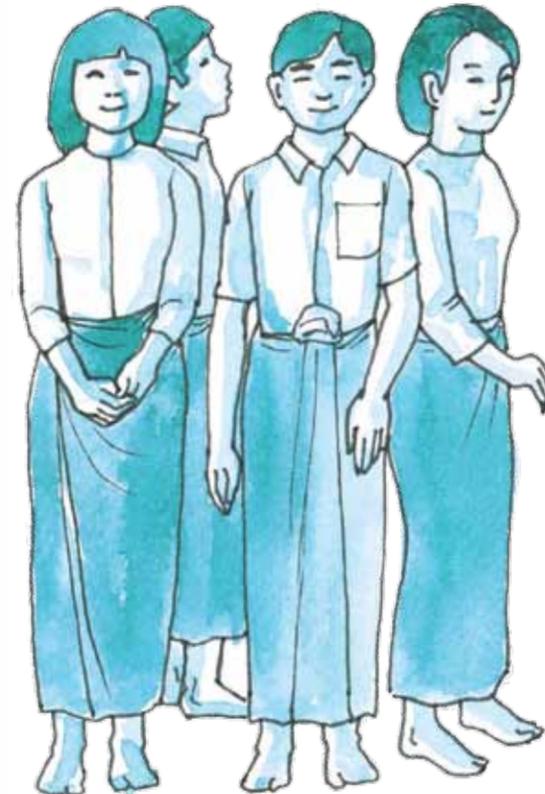
### LEARNING OBJECTIVE

To experience how the power of organization (the connection between elements) within a system can effectively support our ability to accomplish goals and tasks together.

### HOW

Appearances can be deceiving!! This activity seems so easy. But it is so difficult! It illustrates that without planning, coordination of effort and cooperation through good communication, it is difficult for a group to do even the simplest of tasks.

Have students start in a circle and then have all the students walk to the center and mix up completely — they should be facing different ways and completely unorganized. Ask the group to count to twenty without coordinating effort or pre-planning who is going to say which number.



They must do this without having two (or more) people saying the same number simultaneously. It may seem easy, it isn't!!

No verbal or visual clues are allowed. Begin this activity with the group scattered randomly, not in a circle. (A circular arrangement lends itself to a speedy solution.) Anyone can begin by saying "one", then someone else tries to sneak in a "two", and then a quick "three", "four", and then "five." If on any of these numbers two people start to say the number at the same time the whole group must return to zero to begin again.

After two or three minutes of trying to reach twenty, they have probably not yet succeeded. Have the people form a circle then ask for them to count. Most groups will naturally begin to go around the circle in order counting off easily.

### REFLECTIVE QUESTIONS

What was the goal that we tried to accomplish in this game?

Why could we not accomplish it until we formed a circle?

What does this tell you about trying to accomplish tasks or goals in a classroom?

How should we help our students see the bigger picture and see the connections of different elements of systems around us?

What are the most important parts and connections in a classroom system? How can we apply our learnings from this activity into our own learning system?



# 21<sup>ST</sup> CENTURY SKILLS

## UNPACKING THE 5Cs & SHARING PERFORMANCE CHECKLISTS FOR STUDENTS AND TEACHERS

The 21st Century is a key moment in our evolution as human beings. We have an incredible opportunity before us to grow as a connected human race through the skills of curiosity, creativity, critical thinking, communication and collaboration. We call these the 5Cs of 21st Century Skills because they are the most foundational skills necessary for an individual to be successful in the 21st Century. The 5Cs are interconnected and overlapping. Each skill strengthens and expands the next. The 5Cs come alive through practice and repetition — any person can learn and develop the 5Cs and transfer these skills to community development, employment, further studies, family planning and personal development.

So why do these skills matter now?

In 2015, Forbes reported that more data was created in the previous two years (2013-2015) than at any other time in human history. By 2017, iflscience.com reported that “ninety percent of the data in the world today has been created in the last two years alone. Our current output of data is roughly 2.5 quintillion bytes a day.”

Just in the average minute, there are 900,000 Facebook logins, more than 450,000 Tweets, 156 million emails and 15 million text messages. With numbers like that, it's no wonder

we're essentially doubling the amount of data created in the world roughly every two years (Forbes.com).

Information is neutral until it is given meaning, and then it becomes actionable. The same information can be used in a positive or destructive way for humankind. Now more than ever, human beings need to know what to do with information and how to use it for the benefit of all, not just the benefit of some and detriment of others. 21st Century Skills are how we begin to connect information to our daily actions. The 5Cs help us to learn how to collaborate with people who have a different perspectives, find out what is really happening in our community, assess and evaluate data co-create new ideas to improve our societies, and communicate new ideas effectively with others.

Peace and prosperity in the 21st Century are dependent on each person's ability to think, create and communicate. As educators, we can be leaders in the 21st Century by making sure that every child graduates with the skills necessary to be successful in work, life and community. In this section, we will talk about how to unpack the 5Cs and demonstrate how teachers and their students may use these together to support 21st Century Learning in any classroom.

This section includes:

1. THE 5CS 62-63
2. THE 5CS CHECKLIST FOR TEACHERS 64-65
3. THE 5CS CHECKLIST FOR STUDENTS 66-67

# THE 5 Cs

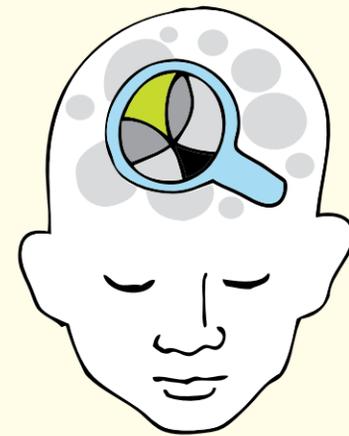
## A BREAKDOWN OF THE CORE SKILLS IN 21ST CENTURY LEARNING

The core skills necessary for students and teachers to be successful in the 21st Century are curiosity, critical thinking, creative thinking, collaboration and communication. We call these the 5Cs. Here are the key components within each C:



### CURIOSITY

- Asking questions
- Noticing new & different things
- Paying attention to your inner & outer experiences
- Appreciating & inquiring from multiple perspectives
- Learning extends beyond the classroom & exams



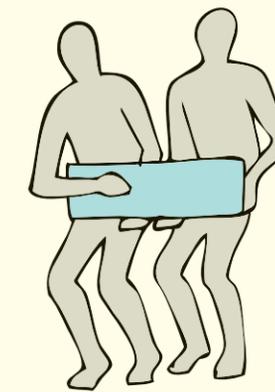
### CRITICAL THINKING

- Identifying what we know & what we don't know
- Analyzing data & information
- Evaluating data & information
- Organizing & prioritizing data & information
- Making decisions based on data & information
- Applying past knowledge to new situations



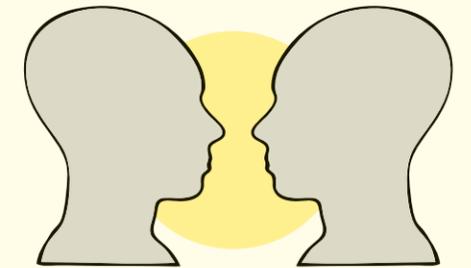
### CREATIVE THINKING

- Practicing generative & divergent thinking
- Imagining & changing perspective
- Taking responsible risks
- Applying a Beginner's Mind to gather new information & ideas
- Facilitating a brainstorm to generate ideas with a group
- Building, refining & testing ideas in the real world
- Gathering feedback to adapt & improve ideas



### COLLABORATION

- Working in a group to achieve a shared goal
- Appreciating different skills, talents & experiences within a group
- Inviting others to contribute their thoughts, ideas & questions
- Supporting & empowering others to do their best
- Managing tasks and time within a project effectively
- Giving and taking feedback



### COMMUNICATION

- Mutual understanding
- Listening with empathy
- Awareness of verbal (tone of voice, sounds, frame, timing and attention) and non verbal (posture, facial expression, visuals, symbols, written language and context) communication patterns
- Asking questions — to find out more, inspire thinking, & guide learning
- Testing assumptions, biases & perceptions

# THE 5Cs CHECKLIST FOR TEACHERS

TEACHERS WHO SPARK 5CS IN STUDENTS DO THESE:

CURIOSITY	CRITICAL THINKING	CREATIVE THINKING	COLLABORATION	COMMUNICATION
<ul style="list-style-type: none"> <li><input type="checkbox"/> Teacher invites and encourages active participation with the attitude that everyone can achieve and acknowledges each person's effort.</li> <li><input type="checkbox"/> Teacher plans questions throughout their lesson including open and closed questions at higher cognitive levels.</li> <li><input type="checkbox"/> Teacher connects to students individually through coming to class early and staying at the end of class for a few minutes to give space for students to ask questions personally. In addition, the teacher moves around the class during group work to talk and connect to individual students.</li> <li><input type="checkbox"/> Teacher connects the topic of the class to the lives of the students.</li> <li><input type="checkbox"/> Teacher varies presentation style by stopping to ask questions that stimulate group discussions or individual reflection.</li> <li><input type="checkbox"/> Teacher promotes group work and discussions by students concerning the lesson content.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Teacher uses different cognitive levels of questioning along with various questioning techniques to both individuals and groups so that students may understand, analyze, apply and synthesize information covered in the lesson.</li> <li><input type="checkbox"/> Teacher varies questioning style from individual questioning to students handing off questions to other students to grouping techniques to provoke discussion at different cognitive levels.</li> <li><input type="checkbox"/> Teacher starts and ends lectures or lessons with essential questions.</li> <li><input type="checkbox"/> Teacher encourages students to see connections between lesson material and their lives.</li> <li><input type="checkbox"/> Teacher defines target behaviors for students so that they may track learning progress, self-assessment, feedback and achievement.</li> <li><input type="checkbox"/> Teacher communicates high expectations of achievement to all students.</li> <li><input type="checkbox"/> Teacher uses follow-up and probing questions to drive students deeper into self-awareness, to see their assumptions and biases within their point-of-view and to understand how that might differ from others.</li> <li><input type="checkbox"/> Teacher uses activities that prompt analytical, systems, judgemental and predictive cognitive engagement.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Teacher creates a flexible classroom environment that is safe and empowering for all students and celebrates both effort and learning.</li> <li><input type="checkbox"/> Teacher uses a variety of tools processes and activities within their classes including visual tools, tools from design thinking, metaphorical and analogous thinking and creative team building activities.</li> <li><input type="checkbox"/> Teacher encourages students to ask open questions and do action research (internet or within their community) on topics of interest to them.</li> <li><input type="checkbox"/> Teacher is able to integrate mindfulness and self-reflection within their classroom.</li> <li><input type="checkbox"/> Teacher asks for and accepts feedback from students in order to adapt their classroom structure and activities.</li> <li><input type="checkbox"/> Teacher encourages and leads open sharing of ideas. Teacher focuses on opportunities to learn and is not overly focused on right and wrong or seeing mistakes.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Teacher creates a safe environment for interactivity and learning for all students.</li> <li><input type="checkbox"/> Teacher invites every student to participate, accept wild questions and praise effort along with achievement.</li> <li><input type="checkbox"/> Teacher encourages and respects different points-of-view.</li> <li><input type="checkbox"/> Teacher combines collaboration with real world problems and project or problem-based learning.</li> <li><input type="checkbox"/> Teacher uses activities that include or necessitate collaboration and cooperation among students.</li> <li><input type="checkbox"/> Teacher assesses students in relation to group process and individual learning.</li> <li><input type="checkbox"/> Teacher helps students build skills in group process (team formation, roles and responsibilities, project management, setting goals and facilitation) within their class along with subject content.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Teacher models empathetic listening in the classroom.</li> <li><input type="checkbox"/> Teacher encourages mindfulness and self-reflection through journaling and reflective questions.</li> <li><input type="checkbox"/> Teacher uses classroom ground rules and policy to create a culture of mutual respect and openness to different points-of-view.</li> <li><input type="checkbox"/> Teacher encourages and invites students' to discuss and share what they know using group discussion and visual tools.</li> <li><input type="checkbox"/> Teacher is aware of students' energy and body language, and finds ways to engage with them individually to motivate them.</li> <li><input type="checkbox"/> Teacher takes time before and after class to allow for individual connections with students.</li> <li><input type="checkbox"/> Teacher uses humor in their presentations and student talk.</li> <li><input type="checkbox"/> Teacher embraces a variety of ways to communicate concepts through the use of visual tools and presentations.</li> </ul>



# THE 5Cs CHECKLIST FOR STUDENTS

STUDENTS WHO DEMONSTRATE 5CS DO THESE:

CURIOSITY	CRITICAL THINKING	CREATIVE THINKING	COLLABORATION	COMMUNICATION
<ul style="list-style-type: none"> <li><input type="checkbox"/> Student is able to ask questions including higher order and open questions.</li> <li><input type="checkbox"/> Student self-reflects, pays attention to what she or he wants to learn and checks in with him or herself regularly to see what is understood and what is not understood.</li> <li><input type="checkbox"/> Student shows enthusiasm and not being afraid to “look stupid” in the eyes of others by asking questions.</li> <li><input type="checkbox"/> Student is not afraid to take intellectual risks.</li> <li><input type="checkbox"/> Student appreciates and inquires from different perspectives and points of view to learn beyond the classroom.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Student looks for patterns in information and makes attempts at predicting what might come next.</li> <li><input type="checkbox"/> Student develops expert questions around the information studied.</li> <li><input type="checkbox"/> Student is able to use to frameworks, paraphrasing and summarizing methodss to organize learning material and processes.</li> <li><input type="checkbox"/> Student continually self-reflects on what he or she knows, understands, does not understand, and how to fill his or her gaps in learning.</li> <li><input type="checkbox"/> Student is able to prioritize content according to what is most important or key principles in the content area.</li> <li><input type="checkbox"/> Student connects lessons to the real world and other subject learning.</li> <li><input type="checkbox"/> Student understands the what, why, and how of information - what is important, why it is important, and how it can be used or was discovered or developed.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Student is able to ask questions from different perspectives.</li> <li><input type="checkbox"/> Student embraces uncertainty and sees roadblocks as an opportunity to take on new challenges with enthusiasm.</li> <li><input type="checkbox"/> Student sees mistakes as opportunities to learn.</li> <li><input type="checkbox"/> Student spontaneously brainstorms to create new ideas concerning a topic studied.</li> <li><input type="checkbox"/> Student is able to gather information with all senses, combining it in various ways to come out with viable alternative answers in response to problems and opportunities.</li> <li><input type="checkbox"/> Student freely and collaboratively shares ideas with others.</li> <li><input type="checkbox"/> Student actively gathers feedback and reflects on it to improve him or herself and the learning process.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Student listens actively and respectfully with empathy to the point of view being presented.</li> <li><input type="checkbox"/> Student works effectively in groups to gather ideas from different sources and make decisions.</li> <li><input type="checkbox"/> Student is mindful of his or her own strengths, weaknesses, skills, biases and assumptions.</li> <li><input type="checkbox"/> Student, individually demonstrates appreciative and growth mindset, and collaboratively promotes others in the group toward the same mindsets.</li> <li><input type="checkbox"/> In a group, student is able to adapt to the group dynamics and take on different roles and responsibilities in relation to what is needed within the specific group engaged in the specific task.</li> <li><input type="checkbox"/> Student is able to give and receive feedback easily and is willing to disagree without being personally antagonistic to others.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Student practices listening with empathy.</li> <li><input type="checkbox"/> Student reguarly practices self-reflection through journaling, checking assumptions and biases, mindfulness techniques and thinking before he or she speaks with others.</li> <li><input type="checkbox"/> Student is able to take on different points of view.</li> <li><input type="checkbox"/> Student is aware of both verbal and non-verbal communication.</li> <li><input type="checkbox"/> Student adapts and changes his or her communication style for different people.</li> <li><input type="checkbox"/> Student uses storytelling as a technique to share personal experiences and speaks with clarity and precision.</li> <li><input type="checkbox"/> Student proof reads and re-writes reports or any writing assignments in order to improve his or her communication.</li> </ul>





# SELF-DISCOVERY

A PROCESS FOR TEACHERS TO UNDERSTAND HOW TO INTEGRATE 21ST CENTURY SKILLS INTO YOUR OWN LEARNING SYSTEM

Up until this point, you have gained an understanding of the foundational 21st Century mindsets, you've unpacked 21st Century Skills and you've understood how students and teachers apply these in the classroom. In this section, you will work on activities that will help you to discover your own learning system — yourself, your students & the learning system around you.

This section includes:

- 1. Cultivating a Mindful Teaching Intention 70-71
- 2. Setting a Teaching Intention 72-73
- 2. SuperPower & Skillshare 74-77
- 3. Classroom Canvas 78-81
- 4. Learning System 82-83
- 5. Immersion 84-87
- 6. Finding Meaning 88-89
- 7. 21st Century Skills Matrix 90-93

### ESSENTIAL QUESTIONS:

What do we value most about education in Myanmar?

How might we co-create a vision for students, teachers and learning in Myanmar?

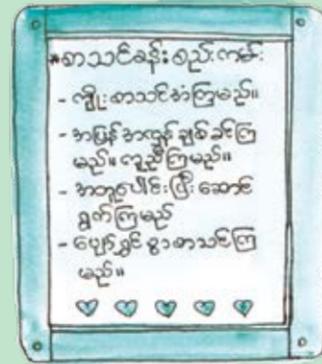
Who am I? What are my strengths and skills as a teacher?

Who are my students? What are their needs, aspirations and challenges?

How do we connect? What is the ecosystem of learning like in our community? What resources do we have?

What are the opportunities, barriers and new ideas for strengthening quality education in our school?

How do I already understand and use 21st Century Skills in my classroom?



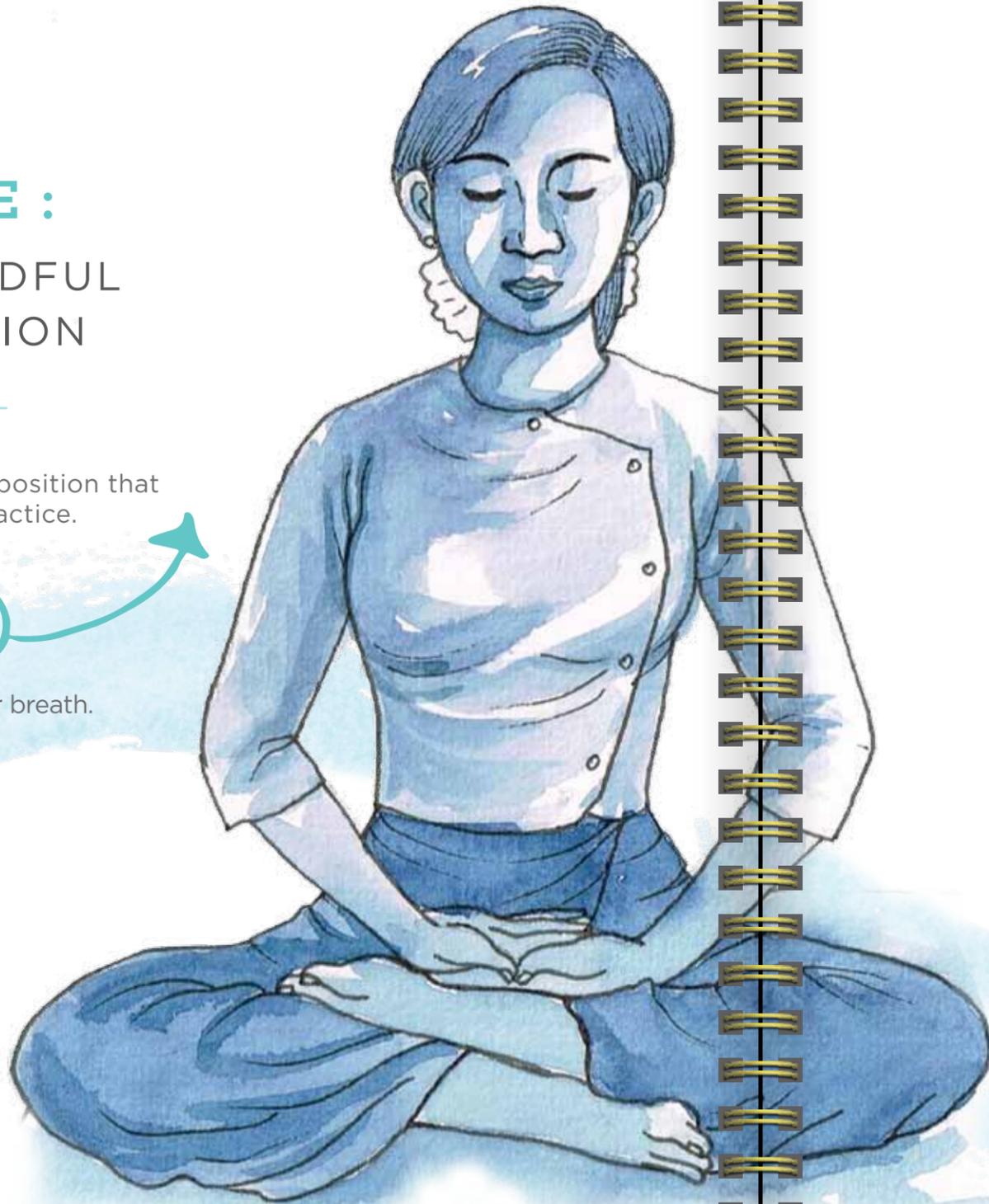
# PRACTICE:

## CULTIVATING A MINDFUL TEACHING INTENTION

Find a quiet place to sit, comfortably in a position that supports the integrity of your practice.

back straight.  
palms folded in lap.  
begin breathing gently.

Allow your awareness to rest on your breath.



As you continue to breathe gently, tap into your intention: *Why are you a teacher? What excites you and makes you joyful about learning and teaching?*

The reasons we get into teaching are sometimes complex and intertwined. We may desire status, money, recognition, admiration, reverence, love, or income for our family. These material intentions are not bad, but with mindfulness we can tap into a deeper intention. Our higher truth.

Continue to breathe slowly, gently. Allow whatever arises to come up without judgment. Accept everything. When you are ready, open your eyes. Write down everything that came up for you on the next page, Setting An Intention.

Pause for a moment to sit with your own intention. Sift through the complexity. Continue to breathe and notice what arises without judgment. Can you sense your higher truth, above the material and fleeting worldly desires?

*What is your highest intention and aspiration for teaching?*

Perhaps your intention is to be of service in your community? Maybe it is personal learning and self-transformation? Or expanding minds and opening new opportunities for young people? Improving lives and employment opportunities? Supporting active and engaged citizens?

You may continue this practice over the course of a week or for however long you feel until you have cultivated a clear intention for your teaching practice. Every person's intention is unique. Hold the space for your intention in your daily actions both in and out of the classroom.

# SETTING AN INTENTION

## FINDING YOUR TEACHING INTENTION

**Essential Understanding** *Intention (defining your goal) guides individuals as they come together to frame a problem, build a team and make a plan for action.*

**Time**  
45 minutes

**Difficulty**  
Medium

**Materials**  
My Intention Handout (page 73), newsprint, markers, pencils and pens

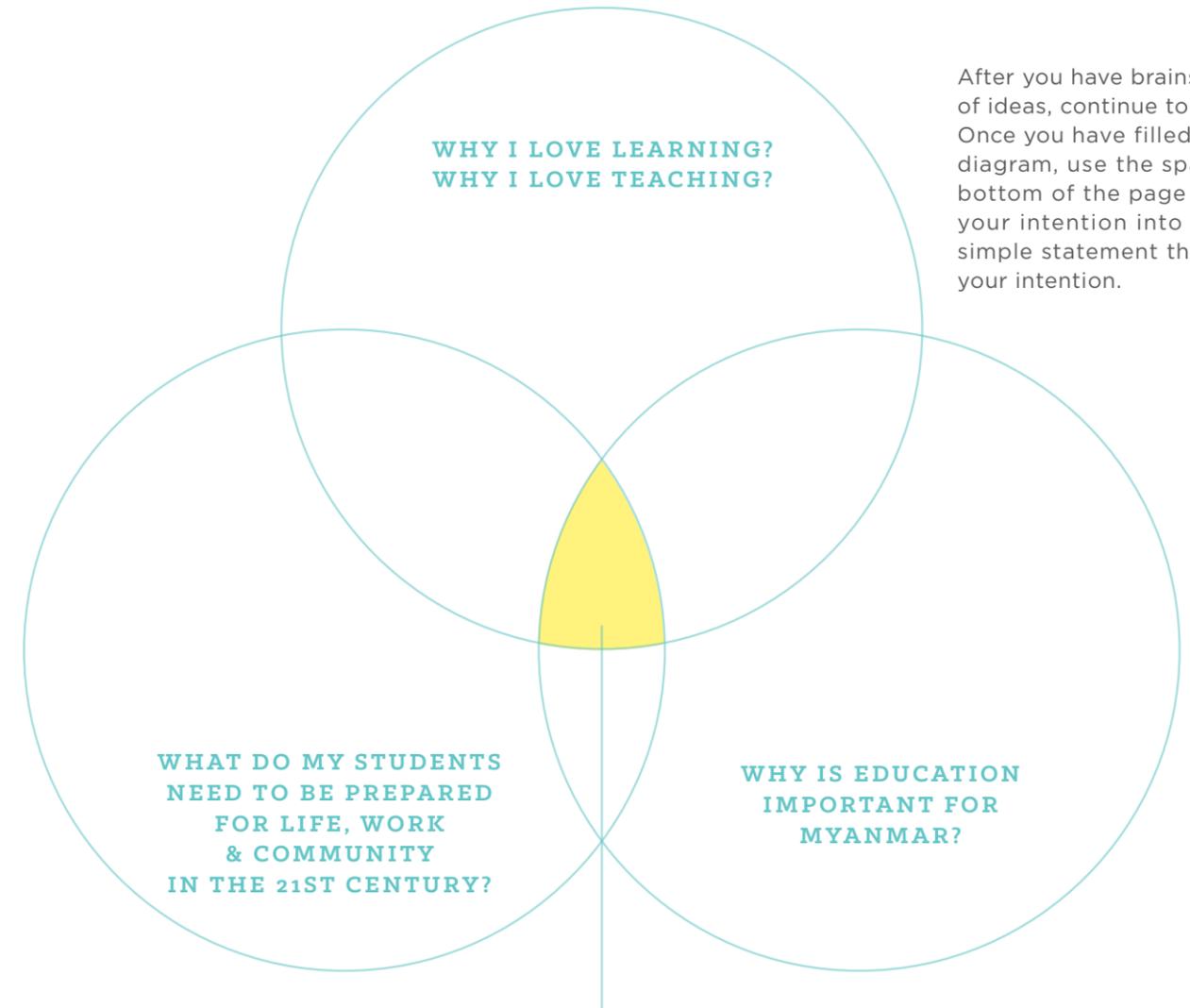
**21CS Focus**  
Mindfulness  
Growth  
Appreciation  
Systems Thinking  
Curiosity  
Critical Thinking  
Creative Thinking

### LEARNING OBJECTIVE

To understand one's own teaching intention. Setting an Intention is a process that a teacher can continually revisit as he or she learns new things and improves his or her teaching craft. A strong intention will drive a teacher's motivation and development towards 21st century learning and teaching.

### HOW

Start with the mindfulness activity "Cultivating a Mindful Teaching Intention" on page 70-71. After practicing mindfulness, use the Venn Diagram handout on page 73 to guide your own brainstorm. Start by brainstorming #1 Why do I love learning? And why do I love teaching? For more background on brainstorming, see pages 126-129. And for more information on Venn Diagrams see page 125.



After you have brainstormed a lot of ideas, continue to #2 and #3. Once you have filled in the entire diagram, use the space at the bottom of the page to synthesize your intention into a clear and simple statement that encapsulates your intention.

**MY INTENTION IS:**

---



---



---



---



---



---

# SUPERPOWER & SKILLSHARE

## IDENTIFYING YOUR SKILLS, STRENGTHS & SUPERPOWER

**Essential Understanding** *Identifying the unique skills in yourself and determining what skills may be needed to reach learning goals is an important step towards self-awareness and collaboration.*

**Time**  
45 minutes

**Difficulty**  
Easy

**Materials**  
Skillshare Handout (pages 76-77), newsprint, markers, pencils and pens

**21CS Focus**  
Mindfulness  
Curiosity  
Communication  
Collaboration  
Creative Thinking  
Critical Thinking

### LEARNING OBJECTIVE

To gain a deeper understanding of oneself — what skills do you have, what skills you want to improve & your SUPERPOWER.

### HOW

Knowing your skills and superpower means you know yourself well enough to have a focus. It gives both confidence and resilience in the face of difficulties. In relation to collaboration and groups it is important to know what skills and ability the group has at its disposal before it looks to move forward with its work.

## 21CS. ACTIVITY 1. SUPERPOWER & SKILLSHARE

SOURCE: FROG'S COLLECTIVE ACTION TOOLKIT

### STEP 1

Distribute the SuperPower/Skillshare handout to students. Have each person write the name they would like to be called. Skills and talents they have. Skills and talents they would like to develop.

### STEP 2

After the students have listed the skills and talents they have and those they would like to develop, ask the students to identify their SUPERPOWER or the one thing they feel they do extremely well. Your Superpower is the quality you are most proud of. If you were a superhero, what would your superpower be? Ask each person to create a drawing that expresses his or her superpower in the appropriate space on their handout.

### STEP 3

If you are working in a group, after each person has completed their handout, ask each person to share the skills that they bring to the group, the skills they would like to develop and their superpower to others within the group. On a newsprint, ask each group to create a “team name” and list the skills mentioned by group members and the skills that members of their group would like to develop.

### STEP 4

If there is time, ask each person in the room to share their drawing and their SUPERPOWER to the rest of the class.

### REFLECTIVE QUESTIONS

(Optional) Facilitator wraps-up the session with a discussion:

Why is knowing your superpower important?

What is collaboration?  
How does sharing our skills enhance collaboration?

Why is identifying the skills we want to develop important to share with our group or class?

Why is this important at the beginning of group formation?

**MY SUPERPOWER IS:**  
(DRAW YOUR SUPERPOWER)



**SKILLSHARE:**

SKILLS I HAVE

SKILLS I NEED

# CLASSROOM CANVAS\*

## UNDERSTANDING THE COMPONENTS WITHIN YOUR LEARNING CLASSROOM

**Essential Understanding** *Working within a learning classroom is a continuous process of integrating intuition, reason and imagination to determine the relationships between related and seemingly unrelated parts of the classroom.*

**Time**  
60 minutes

**Difficulty**  
Medium

**Materials**  
Canvas Handout  
or newsprint, colored paper  
(A4 paper cut into 8 pieces),  
markers, pencils and pens

**21CS Focus**  
Curiosity  
Communication  
Collaboration  
Critical Thinking  
Creative Thinking

### LEARNING OBJECTIVE

To gain a deeper understanding of how to manage the different parts within a learning classroom, you first need to be able to see the “big picture.”

### HOW

The Classroom Canvas is a tool created by PointB that helps teachers — whether formal or nonformal — find new ways to innovate their learning classroom in a changing environment. PointB has tailored the Classroom Canvas to give teachers a framework to analyze how to adapt their classroom to better respond to changes in Myanmar.

The Classroom Canvas is comprised of 9 building blocks. We recommend that you use this tool to brainstorm in the following order:

1. Learning Value Added
2. Types of Students
3. Learning Community
4. Learning Space
5. Teaching Supports
6. Subject and Topics
7. Teaching Methods
8. Time/Schedule
9. Curricular Sources

The Classroom Canvas can be done alone or with your students or with a group of teachers. If you are using this tool in a group, we recommend transferring the tool onto a large newsprint to make it easier to collaborate and communicate ideas with the group. If you are doing this with your students, you can divide the class into groups and give each class a newsprint to draw the classroom canvas on. Use colored cards to brainstorm and give each person a chance to add his or her ideas.

\*Classroom Canvas was adapted from the Business Model Canvas by Alexander Osterwalder.

### REFLECTIVE QUESTIONS

Try doing a **SWOT Analysis** on your Classroom Canvas. You can do this by reflecting on the following questions: What areas are your **STRENGTHS**? What areas are your **WEAKNESSES**? What areas do you have an **OPPORTUNITY** to enhance? Any **THREATS** to your success?

What is most important in your classroom canvas? What areas add the most value to learning? What strategies can you use to increase the Learning Value Added?

If you change other areas in your classroom, how will that affect parts of the classroom? For example, if you change the type of student you have, how will that change other aspects of your classroom like learning space or teaching methods?

# MY CLASSROOM CANVAS



## NAME OF CLASS/COURSE

### TYPES OF STUDENTS

(What types of students are in my class? What are their backgrounds, needs, levels, class size, languages...)

### SUBJECT AND TOPICS

(What subjects will we focus on in this class?)

### LEARNING VALUE ADDED

(Why does this class matter? What learning values, skills or knowledge will my students gain in this class?)

### LEARNING SPACE

(What does my classroom look like?)

### LEARNING COMMUNITY

(What kind of community does my classroom sit within? Type of school, community, discipline, environment, urban/rural, relevant issues, socio-economic, culture, religion, types of citizens, georgaphy...)

### TEACHING METHODS

(What activities or methods can I use in this class?)

### TEACHING SUPPORTS

(What other teaching supports do I have?)

### TIME/SCHEDULE

(When does this class meet? How many times per week? How long is each class?)

### CURRICULAR SOURCES

(What kind of textbook or curricular sources do I use in this class? Any other types of media?)

# LEARNING SYSTEM

## MAPPING YOUR LEARNING SYSTEM

**Essential Understanding** *The learning system starts with the classroom. The classroom sits within a school. And the school sits within a community.*

**Time**  
60 minutes

**Difficulty**  
Medium

**Materials**  
My Learning System Handout (page 83) or make learning system on newsprint, colored paper in blue, yellow, red and green (A4 paper cut into 8 pieces), paper tape, markers, pencils and pens

**21CS Focus**  
Growth  
Appreciation  
Experimentation  
Systems Thinking  
Curiosity  
Communication  
Collaboration  
Critical Thinking  
Creative Thinking

**LEARNING OBJECTIVE**

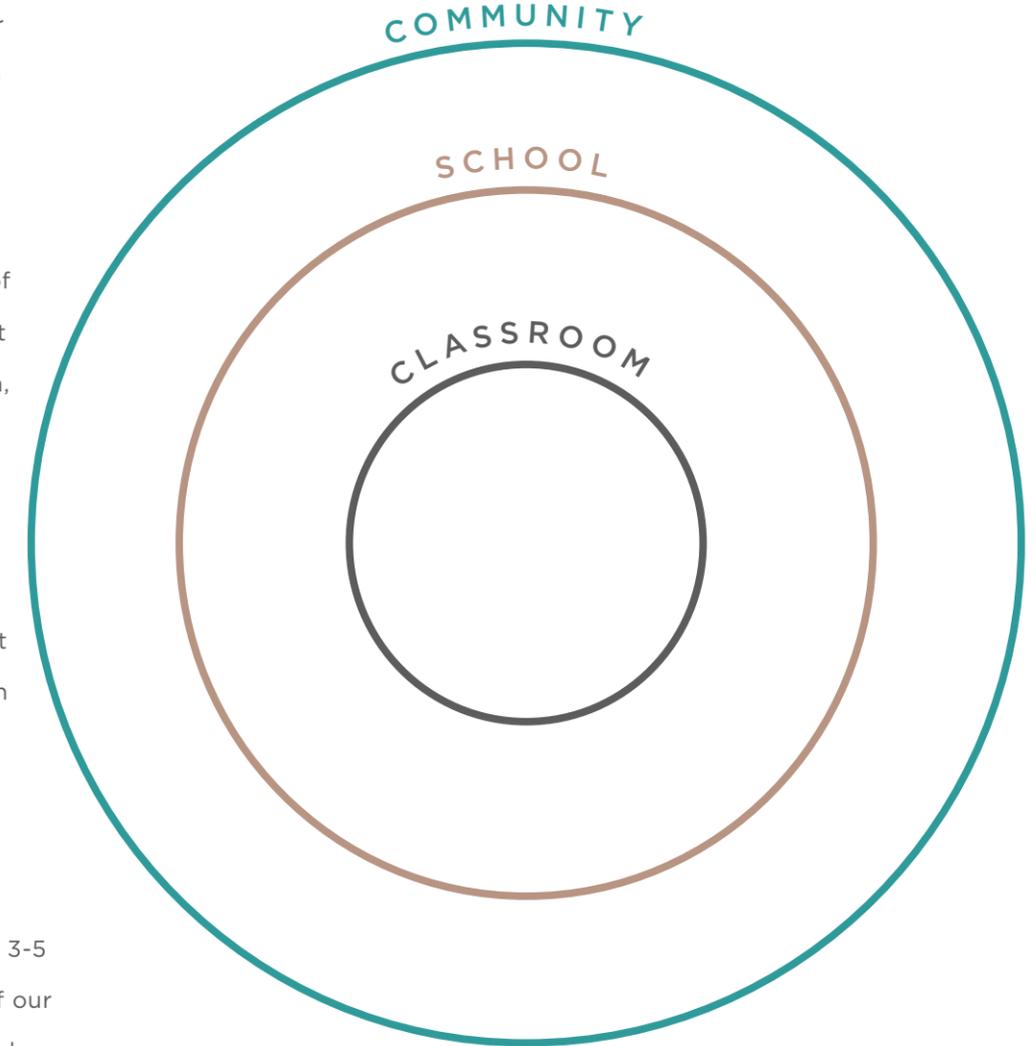
To gain a deeper understanding of the people, resources, opportunities and challenges within a particular learning system.

**HOW**

You can do this activity together with teachers or students from your learning system. If you have a large group, break into smaller groups of 3-5 people. Draw the three rings on to a large newsprint and label each ring as shown on the right.

Start with the inner circle "classroom." Spend about 7-10 minutes on each circle, moving from the inner to middle to outer circles.

# MY LEARNING SYSTEM



For each circle, use colored paper cards to brainstorm in your group the following:

1) Use Blue Colored Paper to brainstorm ideas on: what kinds of resources do we have in each part of our learning system (classroom, school, community)?

2) Use Yellow Colored Paper to brainstorm ideas on: who do we know with power or influence that we can ask for help or guidance in each part of our learning system (classroom, school, community)?

3) Use Red Colored Paper to brainstorm ideas on: what are the 3-5 biggest challenges in each part of our learning system (classroom, school, community)?

4) Use Green Colored Paper to brainstorm ideas on: what are the 3-5 biggest opportunities in each part of our learning system (classroom, school, community)?

**REFLECTION**

- How can this learning systems map help us to improve the learning experiences of our students?
- What 2-3 actions do we want

to make happen in the next 3 months? Why? How?

- What do we need to make these 2-3 actions happen?

# IMMERSION

## GATHERING EMPATHY ON THE STUDENT LEARNING EXPERIENCE

**Essential Understanding** *Empathy is at the heart of 21st Century Learning. Immersion is a method for deepening one’s understanding of what students and teachers see, feel, and experience, effective integration of 21st Century skills is possible.*

**Time**  
60 minutes

**Difficulty**  
Medium

**Materials**  
Immersion Notes (pages 86-87), notebook or newsprint, colored cards, markers, pencils and pens

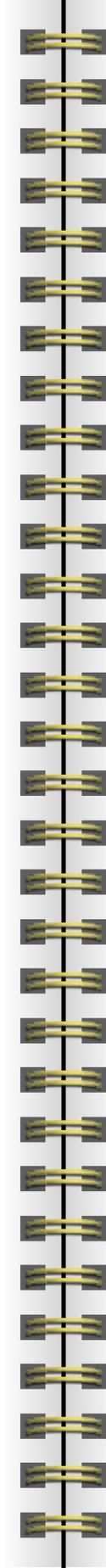
**21CS Focus**  
Empathy  
Curiosity  
Communication  
Collaboration  
Critical Thinking  
Creative Thinking

**LEARNING OBJECTIVE**

To deepen a teacher’s understanding of the context in which her students learn (ie. the classroom, school, home, community), as well as the experience of what is like to be a student. Immersion helps teachers gather empathy and begin to identify concrete ways to improve experiences and interactions within the learning system.

**HOW**

Immersion may be practiced through observation and in-depth interviews. In observation, we practice using a Beginner’s Mind to see what is actually happening in a class or school. Using a 21st Century lens, we can begin to look for ways in which 21st Century skills like collaboration and communication are happening in the classroom. And ways to enhance 21st Century Skills. With in-depth interviews, we can practice empathy by trying to understand the experiences, attitudes, desires and needs of our students.



## SHADOW A CLASSROOM

What is it like to walk in the shoes of a student at your school? In this activity, you can collaborate with other teachers to experience what it is like to be a student at your school. Find a teacher or group of teachers who are willing to try this experiment. Decide on a good class period when you can observe another teacher’s class for a period. On the day of your shadowing, arrive a little early to the class so that you can start your observation practice as students are entering the classroom. Try to use all your senses and pay attention to some of the areas listed in the box to the right.

**WHAT TO LOOK FOR:**

- **WHAT:** What are students doing? What is the teacher doing? What sparks your curiosity?
- **HOW:** How are they doing it? Are there any behaviors or objects involved?
- **WHY:** Why are they doing it that way?
- **21CS & 5Cs:** What 21st century skills do you observe in the classroom? What 5Cs are students practicing? And how?

## INTERVIEW A STUDENT FOR EMPATHY

My name is \_\_\_\_\_ and I wanted to interview you for about 20 minutes because I’m trying to understand how to better prepare students for life, work and community in Myanmar. Will it be alright if I interview you?

I might share these learnings with other teachers in our school so that we can work together to upgrade our teaching and learning systems for the 21st Century. Is that alright with you?

Let’s begin with your story. Can you tell me a little about yourself...

Can you tell me about your experience as a student in our school? How does it feel?

What is your favorite thing about learning?  
What makes it special?

Can you share a story about a time when you felt uncomfortable, anxious or bored in class? Why?

When do you feel engaged in learning? Why?

When/where/how does your learning feel connected to the real world? And when does it not?

What skills do you think are most important for you to be successful in your future?

And when/how do you learn these skills?

Do you have any other ideas or feedback for teachers and managers in our school?

Use the following page to capture your observations and interview notes.

# IMMERSION NOTES

USE THE SPACE BELOW FOR INTERVIEW & OBSERVATION NOTES ON:



INTERESTING QUOTES



PROBLEMS



OPPORTUNITIES



INTERPRETATIONS



IDEAS



INSIGHTS

## INTERVIEW NOTES

Large empty rectangular box for taking interview notes.

## OBSERVATIONS

Large empty rectangular box for taking observations.

# FINDING MEANING IN RESEARCH DATA

## FINDING OPPORTUNITIES

**Essential Understanding** *Observing and connecting with students is an inspiring way to start to think about how to integrate 21st Century Skills into the learning system.*

**Time**  
30-60 minutes depending on how many immersion activities you have done.

**Difficulty**  
Medium

**Materials**  
Observation Practice Tool (page 89), notebook, markers, pencils and pens

**21CS Focus**  
Growth  
Appreciation  
Experimentation  
Systems Thinking  
Curiosity  
Critical Thinking  
Creative Thinking  
Communication

**LEARNING OBJECTIVE**

To reflect on what was learned during immersion practices — interviewing a student for empathy and shadowing a classroom — we need to take time to think about what we learned, what we think about what we learned and what opportunities we may see for how to improve the experience of students in our school or community.

**HOW**

Follow the directions on the page to the right. You can always go back to your immersion notes to think about what you learned. This is why it is always important to write down exactly what you saw or heard in the moment during your immersion practice. It makes it much easier find meaning in your research data later.



Use this worksheet to start turning your research learnings into opportunities. Start by writing down the most important things that you learned from your classroom observations and empathetic interviews with students.

Next, think about what these learning meant to you. Can you find any significance in what you learned?

Finally, what opportunities or ideas did you uncover for how to improve the learning experiences of students in your school? What small actions can you take to shift learning towards 21st Century Skills?

**LEARNINGS**

What did you learn from your observations and interviews with students at your school?

What was most surprising and interesting?

**INTERPRETATION**

Why is this happening?  
What do you think these learnings mean?

**OPPORTUNITY**

What new ideas or ways of improving learning do you have?

SOURCE: STANFORD D.SCHOOL (SHADOWASTUDENT.ORG)

# 21ST CENTURY SKILLS MATRIX

HOW DO YOU ALREADY UNDERSTAND AND USE 21ST CENTURY SKILLS IN YOUR CLASSROOM?

**Essential Understanding** *More often, there are lots of ways in which a teacher is already integrating and practicing 21st Century Skills in their classrooms. Uncover these and we have a strong foundation from which we can begin to improve and grow 21st Century Learning experiences.*

**Time**  
45-60 minutes

**Difficulty**  
Medium

**Materials**  
21st Century Skills Matrix (pages 92-93), markers, pencils and pens

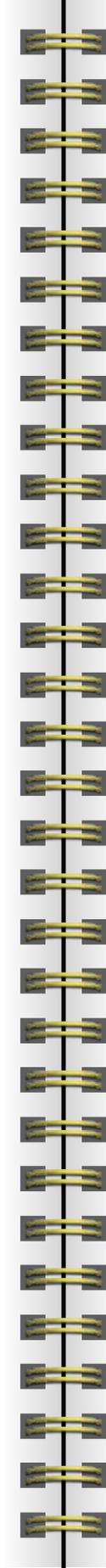
**21CS Focus**  
Curiosity  
Critical Thinking  
Creative Thinking  
Collaboration  
Communication  
Mindfulness  
Growth  
Empathy  
Systems Thinking

**LEARNING OBJECTIVE**

To help teachers identify what they already know about 21st Century Skills and how they might already be using these skills in their classrooms. The 21st Century Skills Matrix tool can serve as a kind of baseline to which teachers may continue to develop and evolve their understanding and integration of 21st Century Skills.

**HOW**

Use this tool together with teachers or students from your learning system. If you have a large group, break into smaller groups of 3-5 people and give each group one of the 5Cs to focus on. We suggest drawing the 21st Century Skills Matrix on newsprints. You can tape together a 4-6 newsprints to make the matrix large scale. If you are doing this alone, you can use the handout on the following pages.



For each of the 5Cs (curiosity, critical thinking, creative thinking, collaboration and communication), brainstorm and fill out the following areas:

1. **What is it?** Define the skill in as many ways as you can. Be specific.
2. **Why it matters?** Identify how this skill will help students in the future and how they might use it in their work, life and community.
3. **Teaching Techniques:** Write down all the teaching techniques and methods that might support this particular skill. Add any behaviors or attitudes that teachers can also use in the classroom to support this skill.
4. **Students Show By...** identify the ways that students might show or demonstrate how they are using this skill in the classroom. Simply, how do you know that a student is practicing this skill – what are the performance indicators?

If you are doing this with a large group on newsprint, use colored cards to brainstorm and give each person a chance to add his or her ideas to the matrix.

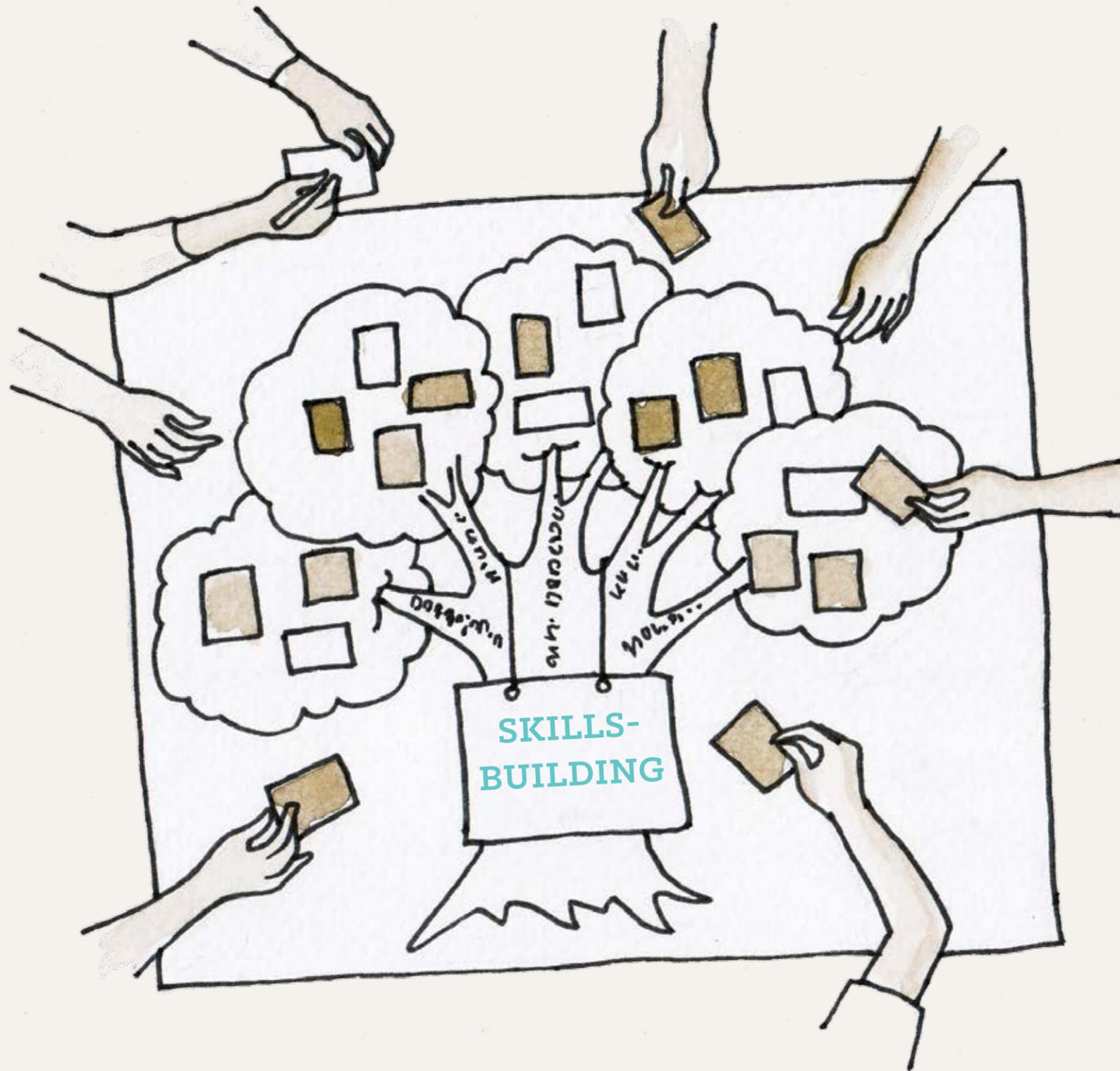
**REFLECTION**

After you have completed the matrix, discuss together or reflect individually on:

- How you can improve the use of 21st Century Skills in your classroom? What are the strengths and weaknesses now?
- How can you improve to help students practice these 5Cs in the classroom?
- Are there any roadblocks or things that stand in your way?
- Are there any supports in your school or community that can help you?
- What are 2-3 actions you can take to improve 21st century learning in your classroom and school?

# 21<sup>ST</sup> CENTURY SKILLS MATRIX

<b>21ST C. SKILL</b>	<b>WHAT IS IT?</b> Define the skill in as many ways as you can. Be specific.	<b>WHY IT MATTERS?</b> Identify how this skill will help students in the future and how they might use it in their work, life and community.	<b>TEACHING TECHNIQUES</b> Write down all the teaching techniques, methods, behaviors, & attitudes that might support your students to gain this skill in the classroom.	<b>STUDENTS SHOW BY...</b> Identify the ways that students might show or demonstrate how they are using this skill in the classroom. What are the performance indicators?
 CURIOSITY				
 CREATIVITY				
 CRITICAL THINKING				
 COLLABORATION				
 COMMUNICATION				



# 21<sup>ST</sup>

## SKILLS-BUILDING FOR TEACHERS

In this section, we share some of the background knowledge and skills necessary for teachers to enable 21st Century Skills in their classroom.

We've also sprinkled in some fun activities to help teachers and students to experience these skills first-hand and then reflect on their experiences together.

In this section, teachers will learn about:

1. TEACHER AS A...  
(ROLES OF A TEACHER) 96-99
2. CLASSROOM MANAGEMENT 100-101
3. THE EXPERIENTIAL LEARNING CYCLE 102-103
4. QUESTION FORMULATION TECHNIQUE (QFT) 104-105
5. COLLABORATIVE LEARNING 106-107

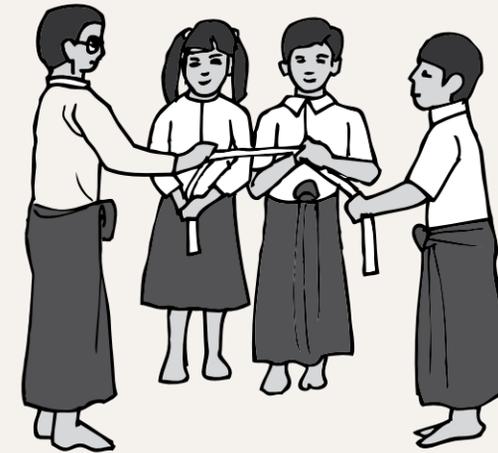
## TEACHER AS A...

### 8 ROLES OF AN EFFECTIVE 21ST CENTURY TEACHER

What does it mean to be an effective 21st Century Teacher?

A concise or condensed answer to the question above might be: “When the teacher connects individually with each student in learning and when all decisions concerning what is taught and how it is taught are made based on this connection with the students in the learning process.”

To get a little closer to effectiveness we have performance indicators for teachers who spark the 5Cs in their students (see pages 64-65). These performance indicators are based on 8 specific roles the teacher needs to assume in order to help students acquire 21st century skill sets.



#### ROLE #1

##### TEACHER AS A FACILITATOR

A 21st Century Teacher is a guide — assisting students in learning how to learn for themselves through analysis of ideas, forming their own thoughts and opinions, and taking ownership of their own learning through self-exploration and dialogue. In addition, a teacher will change what is happening in the class when he or she sees that learning is not taking place.

#### ROLE #2

##### TEACHER AS A PRESENTER

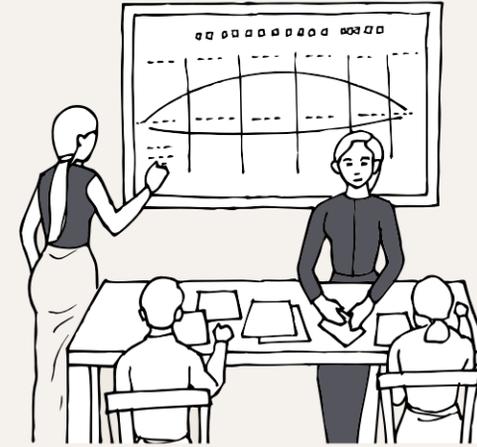
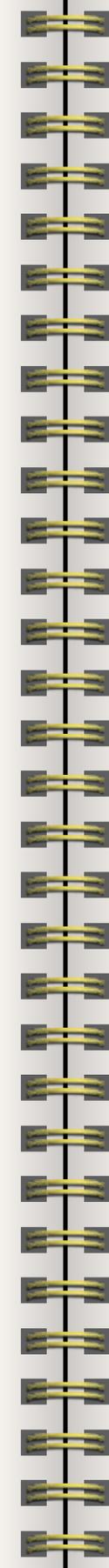
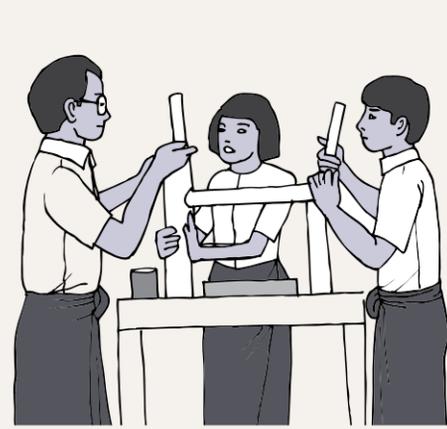
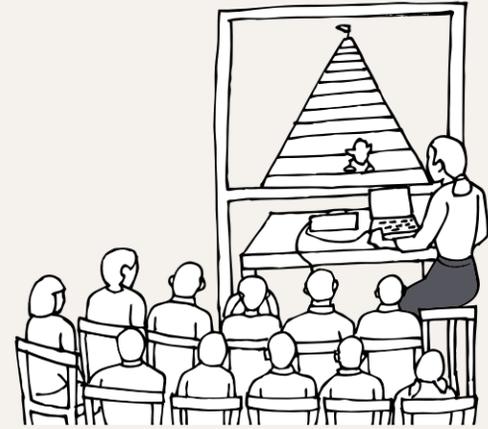
A 21st Century teacher knows and uses different ways to present information. Through lecture, asking question, framing information in different ways, and emphasizing different skills (5Cs) and techniques in a lesson a teacher sparks curiosity and self-motivation in her 21st century learning classroom. A teacher does not separate knowledge acquisition from knowledge application, but instead integrates them into the same lesson.

#### ROLE #3

##### TEACHER AS A PERSON

A 21st Century teacher connects to his or her students as another human being. Not as a boss or caretaker. A teacher is authentic, admitting when she does not know something or if she has made a mistake.

8 ROLES OF AN EFFECTIVE 21ST CENTURY TEACHERS CONTINUED



**ROLE #4**  
**TEACHER AS A LIFELONG LEARNER**

According to education researcher John Hattie, “The greatest effects on student learning occur when teachers become learners of their own teaching, and when students become their own teachers.” A 21st century teacher is 100% a 21st century learner — he or she models all of the 5Cs and learns with students.

**ROLE #5**  
**TEACHER AS A SKILLS-BUILDER**

A teacher is committed to knowledge acquisition and application of that knowledge through specific skills needed especially within the 21st Century. A 21st century teacher is also aware of mindset, dispositions or habits of students and is always aware that true learning is the development of knowledge, skills and dispositions.

**ROLE #6**  
**TEACHER AS A PROFESSIONAL**

A professional does not work according to the clock. He or she works connected to the deliverables expected. Professionals connect with other professionals to enhance the quality of their work. Professionals are prepared always to do the best work possible under the specific circumstances. Professionals focus on opportunities (even if they’re small) and don’t get stuck on problems.

**ROLE #7**  
**TEACHER AS A MENTOR**

A 21st Century Teacher works closely with her students to develop their potential as learners, human beings, citizens, future professionals and potential leaders. He or she sees that to be successful in the 21st century world each student needs to be a lifelong learner. A teacher takes the time to mentor students and to develop their mindsets, knowledge, skills, dispositions, habits to be engaged with the 21st century world and to make a difference in that world.

**ROLE #8**  
**TEACHER AS A CREATOR**

No matter how many teacher guides are produced, no matter how many skills and activities are demonstrated, learning still comes down to the connection and interaction between a teacher and a student. Teacher as a Creator opens up the classroom to the world to create opportunities for students to work with materials and activities. Creative teachers help students discover not only the world but also themselves. Teachers engaged students’ minds in discovering deeper truths, speculations, assumptions, beliefs, theories, and hypothesis analyzing and questioning what we call truths. They do this by engaging

students in hands-on learning. In this way, creative teachers are constantly finding new ways to improve learning, create activities, group discussions and small projects, which help to engage students in the learning process. Creative teachers apply intuition to find and draw out the “teachable moments” in a lesson or activity. In doing so, a creative teacher builds skills in being able to understand when is the right time to praise effort, to challenge the students further, to leave a student or group alone to work through challenges or to step in and lend a helping hand.

# CLASSROOM MANAGEMENT

## DESIGNING A 21ST CENTURY LEARNING ENVIRONMENT

### 2 Basic Ground Rules:

- 1) For Teachers, know your students and adjust the classroom environment accordingly.
- 2) For students, respect each other and each person's learning, and be safe.



### “IF I HAD A LEARNING CLASSROOM...” ACTIVITY

Learning Objective: Unpack the most basic rules of classroom management for the teacher and the behaviors of students.

This activity may be done with groups of teachers or students:

#### PART 1 OBJECTIVE

Identify the student behaviors that contribute to a learning classroom.

#### HOW

Discuss and answer the question: If we had a learning classroom, what would the students be doing?

Divide into small groups of 4-6 students and identified student behaviors, which would contribute to a learning classroom.

Focus on behaviors between: student and student, teacher and student, and student to learning work.

Present group work and discuss within class.

Then, move on to Part 2.

#### PART 2 OBJECTIVE

Identify teacher strategies and behaviors that contribute to a learning classroom.

#### HOW

In the same groups discuss and answer the question: If we had a learning classroom what would the teacher be doing?

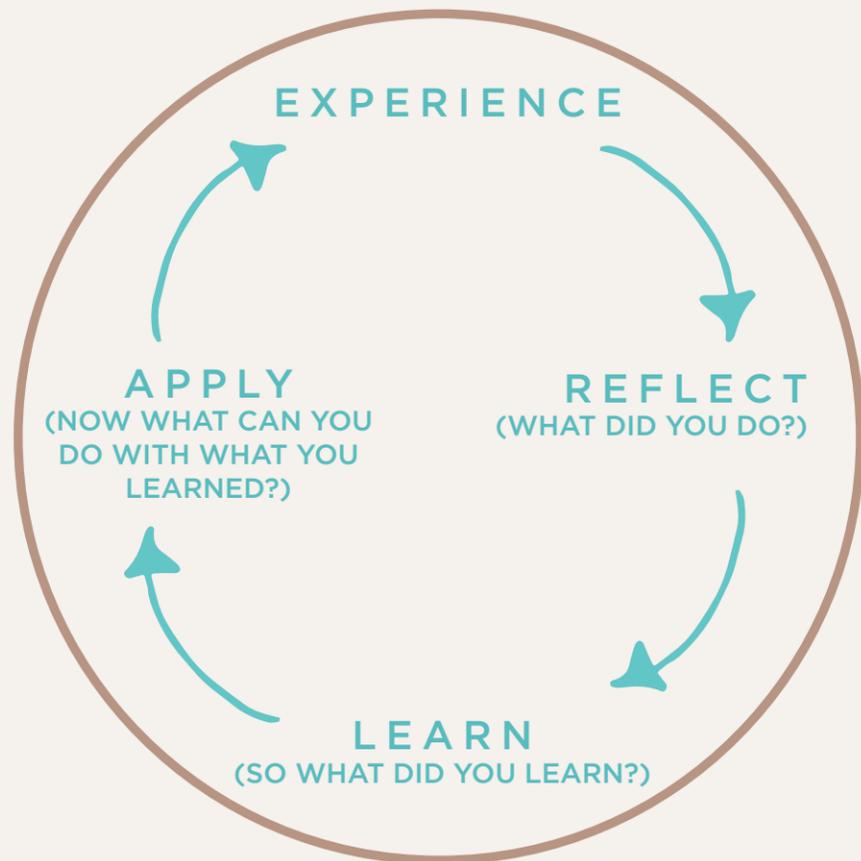
Divide into small groups of 4-6 students and identify teacher behaviors which would contribute to a learning classroom. These can include teacher behaviors toward students, and instructional behaviors.

#### REFLECTION

- What is most important to create a learning environment for everyone?
- How do we create an environment so that everyone of us can learn?
- What is the role of the teacher and the student in the creation of a 21st Century Environment for learning?

# THE EXPERIENTIAL LEARNING CYCLE

## LEARN BY DOING



Too often when we think about teaching and learning we only think about what information is covered and how it is taught. We forget that a student learns best by taking in knowledge from the outside world and connecting it to his or her inner self. The inner self includes who you are, how you understand, and what you already know, or think you know.

In experiential learning, the teacher becomes a facilitator. First, helping the students have an authentic or Structured Learning Experience (SLE) and then, helping them to unpack their experiences by reflecting on what they did, what they learned and how they can apply this to a future experience.

### OVERVIEW

The Experiential Learning Cycle is a model of adult learning developed by David A. Kolb, Professor of Organizational Behavior, which involves four sequential stages:

1. Concrete Experience: Learning starts with some experience of an event, incident, or occurrence.
2. Reflective Observation: When people reflect and think about their experiences, they raise their awareness and personal learning.
3. Abstract Learning: Reflection leads to a sorting and understanding of earlier experiences from which the person can draw conclusions and generalizations. These abstract conceptualizations help to provide a framework in understanding an experience.
4. Application: Using the framework developed from earlier experiences, a person can test out his earlier conclusions, either to confirm the learning already achieved or to generate more evidence. Such testing out leads to more experiences in the real world, which in turn, set the learning cycle in motion again.

### EXPERIENTIAL LEARNING CYCLE ACTIVITY

Learning Objective: To practice the Experiential Learning Cycle of experience, reflect, learn, and apply.

#### HOW

Use any authentic activity, for example place yourself in the situation of being faced with teaching another group how to tie a shoe.

Your task is to work together with a partner to outline an experiential learning lesson on SHOE TYING.

You will have 10 minutes to outline and practice your lesson before presenting to another group. Use the following parts of the Experiential Learning Cycle:

#### 1. EXPERIENCE

The students experience the activity through direct, hands-on participation (i.e., learning by doing).

#### 2. REFLECT (WHAT DID YOU DO?)

The students discuss the experience(s) they had doing the activity. The results of the activity are discussed by the students; there is evidence of active reflection in small or large groups.

#### 3. LEARN (SO WHAT DID YOU LEARN?)

Connections between the activity and real-world examples are made by the students and/or the facilitator.

#### 4. APPLY (NOW WHAT CAN YOU DO WITH WHAT YOU LEARNED?)

The outcomes of the activity are applied to one or more independent situations.

Once you have outlined your Shoe Tying lesson using the Four Sequential Stages of the Experiential Learning Cycle, take a few minutes to practice presenting it with the group closest to you. Teach them to tie a shoe using your lesson.

After 5 to 10 minutes switch roles.

After all groups have gone, use the following reflection questions to guide your discussion.

#### REFLECTION

- What did you do?
- What was easy to learn?
- What was difficult to learn?
- What did you learn?
- Now, what can we do with our learning?
- How was it to create a lesson with the Experiential Learning Cycle?
- How could you improve your lesson for next time?

# QUESTION FORMULATION TECHNIQUE (QFT)

## TEACHING STUDENTS TO ASK THEIR OWN QUESTIONS

The Right Question Institute have developed a step-by-step process called the Question Formulation Technique (QFT). This technique helps students learn how to produce their own questions, improve them, and strategize on how to use them.

QFT has been used effectively in a wide range of fields. In the classroom, teachers have seen how the QFT process manages to develop students' divergent (brainstorming), convergent (categorizing and prioritizing), and metacognitive (reflective) thinking abilities in a very short period of time.

Teachers can use the QFT at different points: to introduce students to a new unit, to assess students' knowledge to see what they need to understand better, and even to conclude a unit

to see how students can, with new knowledge, set a fresh learning agenda for themselves. The technique can be used for all ages.

Students have used the QFT to develop science experiments, create their own research projects, begin research on a teacher-assigned topic, prepare to write an essay, analyze a word problem, think more deeply about a challenging reading assignment, prepare an interview, or simply get themselves "unstuck."



### MATERIALS

White/chalk board, newsprint colored paper (A4 cut into 8 pieces), and markers may be used.

### QUESTION FORMULATION TECHNIQUE (QFT)

Learning Objective: To learn how to produce your own questions, improve them and strategize on how to use them.

Source: The Right Question Institute/ Dan Rothstein & Luz Santana

#### 1. PRODUCE YOUR QUESTIONS

Four essential rules for producing your own questions:

- Ask as many questions as you can.
- Do not stop to discuss, judge, or answer the questions.
- Write down every question exactly as it is stated.
- Change any statement into a question.

disadvantages of each type of question. Change questions from one type to another.

#### 3. PRIORITIZE THE QUESTIONS

- Choose your three most important questions.
- Why did you choose these three as the most important?

#### 2. IMPROVE YOUR QUESTIONS

- Categorize the questions as closed- or open-ended.
- Name the advantages and

#### 4. NEXT STEPS

- How are you going to use your questions?

### MOST SIGNIFICANT CHANGE

According to Dan Rothstein and Luz Santana, codirectors of the Right Question Institute and authors of the book *Make Just One Change: Teach Students to Ask Their Own Questions*:

"For teachers, using the QFT requires one small but significant shift in practice: Students will be asking all the questions. A teacher's role is simply to facilitate that process. This is a significant change for students as well. It may take a minimum of 45 minutes for students to go through all the steps the first time it is introduced in a classroom; but as they gain experience using the QFT, teachers find that the students can run through the process very quickly, in 10 to 15 minutes, even when working in groups.

The QFT provides a deliberate way to help students cultivate a skill that is fundamentally important for all learning. Teaching this skill in every classroom can help successful students to go deeper in their thinking and encourage struggling students to develop a new thirst for learning. Their questions will have much to teach us."

For more information, check out [www.rightquestion.org](http://www.rightquestion.org)

# COLLABORATIVE LEARNING

## GROUP WORK

**Essential Understanding** Collaborative learning is based on the idea that learning is a social process. In education, groups of students work together to solve problems, accomplish a task or create a product. Collaborative learning follows a set of principles which include:

**Time**  
25 minutes

**Difficulty**  
Medium

**Materials**  
newsprint rolled and lightly taped into a 2 meter long stick, markers, newsprint or white board.

**21CS Focus**  
Collaboration  
Communication  
Critical Thinking  
Creative Thinking  
Curiosity  
Empathy  
Growth  
Appreciation  
Systems Thinking

Learning is an active process that requires a challenge and flourishes in a social setting.

Learners benefit when exposed to diverse viewpoints and the rich environment of collaborative learning.

Learners are challenged beyond the normal cognitive challenge of learning. In addition, they are challenged both socially and emotionally.



## HELIUM STICK ACTIVITY

Learning Objective: To create a classroom culture as a learning system with students working together and responding to each other.

### HOW

Divide the class into groups of 8 people or more. Each group must form two lines, facing each other and support the Helium Stick on their index fingers. A Helium Stick is a 1-2 meter long rolled up newsprint that is lightly taped together.

Students must keep their index fingers touching the helium stick at all times. The goal is to try to work together as a team to lower the Helium Stick onto the ground.

This sounds easy for the team to achieve, but they will soon discover it isn't.

Typically, the Helium Stick goes up rather than down, until the team organizes themselves. (There is no helium in the stick; it is the way the team works that makes the stick rise or fall, and it feels to the teams like there is helium in the stick.)

This game can demonstrate the challenge of working together as a team.

Give the teams 5-7 minutes to try to accomplish the goal. When you are finished, gather the students together to reflect and discuss.

### REFLECTION

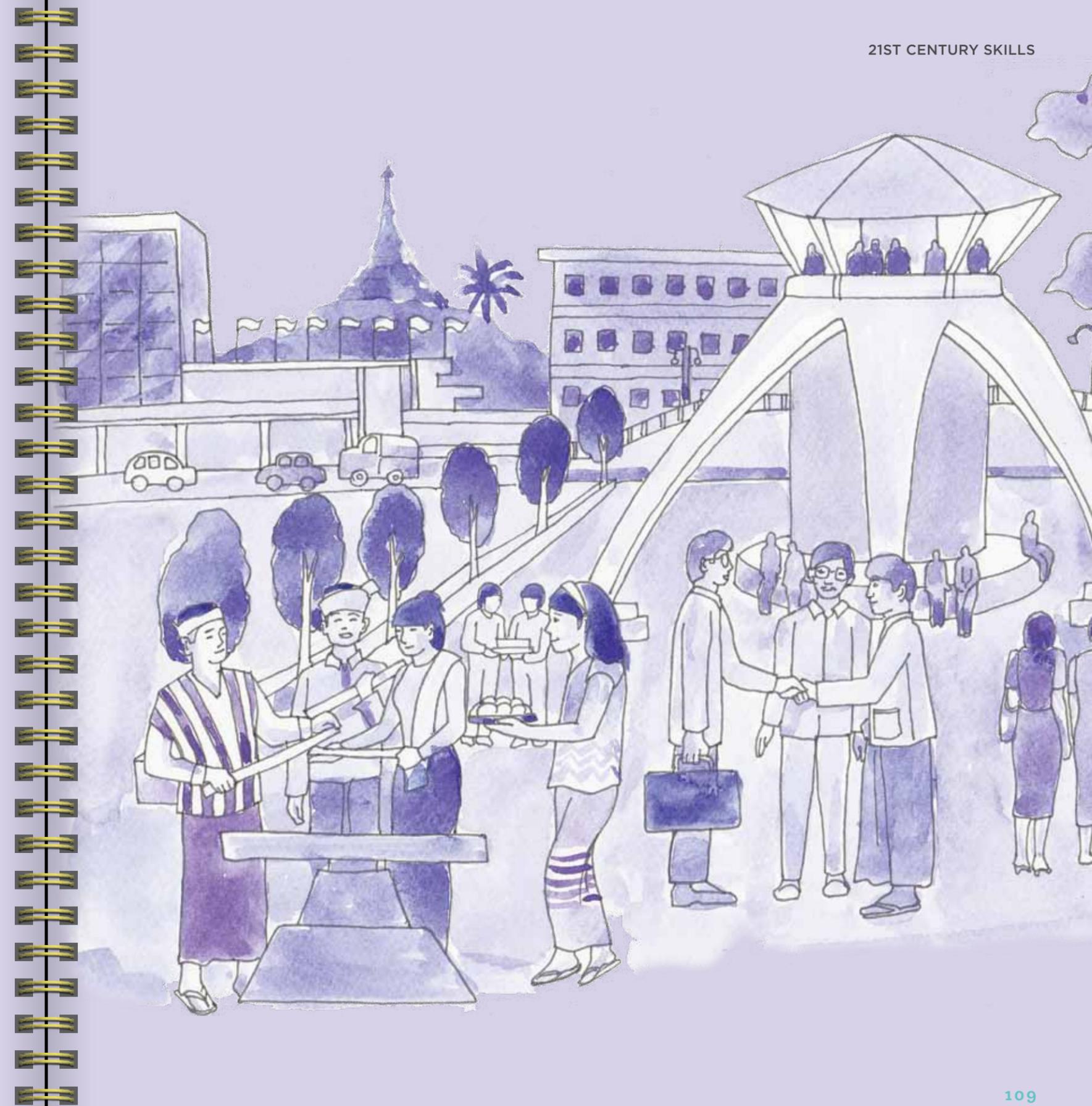
- What causes difficulty with teamwork?
- Sometimes even the best plans do not work and we might look at the coordination between the team members. What kind of qualities does a team need to perform well especially with a difficult task like Helium Stick?
- How do teams get better? What makes a good team?
- Describe a team you have been on or group that you have been part of that was especially effective. What made them so effective? How did working with that team feel?
- How can collaboration and working together help as we move forward? How can we apply what we learned in the future?

# INTEGRATING 21<sup>ST</sup> CENTURY SKILLS INTO YOUR CLASSROOM

In this section, we share some simple techniques for integrating 21st Century Skills into any classroom context. From March to December 2017, PointB worked with hundreds of teachers and adolescents in Myanmar to test and gather feedback on these methods. We've found that the best way to use these techniques is to form a **TEACHER'S WORKING GROUP** in which you can practice, test and gather feedback on these techniques with other teachers at your school. It helps to practice these techniques together with other teachers so that you can build your confidence before working with students. It also helps to share some background about each technique with your students and let them know that you are experimenting with some new teaching techniques. This way you can really test and gather feedback from students on what they liked, what they didn't like and what you can improve next time. Remember, 21st Century Learning is about openness, collaboration and experimentation.

In this section, teachers will gain the following 21st Century teaching techniques and methods so that they can activate the 5Cs with their students:

1. **DAILY REVIEWS** 110-111
2. **THINK, PAIR, SHARE** 112-115
3. **JIGSAW** 116-119
4. **PARKING LOT** 120-121
5. **WHY x5** 122-123
6. **VISUAL TOOLS** 124-125
7. **BRAINSTORMING** 126-129
8. **PROTOTYPING** 130-131
9. **CURIOSITY PROJECTS** 132-133



# DAILY REVIEWS

## 3 TECHNIQUES FOR REVIEWING PAST KNOWLEDGE & SKILLS WITH STUDENTS

**Essential Understanding** *Learning is enhanced by reiterating the learning process in different ways. This concerns all levels of learning from simple memory to application of learning and more complex understanding of the material.*

**Time**  
5-10 minutes

**Difficulty**  
Easy

**Materials**  
No materials needed, however a white/chalk board, newsprint colored paper (A4 cut into 8 pieces), and markers may be used.

**21CS Focus**  
Collaboration  
Critical Thinking  
Communication  
Creative Thinking  
Curiosity  
Mindfulness  
Growth

### LEARNING OBJECTIVE

To engage students in a review of past learning and activities in order to reiterate learning experience, assess and further connect ideas. A daily review helps students to gain greater depth of knowledge of concepts of a previous lesson.

### BACKGROUND FOR TEACHERS

Reviewing the previous day or week is a good way for teachers to see what their students understand and what they have learned.

It is best to review often, at the beginning of a lesson, at the end of a lesson, and even when moving from one topic to another in the middle of a class. Even if you have totally run out of time at the end of a lesson it is important to summarize the day or periods learning in the last few minutes you have left in your class. Reviews of

even 1 or 2 minutes have been found to significantly increase and improve learning outcomes.

Reviews help students to feel more comfortable with old material and be able to better connect it to new learning. In addition the teacher can assess what students understand and misunderstand about a previous topic and give feedback that can aid the student to revise their ideas and learn on a deeper level.

Daily reviews also aide the teacher in assessing her own teaching method and style. In this way, reviews can help a teacher guide adjustments in her teaching to create more effective learning outcomes in her students.

### HOW

Though a teacher may simply review by talking through the important points of the previous day or lesson, they then miss the opportunity to assess what the students think they have learned and determine any misconceptions by the students. Short quizzes can also work but they are often not

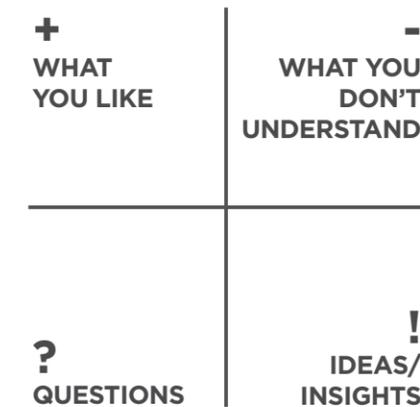
collaborative or effective at re-teaching the material. Here are 3 INTERACTIVE WAYS TO REVIEW A LESSON OR TOPIC:

### KEY WORD REVIEW

Ask the students to write one or two key words/concepts from the previous day or lesson on a color card and tape it to a white or chalk board. Once everyone has contributed, group the different cards into common key words and themes. Discuss and ask questions about what the key words represent and why they are important and invite students to give feedback

### 4 QUADRANT REVIEW

On a white or black board or large newsprint draw a 4 quadrant structure:



Label each as: what they liked or (+), what they don't understand or (-) any questions they have (?) and any new ideas or insights they might have gained (!) students can populate the board with cards that fit into any of the quadrants and the teacher can organize and review each quadrant with the students.

### MINDMAP REVIEW

In the center of a board or newsprint put the lesson topic or main idea and have students write connecting ideas and concepts and interconnect them around the main idea - this can be done as a whole class or in groups and then each group can present or share with the rest of the class. See Visual Tools on page 125 for more details on mindmapping.

# THINK, PAIR, SHARE

A TECHNIQUE FOR QUESTIONING SKILLS  
& COLLABORATIVE LEARNING WITH STUDENTS

**Essential Understanding** Teachers are able to integrate questioning skills into their lessons effectively to help students deepen their understanding, apply & connect learning, practice higher order thinking skills, and imagine new possibilities and ideas.

**Time**  
10 minutes

**Difficulty**  
Easy to Moderate depending on classroom management + questioning skills

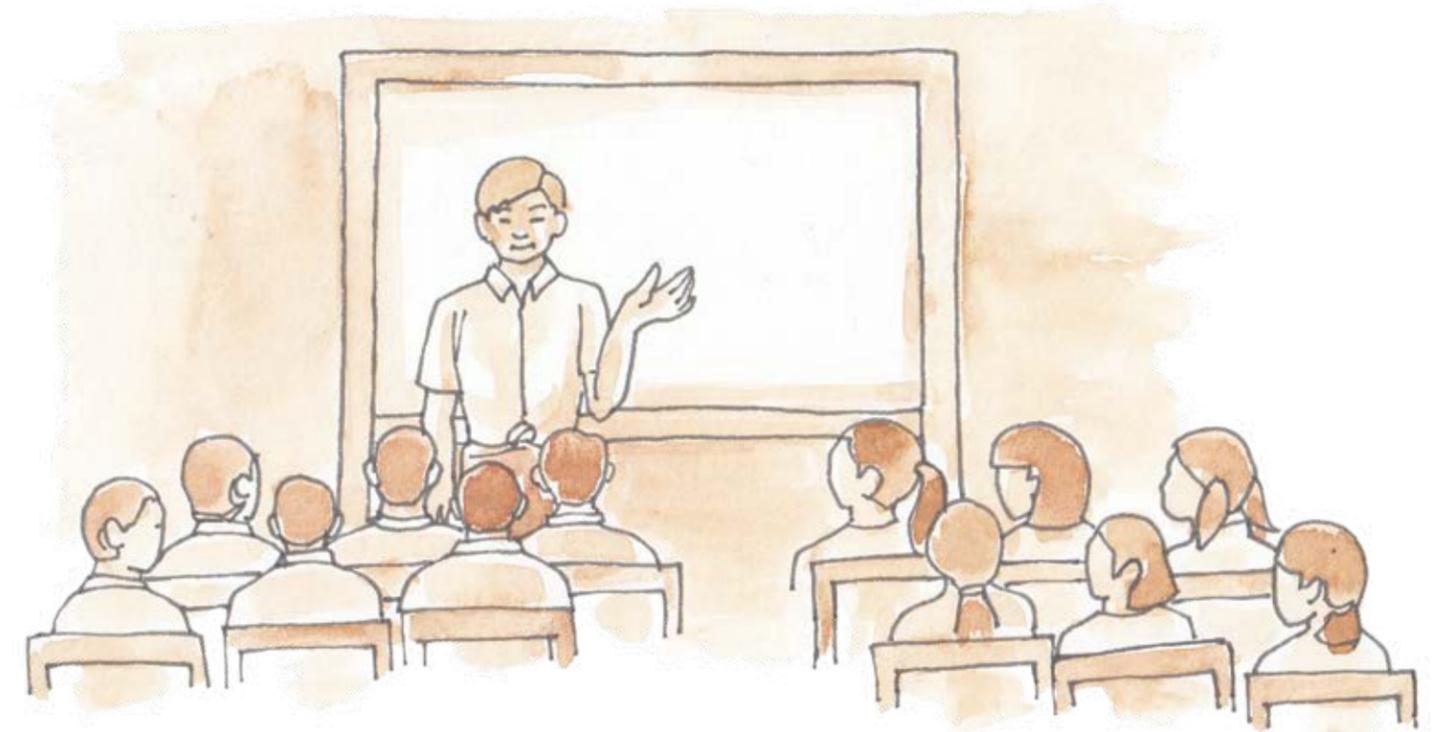
**Materials**  
Notebook  
Pen or pencil

**21CS Focus**  
Growth  
Appreciation  
Experimentation  
Systems Thinking  
Curiosity  
Communication  
Collaboration  
Critical Thinking  
Creative Thinking

## LEARNING OBJECTIVE

Think, Pair, Share involves posing a question to students, asking them to take a few minutes to think on their own, turn to a nearby student and discuss their thoughts and then share with larger group or the whole class. Think, Pair, Share is applicable across all grade levels and class sizes. This technique is suitable for just about anytime and anywhere. It is especially effective in supporting collaborative learning, communication skills and the

understanding of multiple perspectives. In addition it may support curiosity, critical thinking and creative thinking, depending on the question the teacher asks and when she asks the question within the lesson.



## THINK, PAIR, SHARE CONTINUED

## PREPARATION

Before introducing the Think-Pair-Share strategy to the students, decide on your target for this lesson. You may choose to use a new text that the class will be reading, or you might want to develop a set of questions or prompts that target key content concepts that you have been studying. If it is your first time using this strategy, explain the steps and purpose to your students before you begin.

Describe the strategy and its purpose with your students, and provide guidelines for discussions that will take place. Explain to the students that they will (1) think individually about a topic or answer to a question; (2) pair with a partner and discuss the topic or question; and (3) share ideas with the rest of the class.

(OPTIONAL) Using a student or students from your classroom, model the procedure to ensure that students understand how to use the strategy. Allow time for students to ask questions that clarify their use of the technique.

Once the students have a firm

understanding of the expectations surrounding the strategy, monitor and support students as they work through the steps below. Teachers may also ask students to write or diagram their responses while doing the Think-Pair-Share activity.

## HOW

## STEP 1: THINK

Teachers begin by asking a specific higher-level question about the text or topic students will be discussing. Students “think” about what they know or have learned about the topic for a given amount of time (usually 1-3 minutes). For more background, see Types of Questions on pages 34-35.

## STEP 2: PAIR

Each student should be paired with another student. Teachers may choose whether to assign pairs or let students pick their own partner. Remember to be sensitive to learners’ needs (reading skills, attention skills, language skills) when creating pairs. Students share their thinking with their partner, discuss ideas, and ask questions of their partner about their thoughts on the topic (2-5 minutes).

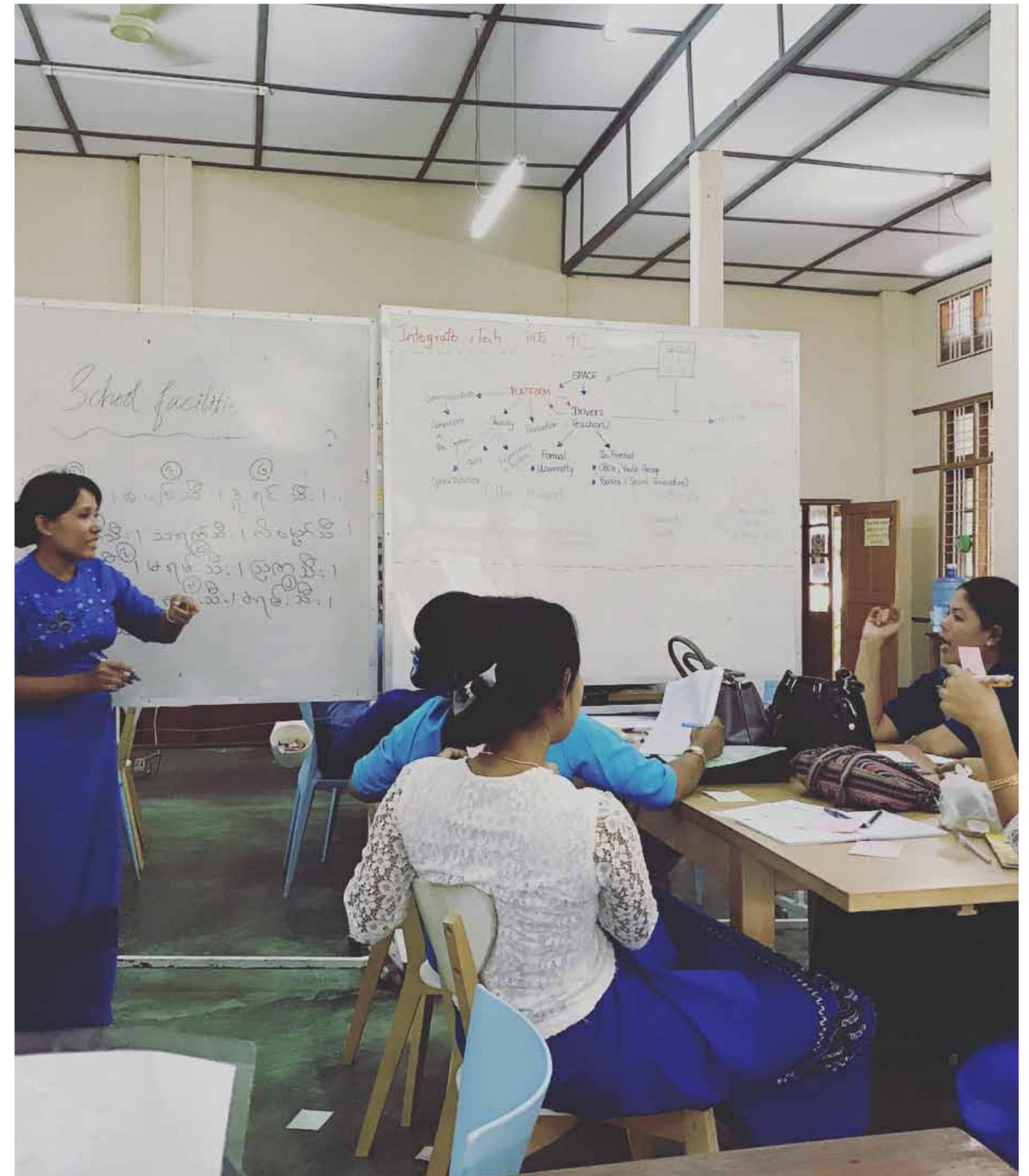
## STEP 3: SHARE

Once partners have had ample time to share their thoughts and have a discussion, teachers expand the “share” into small groups of students or the whole-class.

If you divide the class into groups, allow each group to discuss and share for about 3-5 minutes. Ask each group to choose who will present their thoughts, ideas, and questions they had to the rest of the class. If you do the discussion as a whole class, try to pick on different types of students to share. After the group or whole class “share,” you may choose to have pairs reconvene to talk about how their thinking perhaps changed as a result of the “share” element. This activity helps students to build confidence in their ability to think, discuss and share their own ideas.

## CHECK IT OUT!

For an example of how we have already used the Think, Pair, Share technique, see Practicing Empathy on page 42.



# JIGSAW

## A TECHNIQUE FOR COOPERATIVE LEARNING WITH STUDENTS

**Essential Understanding** *Teachers are able to integrate a collaborative learning experience into a lesson where students become experts of pieces of a lesson and then share their expertise with others to combine or synthesize different pieces of a lesson together to make a whole.*

### Time

10-60 minutes depending on the length and complexity of reading or lesson material selected

### Difficulty

Varies depending on the level of difficulty of reading materials given to students

### Materials

Reading materials made into handouts or jigsaw pieces

### 21CS Focus

Growth  
Empathy  
Appreciation  
Systems Thinking  
Curiosity  
Communication  
Collaboration  
Critical Thinking  
Creative Thinking

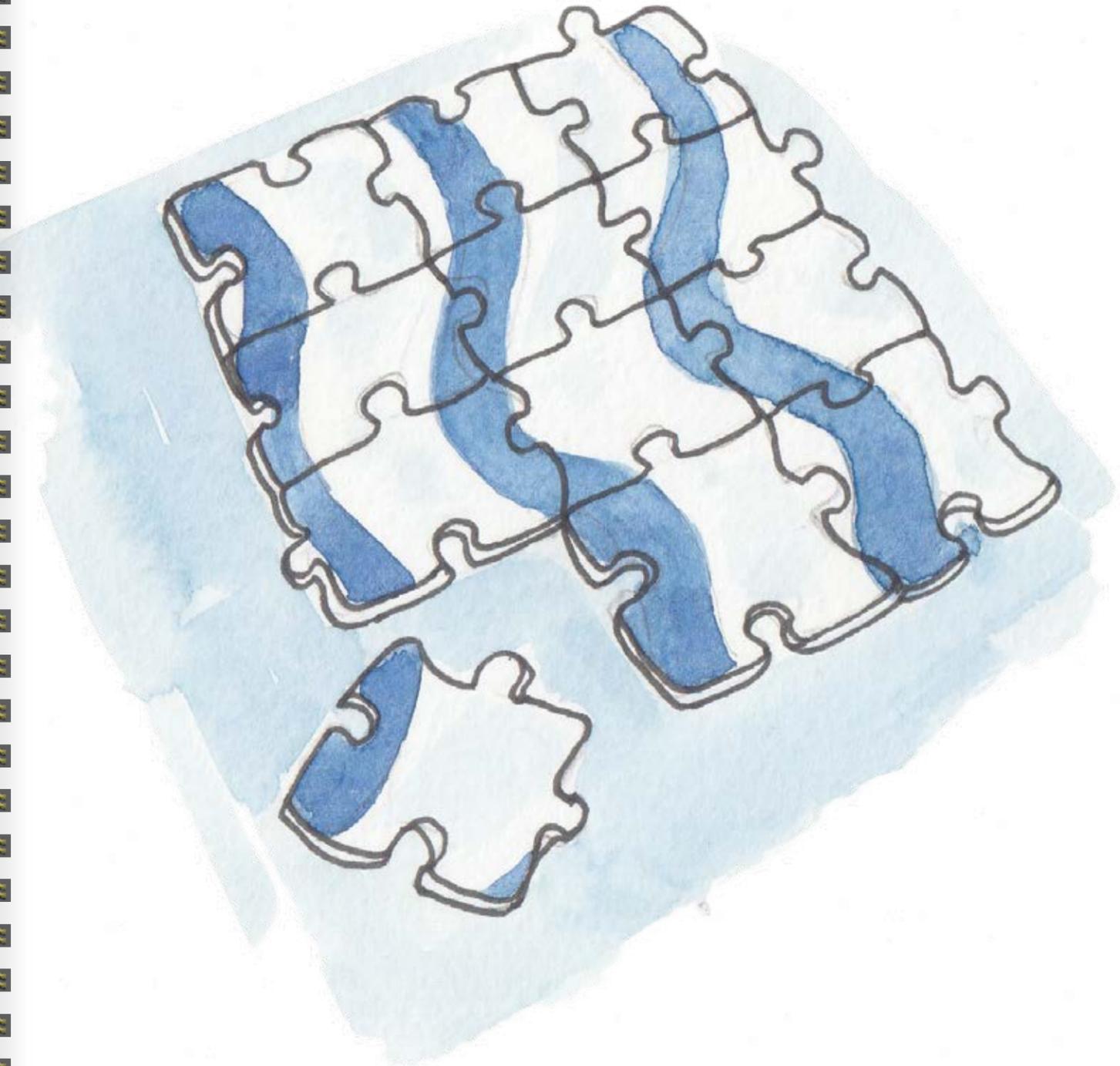
### LEARNING OBJECTIVE

Engage students in a collaborative learning experience in which they work in groups to understand and learn a part of a topic or lesson and then communicate their learning to another student group in the class. Groups then piece together different parts of a lesson to understand the whole lesson.

### BACKGROUND FOR TEACHERS

Jigsaw is a technique which stems from cooperative learning. As the name implies a “jigsaw puzzle” can only be completed by fitting different pieces together. Similarly, each piece of a learning task is essential for the completion and full understanding of the final learning of a topic or concept.

Jigsaw is an efficient and fun way to learn material. It encourages listening, engagement and empathy by giving each member of the group an essential



**JIGSAW CONTINUED**

part to play in the academic activity. It supports collaboration because group members must work together as a team to accomplish the learning task or goal and each person depends on all the others.

The Jigsaw activity may be used effectively in any academic area. Also it can be fit into a single class period or part of class period, or used, with a project-based approach, over an extended time period.

It is strongly recommended that a teacher start with a shorter simple style of “Jigsaw” before attempting more challenging or involved techniques.

**HOW****STEP 1**

Start by determining your target material. What is it that you want your students to learn?

**STEP 2**

Divide the day’s lesson into (jigsaw) pieces. 4-6 pieces is recommended. The lesson may be a reading or section within the textbook.

**STEP 3**

Divide your class into “Jigsaw” groups of 4-6 students per group depending on the number of “pieces” in your lesson. Each Jigsaw group will be asked to give each person a number. The number will correspond to the jigsaw piece.

**STEP 4**

Appoint one student from each group as the leader.

**STEP 5**

Ask each person to now find and form “Number” groups with people in the room who have the same number. For example, all the people with number 1 will now form a group, etc. In their “Number” groups, students will be given a piece of the lesson that corresponds to their number. For example, group 1 will receive puzzle piece 1. Within their number groups, students must work together to master their piece of the lesson. Encourage students to understand the key words, concepts and meaning in their piece of the lesson. Give Number groups 10-15 minutes depending on the difficulty of the lesson pieces.

**STEP 6**

After an appropriate time is allowed for sharing information, discussion, reading, or brainstorming, ask students to reassemble into their original “Jigsaw” groups. Each group leader then calls on each number (in order from 1-6) to share ideas from his or her notes to the jigsaw group. Give Jigsaw groups 10-15 minutes to share and discuss. Timing may vary depending on the level of difficulty.

**STEP 7**

Once all the numbers have shared their ideas, the jigsaw puzzle is now completely assembled and they will be able to see the overall picture of the target material.

**STEP 8**

The teacher then evaluates student learning of the material. This could be done in a number ways. Each group could summarize the material into an outline or mindmap or paragraph, or each group could think of questions to ask other jigsaw groups. In addition, the teacher may decide to randomly call on one piece of the puzzle from each Jigsaw group to share back to the whole class.

**VARIATION**

Another, simple way to do this technique is to divide your class into the same number of jigsaw groups as pieces of information in your lesson or reading. Each group then discusses and learns one piece of the lesson.

Each group develops a presentation concerning their piece of the lesson with a visual aid like an outline or mindmap. Each group then presents their piece of the puzzle to the rest of the class.

# PARKING LOT

A TECHNIQUE FOR PROMOTING QUESTIONING  
& COLLABORATION SKILLS WITH STUDENTS

**Essential Understanding** Questions and ideas often come up in a classroom that are very interesting to the students and related to the topic, but outside or beyond the scope of the lesson being taught. The “Parking Lot” technique keeps lessons on track, while fostering a culture of curiosity, critical and creative thinking.

## Time

1-2 minutes to park questions and 5-15 minutes to unpark or answer questions with the students

## Difficulty

Varies depending on the level of difficulty of questions and access to resources

## Materials

White/chalk board or newsprint, markers, colored cards

## 21CS Focus

Curiosity  
Creative Thinking  
Collaboration  
Communication  
Critical Thinking  
Growth  
Experimental

## LEARNING OBJECTIVE

This technique is designed to create a classroom culture that encourages and responds to the voice of the students. With the Parking Lot we save and respond to ideas and questions for later that might take us off track now. We can use it to encourage research that takes place outside of the classroom by individual or groups that comes from their interests.

## BACKGROUND FOR TEACHERS

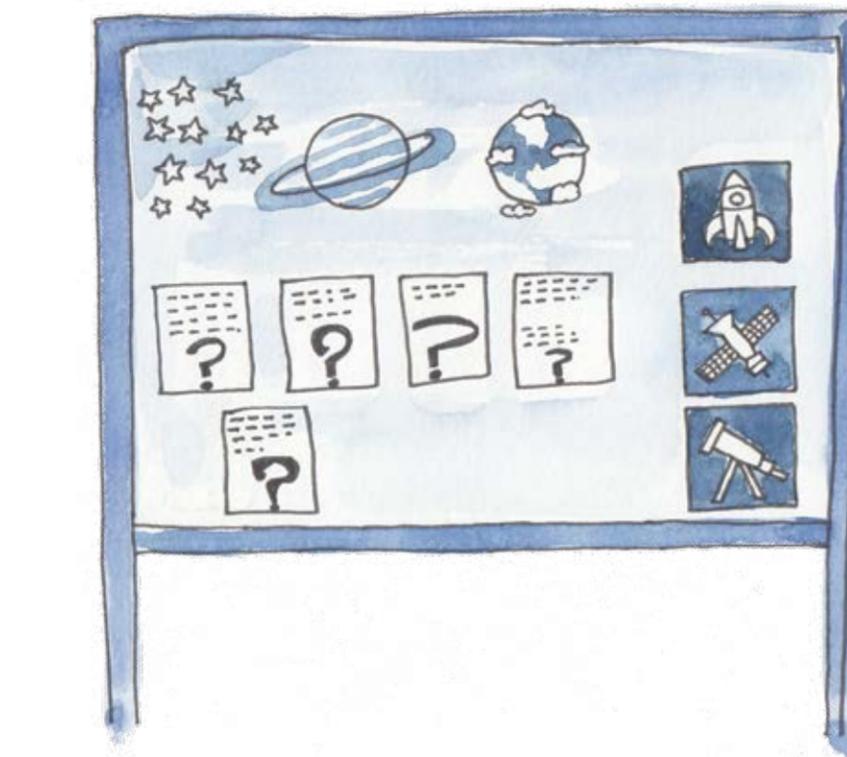
To truly develop a classroom that promotes 21st century skills in students, teachers need to think about their classroom culture. A 21st century classroom culture includes the voice of all students. By this we mean that students have a say in what is interesting and exciting for them. A great tool for engaging the student voice in the classroom is a “Parking Lot” — a space to park ideas, questions

and insights. A successful Parking Lot is visible and easily accessible within the classroom so as to give students a way to contribute their voice, ideas and interests within the classroom community. Everyone can see what everyone is thinking inside the classroom. It is not the teacher’s responsibility to agree, answer or take the advice of each note but rather to create a space where ideas and questions may be recognized and pondered together.

A Parking Lot can consist of a blank space on the wall or be visually organized into sections such as: questions, positives, “Aha! moments”, changes, and comments.

## TIP

Just about anything can be a Parking Lot question or comment. Keep it open and see what happens. This tool is about INCLUSION. Students thoughts and questions are important, and we want them to know that their voice is essential to the classroom community.



## HOW

During a lesson a student may ask a question that is a little outside of the scope of the day’s learning. The teacher may not want to answer the question or deal with the point raised by the student right away.

Instead, the teacher may invite the student to add his or her question to a “Parking Lot” that could be a newsprint on the wall or a designated space at the corner of the white or chalk board. The teacher can deal with the question or comment at the end of the day or during the next day review

or even ask one or a group of students to research the question as homework and report back. The teacher could have a special time during the week to discuss the Parking Lot.

## REMEMBER

- Manage your Parking Lot
- Advertise your Parking Lot
- Create a Parking Lot for staff
- Recognize and respond to notes

## WHY X5

A TECHNIQUE FOR EXPLORING CURIOSITY WITH STUDENTS

**Essential Understanding** *Why x5 is a tool that supports deeper analysis to address stubborn and recurrent problems that are often symptoms of deeper issues.*

**Time**  
20-30 minutes

**Difficulty**  
Easy

**Materials**  
No materials needed, however a white/chalk board, news-print and note cards may be used.

**21CS Focus**  
Mindfulness  
Growth  
Experimentation  
Curiosity  
Communication  
Collaboration  
Critical Thinking

### LEARNING OBJECTIVE

Develop skills to analyze an issue at a deeper level in order to find the nature of the problem and then determine its solutions.

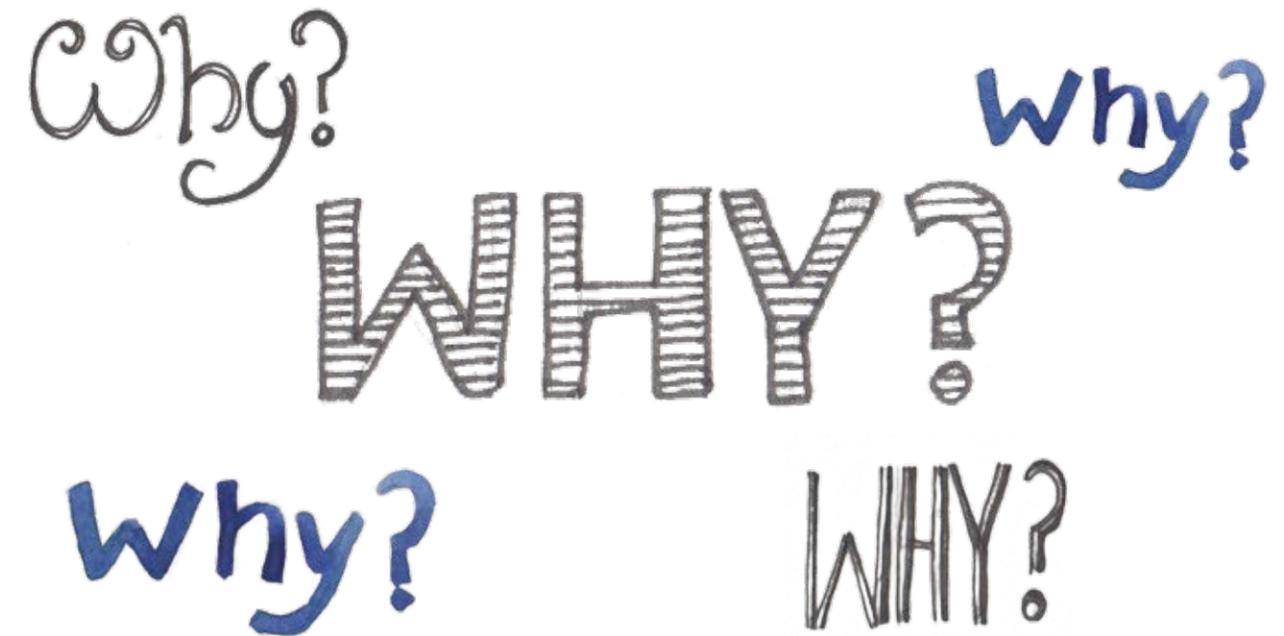
“Quick fixes” may seem convenient, but they often solve only the surface issues and waste resources. Why x5 tool also uses “counter-measures,” rather than solutions. A counter-measure is an action or set of actions that seeks to prevent the problem arising again, while a solution may just seek to deal with the symptom. As such, counter-measures are more robust, and will more likely prevent the problem from occurring again.

### BACKGROUND FOR TEACHERS

Sakichi Toyoda, founder of Toyota Industries developed the Why x5 method in the 1930s. His method became popular in the 1970s, and Toyota still uses it to solve problems today.

Why x5 tool may be used for troubleshooting, quality improvement and problem solving, but it is most effective when used to resolve simple or moderately difficult problems.

Why x5 is most effective when the answers come from people who have hands-on experience of the process being examined. It is remarkably simple: when a problem occurs,



you drill down to its root cause by asking “why?” five times. Then, when a counter-measure becomes apparent, you follow it through to prevent the issue from recurring.

### HOW

#### STEP 1

Define a problem or pose an open question.

#### STEP 2

Try to answer the question or problem. Then, ask the first “Why?” Ask why the problem is occurring or why that particular answer is so. Make sure the answer is grounded in fact and not just a guess or assumption.

#### STEP 3

Continue with deeper answers, followed by asking “Why?” 4 more times. Again, each answer should be grounded in facts. Frame each succeeding why in response to the proceeding answer.

#### STEP 4

Determine the final counter measure to the chain of why’s.

### EXAMPLE

*I am not going to University next year.*  
*Why?*  
*I failed the matriculation exam.*  
*Why?*  
*I did not pass English and Math.*  
*Why?*  
*I did not study enough.*  
*Why?*  
*I didn't have enough time.*  
*Why?*  
*My mother is old and I have to take care of her.*

Counter measure = find another caretaker for the mother

(Source: mindtools.com)

# VISUAL TOOLS

3 VISUAL TOOLS TO USE WITH ANY LESSON/TOPIC/PROJECT

**Essential Understanding** 21st century learning challenges students to practice various different types and levels of thinking. Visual thinking tools have been proven to help deepen understanding, memory retention and the capacity for meta-thinking skills.

#### Time

10-45 minutes depending on the tool and the complexity of information being processed

#### Difficulty

Varies depending on the level of difficulty of information being processed

#### Materials

Newsprint, markers, colored cards and paper tape

#### 21CS Focus

Creative Thinking  
Critical Thinking  
Collaboration  
Communication  
Curiosity  
Experimentation  
Mindfulness  
Systems Thinking

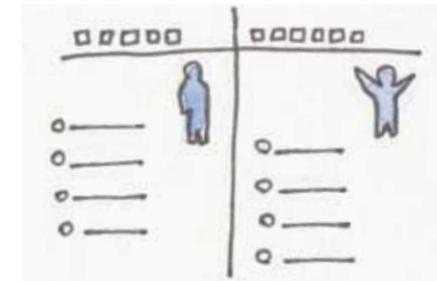
#### LEARNING OBJECTIVE

Visual thinking skills show us different ways to represent data or information that will help stimulate and support the different thinking skills within 21st century learning.

#### BACKGROUND FOR TEACHERS

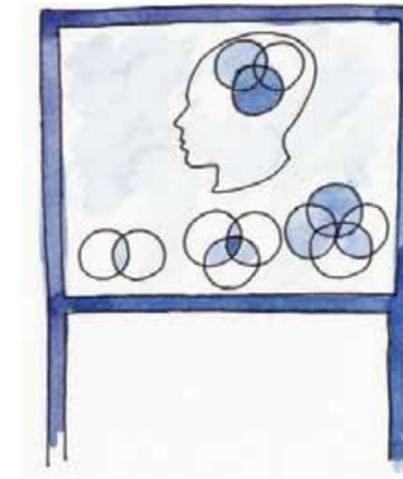
Visual tools help students to learn and retain information by showing the big picture, holding thoughts fast, focusing thinking for both the individual and the group, and encouraging collaboration and communication.

The visual tools on the next page are very simple ways to support 21st century learning with collaborative learning, decision making, focusing the attention of a group and supporting a common understanding of data or information being discussed.



#### T-CHART

Draw vertical and horizontal lines on a piece of paper making a T-shape. Label the top left and right quadrants with two objects or ideas you would like to compare like Pro's and Con's of cutting your hair or two things you compare like the similarities and difference of animal cells and plant cells. Then fill in the bottom left and right. The bottom quadrants should be reflective of their corresponding of vertical quadrant subject. For example, if the top left quadrant is "Animal cell" then you would list all the parts of an animal cell in the bottom left quadrant. If the top right quadrant is "Plant cell" then you would list all the parts of a plant cell in the bottom right quadrant.

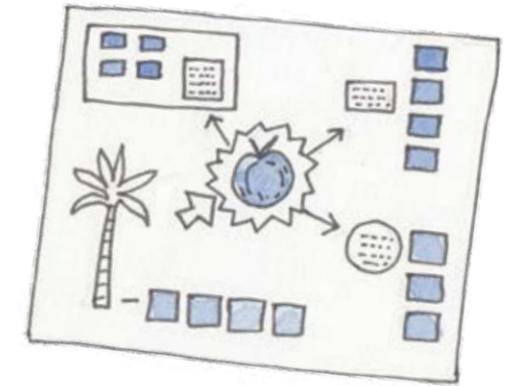


#### VENN DIAGRAM

Created by a man named John Venn, a Venn Diagram is quite simple to make. Use a venn diagram to show relationships — where ideas or things intersect. This tool usually consists of two or three overlapping circles.

To start:

1. Give a title to your Venn Diagram. The title may be the context or the topic used to compare sets of things, like Foods.
2. Pick two or three classifications or subsets of the context or theme. For example, foods eaten in the morning and food eaten at night. Each classification goes inside a circle.
3. Add information to each classification
4. Finally, where the circles overlaps, find ways in which the classifications share ideas or similarities. Add this to the center or overlap of the circles



#### MINDMAPPING

To create a mindmap, simply:

1. Create a central idea or starting point
2. Add branches to your map. These are the main branches or key themes.
3. Add sub-branches for each of your key themes

If you like you can add key words along the main branches and color code each of the themes and add images.

Mindmapping is a great way to summarize information or a lesson showing all the key points and how they relate to each other.

# BRAINSTORMING

## A TECHNIQUE TO SPARK CREATIVE THINKING WITH STUDENTS

**Essential Understanding** *Brainstorming is a technique used for coming up with lots of ideas. It is based on innovative organizations which have proven that separating idea generation from idea evaluation helps people to generate more creative ideas.*

**Time**  
10 minutes per round

**Difficulty**  
Medium (it can be difficult to keep evaluation separate from generation for truly creative ideas)

**Materials**  
Markers, paper tape, colored cards, newsprint or a white/chalk board

**21CS Focus**  
Creative Thinking  
Collaboration  
Communication  
Curiosity  
Experimentation  
Mindfulness  
Appreciation

### LEARNING OBJECTIVE

The brainstorming technique is designed to calm your critical or convergent thinking so that you can open up to creative or divergent thinking.



### BACKGROUND FOR TEACHERS

Brainstorming works best with a group of 5 to 7 people including a recorder, and a facilitator who encourages ideas. A facilitator might say, for example: “We have 12 ideas about that subject so far lets see if we can get 8 more before we finish!”

In the classroom it may be planned or spontaneous, as the need arises. The instructor may hit a boring spot in the lesson and brainstorm ways to teach this subject more effectively.

Brainstorming can be used to generate answers or ideas to any type of question or problem.

### THE RULES FOR BRAINSTORMING:

(Source: IDEO & Stanford d.school)

**1. NO JUDGMENT.** There are no bad ideas in a brainstorm. During brainstorm, hold your judgment so that ideas may flow. There will be plenty of time to analyze and focus ideas later.

**2. ENCOURAGE WILD IDEAS.** Even if an idea doesn't seem realistic, it may spark a great idea for someone else.

**3. BUILD ON THE IDEAS OF OTHERS.** When you hear an idea from a teammate, think “yes, and...” rather than “but...” in order to be as generative and open as possible.

**4. STAY FOCUSED ON TOPIC.** To get more out of your brainstorming session, stay focused on 1 question or topic at a time.

**5. ONE CONVERSATION AT A TIME.** All ideas should be heard, so only one person should talk at a time. Wait your turn to share and make sure the whole group is listening.

**6. BE VISUAL.** Try drawing your ideas, as opposed to just writing them down. Stick figures and simple sketches can say more than many words.

**7. GO FOR QUANTITY.** Set an outrageous goal like 100 ideas and then try to surpass it. The best way to find one good idea is to come up with lots of ideas.

### AT A GLANCE:

Brainstorming opens us up to asking questions like: *What if? What is possible?* Brainstorming teaches us how to generate ideas freely, how to critique and improve on our most promising ideas, and how to take these ideas forward into prototyping.



## BRAINSTORMING CONTINUED

### HOW

If you are practicing brainstorming with a big group, divide the students into smaller groups of 5 to 7 people per group. Introduce the rules of brainstorming to the class before starting. Each group should have a focus topic or question which they will use to guide their brainstorm.

### STEP 1: SELECT A FACILITATOR

Each group will select a facilitator to lead the brainstorm. The facilitator should be someone who is energetic and can encourage the group to keep going. The facilitator also invites students to contribute their ideas.

The facilitator may want to review the rules of brainstorming: Explain each rule and its purpose to set the right tone for the activity.

### STEP 2: EQUIP EVERYONE

#### FOR PARTICIPATION

Gather your team near a wall, newsprint or white/chalk board. Give each person colored paper cards, a marker and paper tape. Encourage people to draw and be visual. Remind them to write in large letters and to note only one idea per card.

### STEP 3: MOVE ONE BY ONE

Post the question you are brainstorming about on the wall so everyone can see it. Ask students to take a few minutes and write down their first ideas on their own before starting as a group. After 2-3 minutes, facilitate the brainstorm all together and capture each individual idea on 1 colored card.

### STEP 4: KEEP THE ENERGY HIGH

Provide encouragement or alternative topics if the flow of ideas slows down. Switch to a new brainstorm question every ten minutes. Throw out some wild ideas yourself. Remind your team of the rules if needed. Set a goal for how many ideas you want to generate in total.

### KEEP IN MIND

Brainstorming is a fast and dynamic activity. Have your team stand up and encourage people to speak up and keep it short. It should only take a few seconds to explain an idea.

# PROTOTYPING

A TECHNIQUE FOR STUDENTS TO MAKE THEIR IDEAS REAL

**Essential Understanding** Prototyping is an iterative process through which teachers and students learn to build on their learning with each successive model. Students learn how to employ low quality prototypes to learn how to gather feedback and improve their ideas.

**Time**  
10-15 minutes per round

**Difficulty**  
Varies depending on complexity of ideas and solutions

**Materials**  
Markers, paper tape, A4 colored paper, straws, foil, paper plates, paper cups, recycled cardboard and anything else you can find!

**21CS Focus**  
Creative Thinking  
Collaboration  
Communication  
Curiosity  
Critical Thinking  
Growth  
Experimentation  
Empathy  
Appreciation

## LEARNING OBJECTIVE

To build creative confidence one must learn the steps towards developing and testing ideas in the real world. Prototyping is a technique widely used in very innovative organizations and culture. A prototype is a very rough draft or initial demonstration of an idea. When we prototype, we're not going for quality. Instead, we are learning how to show our ideas to others in order to gather feedback that helps us to develop our ideas further. Prototyping is an easy way to integrate the 5Cs into any lesson or classroom.

## HOW

Once you have finished brainstorming and prioritizing your ideas, select the best ideas that you would like to take forward into prototyping.

A prototype is a rough draft representation of an idea. Prototypes work best when they allow other people to experience our ideas. In other words, prototyping is about SHOWING not TELLING. The best prototypes are physical or interactive, allowing other people to see, touch, feel, taste and hear what it is like for our idea to really be in the world. Prototypes come in all shapes and

sizes. Most importantly, when we prototype we are not trying to make the most perfect demonstration of our idea. Instead, we are trying to communicate in as much detail as possible, the most important elements of our idea. Below is a list of prototyping methods that you can use to build your idea.

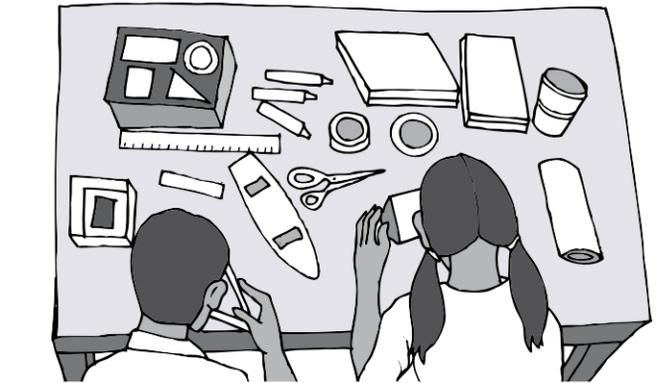
## TYPES OF PROTOTYPES:

(Source: IDEO & Stanford d.school)

**1. DRAWING OR DIAGRAM** Visualize your idea by drawing or mapping out the structure, journey or process. Try to get into the shoes of your target person and show how they might feel as they walk through your idea.

**2. MODEL** A 3-dimensional representation of your idea. You may use paper, cardboard and other recycled materials to build a model of your idea. Remember, this is only a rough draft. Try to show as many elements in your idea as possible.

**3. STORYBOARDING** Like a comic book, you can show how your idea works over time or show different scenarios of your idea through a storyboard.



**4. ROLE PLAY** Acting out the experience of your idea. Role play is a great way to show how a service or system might work in real life. Work in your team to play different roles and show how your idea might work in different situations. Use whatever props you might be able to find or make.

**5. ADVERTISEMENT OR CAMPAIGN** Make a fake advertisement that shows how your idea works. If you are launching a new product or service, how will you share this with others? Advertisements and campaigns are a great way to think about how to share your idea in a really simple way.

# CURIOSITY PROJECTS

## A TECHNIQUE FOR SELF-MOTIVATED LEARNING (SML)

**Essential Understanding** *Curiosity is one of the ways our brain focuses on what is important for us, and activates both memory and learning. Curiosity prepares and rewards the brain for learning. In your classroom, curious students are self-motivated to ask questions and seek understanding.*

### Time

2-3 weeks with both in class time (varies) and out of class time.

### Difficulty

Medium

### Materials

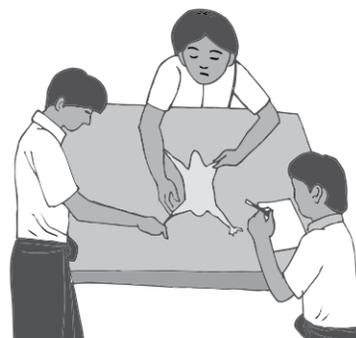
None

### 21CS Focus

Curiosity  
Growth  
Experimentation  
Appreciation  
Communication  
Collaboration  
Critical Thinking  
Creative Thinking

### LEARNING OBJECTIVE

Teachers will be able to activate curiosity and thus enhance learning in students through strategies that support curiosity including Self-Motivated Learning (SML).



### BACKGROUND FOR TEACHERS

Nobel Prize winning physicist, Richard Feynman, asserted that “curiosity is the pleasure of finding things out.”

Curiosity has been shown to greatly aid retention not only of the main idea but also of subordinate or connecting ideas. Curiosity has also been found to be good for your health. Research shows that people who are curious are happier and experience more meaningful lives. Even brain scans done while people are asked questions

show that when a person’s curiosity is activated, the brain “lights up” with activity including areas that regulate pleasure and reward.

Like management and leadership Curiosity can be top down or bottom up. Studies have shown that when curiosity is bottom up it is much more effective. This brings us to a strategy of sparking curiosity called Self-Motivated Learning (SML).

SML is a project based approach that is a “bottom up” approach to building curiosity that has been adopted by successful companies like Google. Besides curiosity SML instills persistence, collaboration, communication, creative and critical thinking, and organizational skills within a project-based approach to learning.

### HOW

To introduce SML or Project-Based Learning (PBL) into your classroom, start by looking at your curriculum and finding opportunities where you might be able to let your students explore a topic further. Teachers may choose to allocate 10-20% of class time during a semester to SML or PBL. The goal is to give students a chance to explore what they are

curious about and connect topics to the real world. SML may be done in class or as weekend homework or over the course of a few weeks.

### STEP 1: EQUIP STUDENTS TO ASK QUESTIONS.

Asking questions is the foundation of curiosity. We are unsettled when we have unanswered questions. Though we often ask students if they have any questions we rarely teach them how to ask good questions. With 21st Century Skills, teachers train learners to be inquisitive explorers to pursue learning anytime, anywhere.

### STEP 2: CONNECT LEARNING TO THE REAL WORLD TO “SET IN MOTION”

**STUDENT QUESTIONING.** Good questioning needs some familiarity with a topic. Good questions also come from connecting the learner to the content. Connect with your students to find out what they are interested in and then find ways to connect their personal interests and concerns to topics of study in the classroom. When a student finds a topic that connects to their interest encourage them to research it and share their findings with the class.

### STEP 3: FOCUS ON PROCESS OVER PRODUCT.

The power of SML and PBL is that it is an inquiry-

driven process. Teachers may guide students to continue to ask meaningful questions during their investigation of real world problems, brainstorm ideas, define project ideas and make a proposal, guide + mentor student research, give time for research sessions, and involve parents.

### STEP 4: BUILD A RESEARCH CLASSROOM.

Plan for SML by having resources available for students and creating a collaborative classroom culture in which peers support each other’s interests and learning.

### STEP 5: GIVE ENOUGH TIME FOR CURIOSITY TO WORK ITS MAGIC.

Allow students to thoroughly pursue ideas and experiences to gain new knowledge and understanding and share with their peers. Help students feel comfortable with “not knowing,” uncertainty and complexity during the SML process.

NOTE: A teacher does not need to know all the answers. Questioning may be about exploring big, complex problems together. For big questions, encourage students to research, think about it at home or dig deeper into the complexities.



## THANKS TO OUR TEACHERS!

### WE COULDN'T HAVE DONE THIS ALONE. HERE IS A LIST OF FOLKS WHO HAVE CONTRIBUTED IN LARGE OR SMALL WAYS TO THIS GUIDE:

We're grateful to the teachers in our lives who have taught us so much and helped bring this guide to life.

We're eternally grateful to Barbara Antos, our teacher, sister and dear friend. Your love of teaching and learning will forever live on in all of us.

To the teachers and students in Myanmar who have inspired this work, especially: the Myanmar Department of Social Welfare; Mawlamyine University faculty and students; the Mon National Education Committee (MNEC) core trainers led by Mi Sar Dar; Adventist Development and Relief Agency (ADRA); Knowledge Village English Center led by Zaw Tun Latt in Thanbyuzayat, Mon State; Veranda Cafe led by Sunshine in Hpa An, Karen State; Bridge For All, Program Manager Saw Aung Htwe in Hpa An, Karen State; The Private Matriculation Preparatory School including Tun Bobo and Aye Nandar; The Mawlamyine International Language Center especially Arkar Zaw and Kaung Ei Zarchi Han; The English Access Microscholarship Program

in Mawlamyine including Daw Yee Yee Cho, Min Khant and Khaing Thazin Thein; Zun Pwint Oo and Zun Pyae Oo; the Mon Intensive English Program (MIEP) including Min Nay Lin; the Government Technology University (GTU) in Mawlamyine; the Phandeezar Community Tech Hub in Yangon; Klaus Oberbauer; and all of the adolescents and teachers who contributed to 21st Century Skills Programs and Courses.

And to all of the teachers and students in the USA whose work and insights during our research phase have been infused into this guide, especially: the Stanford d.school K-12 Lab; David Sherwin; Tipping Point, T-Lab Director, Stephanie Lewis; Southern Exposure including Maya Gomez and Vreni Michelini Castillo; Hannah and Mia Portner; Sarah Oh; Revaz Ardesher; and Anam Thubten.

Finally, thanks to all the generous teachers out there who continue to share their tools, experiences and knowledge with all of us both online and in-person.

## REFERENCES & RESOURCES

Barber, Sir Michael, 2014. Pearson, The 10 things that make a great 21 st century teacher, [www.youtube.com](http://www.youtube.com)

"Business Model Canvas." Business Model Generation, Alexander Osterwalder and Yve Pigneur. 2010 John Wiley and Sons Hoboken, New Jersey.

Brown, Brene, 2013. The RSA Shorts/ Espresso for the Mind, Brene Brown on Empathy, [www.youtube.com](http://www.youtube.com) Whitman, Walt. Walt Whitman Quotes. (n.d.). BrainyQuote.com. Retrieved February 4, 2018, from BrainyQuote.com Web site: [https://www.brainyquote.com/quotes/walt\\_whitman\\_132584](https://www.brainyquote.com/quotes/walt_whitman_132584)

Dweck, Carol, 2006, Mindset: The New Psychology Of Success, Penguin Random House LLC, New York.

Fabricant, R., Gardner, J., Gershbein, D., Hoyt, K., Quigley, K., Sanders, E., Sherwin, D., Wiles, W. 2013. Collective Action Toolkit. Download at [www.frogdesign.com/cat](http://www.frogdesign.com/cat)

IDEO n.d., Design Thinking for Educators: <https://www.ideo.com/post/design-thinking-for-educators> Types of Prototypes, Stanford d.school/IDEO IDEO n.d., Design Thinking for Educators: <https://www.ideo.com/post/design-thinking-for-educators>

Jay Forrester. Founder of System Dynamics at the Massachusetts Institute of Technology (MIT) Marr, B. 2015. Big Data: 20 Mind-Boggling Facts Everyone Must Read, viewed January 2018.

Meadows, Donatella. 2008, Thinking in Systems: a primer, ed. by D. Wright, Sustainability Institute. Chelsea Green Publishing, White River Junction, Vermont.

Mindtools n.d., 5 Whys, Getting to the Root of a Problem Quickly, [www.mindtools.com/pages/article/newTMC\\_5W.htm](http://www.mindtools.com/pages/article/newTMC_5W.htm)

Pfeffer, J. & Sutton, R.I., 2000, "The Knowing — Doing Gap", Harvard Business School Press. Boston Massachusetts Sikes, S, 2003, Raptor, Learning Unlimited Corporation, Tulsa, Oklahoma.

Rothstein, D., Santana, L., 2011. Make Just One Change. Harvard Education Press. Cambridge, Massachusetts.

Rules of brainstorming, Stanford d.school/IDEO

School Retool, Stanford d.school, IDEO . 2017-18. Shadow a Student Challenge. [www.shadowastudent.org](http://www.shadowastudent.org)

Swami Prajnanpad. 2017. Intimate Relationship as a Spiritual Crucible. John Welwood, viewed December 2017, [www.lionsroar.com](http://www.lionsroar.com)

The Right Question Institute, Question Formulation Technique, viewed 1/2018 from [www.rightquestion.org](http://www.rightquestion.org)



# 21<sup>ST</sup>

SUPPORTED BY:



[www.unicef.org/myanmar](http://www.unicef.org/myanmar)



Pearson

[www.pearson.com](http://www.pearson.com)



MAWLAMYINE  
UNIVERSITY

WRITTEN & DESIGNED BY:



[www.pointB.is](http://www.pointB.is)

TO LEARN/SHARE AT: [WWW.POINTB.IS/21CSGUIDE](http://WWW.POINTB.IS/21CSGUIDE)