Introduction to
Compassionate Systems Framework in Schools

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The Center for Systems Awareness

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Introduction

From the devastating effects of climate change to increasing cross-boundary migration flows and displacement to epidemics of substance abuse, social and political divisions and civic disintegration, the challenges that we currently face are parts of interconnected, interdependent, global systems. As we seek solutions to these worldwide issues, we must also find ways to help young people to cope with their complexity. This involves teaching them how to reflect on, deeply understand, and respond mindfully and compassionately to systemic challenges in their own lives and beyond, their connections to one another and their impact on us as individuals and on our communities. In education, where interest in social and emotional learning (SEL) mindfulness, and systems thinking is growing, we find both an opportunity and a need to develop models of thinking and teaching that prepare students to better understand and respond to the systems to which these issues belong. We draw from established SEL models, together with developments in the emerging field of complexity science and the study of systems, **to establish a framework—what we call a "compassionate systems" framework—for building a cognitive and affective foundation for global citizenship.** This framework conceptualizes compassion as an essentially systemic property of mind: to cultivate compassion is to be able to appreciate the systemic forces that influence people's feelings, thoughts and actions.

In a time where we are increasingly aware of and digitally connected to others around the world, we feel less and less connected at the human level. Many feel a profound sense of empathetic distress at the immense sufferings and challenges across the world that they feel powerless to alleviate or resist. Other struggle with stereotypes, not feeling seen and emotional disconnection in their daily lives. A lot of teachers and social workers experience burn-out stemming from empathetic fatigue as they take on the emotional weight of their students' lives. Many lack training in how to remain in one's own emotional space without shutting down the emotional reality of the other. Today, more than ever, teachers and students alike need to know how to bring awareness and intention to empathy, so as to cultivate a

stance of compassion and resilient capacity for care from which we can act.

For years, different disciplines, from neuroscience to psychology, have investigated the workings of empathy, sympathy, compassion and emotional intelligence, with the goal of better understanding our emotional states and reactions. In many ways, they build on millennia of knowledge nurtured in different spiritual traditions. In parallel, understanding complex social realities shows how as humans we continually shape internal and external structures that in turn shape us. The current work on compassionate systems views compassion as the ability to both understand conceptually and empathetically what it is like to be an actor in a system, as we all inevitably are, in family and relational systems, in complex organizations, and in larger social systems. This involves *systems sensing* —to "walk in someone else's shoes"—and *systems thinking*, which seeks to more objectively understand how a system is functioning.

The basic aim of the Compassionate Systems Framework is to grow "compassionate integrity" in students and teachers—to have alignment between how we think, feel and act by virtue of an ever-unfolding awareness of inter-connectedness. We believe these skills are vital to human prosperity – and even survival –in a world of increasing interdependency where we face immense environmental, political and socioeconomic challenges from not understanding these interconnections. Without this capacity, we are left to react to circumstances that seem out of our control and blame one another, missing entirely our own agency in shaping those circumstances.

This report explores the potential of a compassionate systems framework in education and introduces key principles and practices born of a collaboration between educators and researchers from the global International Baccalaureate (IB) network, the Massachusetts Institute of Technology (MIT), and other education and research institutions. Prototypes of this framework combine contemplative SEL, systems thinking, and compassion to help adults (teachers, administrators, and parents) and students apply these skills to important issues in the world of their daily lives. Starting in 2017, initial prototypes from pre-K-12

settings in 10 different countries have now expanded to form a growing global network.

In the first section of this report, we provide an overview of the compassionate systems framework and how it emerged, and define key terms and concepts. We then survey initial cases where the Compassionate Systems framework has been actively integrated in classrooms, at schools and administration levels and in organizations working with at-risk youth. In drawing out the trends and questions that have led to our work, this report also includes recommendations to inform the future of research and development at MIT and worldwide.

Key Definitions

To help unpack the Compassionate Systems framework and its accompanying tools, practices, and pedagogy, it useful to start with a definition of some key terms. Today, there are many discussions across diverse scientific and humanistic traditions about the meaning and definition of terms like empathy and compassion, and we want to clarify how we use these terms.

Emotions and Feelings

In the fields of neuroscience, biology and psychology, "emotions" are seen as arising from the autonomous nervous system and, as such, are physiological occurrences that happen as a response to preceptor inputs.[1] Emotions then are the body's physical reaction to events, either initiated from outside of us or from our own ever-creative minds.

"Feelings," on the other hand, are our perceived emotions – the subjective experiences of the bodily, emotional state. This means that whenever we become aware of our emotional states we come to have an experience of it and the emotions thus transcend to feelings. Per this definition, we are mostly unaware of our emotional states until we come to consciously experience them and realize how we feel (Gregory, ed.

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[1] See for example Anthony Damasio's *The Feeling of What Happens* (2000) or *The Oxford Companion to the Mind (2004),* edited by Richard Gregory.

Oxford Companion to the Mind). However, we very frequently react to these emotional states, even if we not aware of them. For example, a victim of prolonged trauma may experience a quickened heartbeat and labored breathing to the stimulus of a loud noise or a tense situation, without understanding why this emotional experience of agitation has occurred.

When we cultivate emotional literacy, we enhance our capacity to experience our emotional states, to feel them, and to respond to our emotional states with consideration and intentional awareness instead of staying in a purely reactive mode, known in popular terms as being "emotionally high-jacked." This capacity to pause between emotion and action is the essence of emotional intelligence.

Empathy and Compassion

The term "empathy" stems from the German word "Einfühlung," which means the ability to feel into another (literally "in-feeling").[2] Today, scientists distinguish different stages or categories of empathy from highly automatic to more cultivated, such as emotional contagion, empathic concern, perspective taking and attunement. Here, we will use one fundamental definition of empathy, which is "the innate capacity to sense and feel the emotions of others." Per this definition, empathy is not necessarily a good thing. For example, in order to bully someone and do it well, you have to have a quite clear sense of how to hurt them – which requires empathy. Similarly, when we get caught in the feeling of someone else's negative moods, depression or anxiety, we ourselves experience traces of these moods, which may cause us to react to our own emotions rather than act in ways that can improve, console or alleviate the situation that gave rise to the emotions.

Compassion is rooted in the Latin "com" which means "with" or "together" and "passion" which relates to "suffering" or "intense feeling." Two features distinguish compassion from empathy as the words are commonly used today. The first lies in not being overwhelmed with another's emotions, but to stay "next to that other" and feel with them

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[2] The term also suggests the Greek word "pathos."

how they feel. In a state of compassion, there is less internalization of the other's emotional state, which is why compassion is seen as a cultivated, refined state of awareness. The second concerns intention. For example, in many traditions like Buddhism, compassion is most often understood as the intention of alleviating suffering, of supporting the other (be that human, animal, or any other living being), and to have joy and happiness in their existence. In the Taoist tradition, for example, compassion comes with a deep sense of joy and wishing a life of joy for others, and, in the Christian model, compassion is expressed as being in service for others.

In the work on compassionate systems, we have come to talk of compassion as an essentially systemic property of mind: to cultivate compassion is to be able to appreciate the systemic forces that influence people's actions – 'to walk in their shoes.' Compassion goes beyond seeing a system from the outside – a kind of intellectual exercise – but actually feeling what it is like to be an actor within the system. This shift is "systems sensing," referred to above, and is complementary with systems thinking, which tries to objectively understand how a system is functioning. In some spiritual traditions, systems sensing— the capacity to hold such paradoxes— is seen as an indicator of an open heart. In the Compassionate Systems framework, systems thinking and systems sensing are essential counterparts of deeper understanding, combining to form what we understand as "systems awareness." We say that to cultivate the capacity for seeing and sensing the larger system is fundamentally a compassionate state of mind.

Complexity and Systems

When we started this collaboration, initially partnering with the IB, we looked at how understanding complexity (from the emerging field of complexity science)[3] and systems (as understood in fields like system dynamics)[4] overlap in several common guiding ideas for education:

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[3] A broad term for related fields of study that have emerged from physics, economics and mathematics. Complexity science became a common term with the founding of the Santa Fe Institute, https://santafe.edu. See also Complex Systems Society: https://cssociety.org/home
[4] Founded by MIT professor Jay Forrester, system dynamics applies basic systems concepts (such as feedback loops, stocks and flows, and delays) to better understand complex social and organizational

1. There exists an **innate systems intelligence** within us all, which begins to unfold from very early childhood on through our universal experiences in family systems and the complex relationships between parents, siblings, peers, and other relatives and caregivers.
2. This systems intelligence is **systematically underdeveloped** in mainstream education with its emphasis on reductionist ways of understanding, right versus wrong answers, and intellectual versus embodied understanding.
3. From an education viewpoint, understanding reality thorough the lens of interconnectedness and change represents a powerful way to **integrate diverse subjects**.
4. To cultivate this innate systems intelligence and investigate this interconnectedness between subjects **requires practical tools** and methods, many of which have been developed over the past 20-25 years and are now in broad use in preK-12 education, though still not widely disseminated.
5. Those approaches that we have found to be most useful engage learners and teachers in **reflecting** on their ways of seeing and becoming more explicit in **constructing and testing their own models of reality.**
6. Working rigorously with complexity and systems leads to enhanced conceptual skills and understanding. Students strengthen their ability to construct coherent explanations that connect different elements in a complex setting, to explain their reasoning about interconnected issues, and to test (disconfirm) or refine one's own understanding, such as unpacking what is missing from "my model."
7. Working with complexity and systems also leads to more integrated learning modalities: **rational _and_ intuitive, general _and_ personal,** conceptual _and_ enactive/embodied, and thinking and sensing.
8. To take root in a school setting, **adults _and_ students alike** need to be practicing systems thinking and reflection, especially since these skills are so under-developed among adults, and there is a tendency for adult educators to declare that they understand systems thinking even though they have little skill in doing it. For this reason, we have come to emphasize that school management and leadership is an essential counterpart to classroom

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and natural systems, both through simulation and conceptual model building. See www.systemdynamics.org

application, showing how many of the same tools and practices can be applied in both.[5]

Compassionate Integrity

In this work "compassionate integrity" has emerged as a way to characterize our overarching outcome, what we are seeking to help grow in students and teachers: alignment between how we think, feel and act. The term "integrity" comes from a root of "wholeness" in Latin. We hope to help our students grow the ability to not only think compassionately but to also feel and live compassionately by virtue of an ever-unfolding awareness of interconnectedness. This can extend naturally from feeling connection to oneself and others to feeling connected to the consequences of my actions at greater distances of time and space - for example, the consequences of our choices in food we eat or that when we charge our mobile devices we use electricity that in most countries comes from burning coal that pollutes and destabilizes global climate.

In systems thinking, there is no "away," and this awareness of inter-connectedness can underpin a life-long inquiry to understand ever more broadly the consequences of our actions, the root of all ethical behavior. This inquiry encompasses *my* choices as a consumer and a citizen, from mundane everyday choices to regional and national policies –both of which can literally affect those on the other side of the world. Since we can *never* fully see all the local and global systems within which our actions unfold, the compassionate systems framework instills a profound sense of humility in what I know and do not know and a spirit of genuine curiosity and openness to learn. This is the real hallmark of a systems thinker, as is a cultivated experience of interconnectedness that of a compassionate systems thinker.

Based on these different areas of understanding – the emotional, the social and the systemic –we have started collecting and developing cases of how educators in the network use tools and practices for implementing a Compassionate Systems framework in classrooms, schools and organizations across diverse cultural settings.

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[5] For example, see *Schools that Learn* (2012), Senge, P, et.al. which in turn grew from applying in educational contexts ideas and tools of systems thinking and organizational learning initially presented in *The Fifth Discipline* (2006), P. Senge.

Launching the Compassionate Systems Framework

In the Fall of 2017, a diverse group of educators and researchers from the International Baccalaureate, MIT and Penn State University, with representatives from fields ranging in education, neuroscience, organizational behavior, and policy, gathered together to explore how the principles and practices of social and emotional learning and systems thinking could be brought together as a foundation for pK-12 education. The need was clear: bullying and violence in schools, high absenteeism and dropout rates, rampant prescription of anti-anxiety medications among youth, curriculum and testing standards misaligned with the real-world concerns and needs of children and their communities. After over two decades of application experience, the fields of SEL and systems learning remained disconnected, yet we believed the greatest potential of either lay in their complementarity.

The Compassionate Systems framework offers models of thinking and teaching that combine contemplative SEL, systems thinking and compassion, and establishes a set of practices that help teachers and students to apply these skills to important issues both inside and beyond the classroom. The tools and practices are appropriate across many organizational levels – from small and large classrooms, informal learning settings, to professional development for educators and community leaders to shape collective leadership and more generative school cultures.

Out of the initial 2017 gathering, we began to establish a series of prototypes in pK-12 schools across 10 different countries including sites in Europe, Africa, Asia and North America. Through these prototypes, we have been able to establish and refine the following core set of principles and practices.

The compassionate systems framework is organized around three essential components:

1. **Developing the skillsets of a systems thinker**, through using a variety of systems thinking tools and practices: seeing patterns of change over time, examining deeper systemic structures underlying surface events, and

understanding how mental models and "artifacts" like school design and metrics shape those structures.

2. Even for skillful systems thinkers, complex issues can easily be seen as something outside of ourselves, or something we understand intellectually but not emotionally. **Developing "systems sensing" skills** help us to "sense into" the multiple experienced realities in any complex setting. This may take the form of learning journeys to see another's experience of a system outside our own direct experience, diverse simulations to viscerally experience systemic causes of problems, and working collaboratively on how to address complex problems with others who have different mental models than our own.

3. These above skills can combine to **nurture a compassionate systems stance**. One foundation lies in understanding the structural sources of problems that go beyond individual actors. In that sense, systemic understanding undercuts our habitual tendencies to blame individuals for problems that arise from the larger system. Another lies in cultivating a sense of connectedness with others and the situation, starting with "perspective taking," appreciating how different people see things differently, and extending to altruism and wishing well for the "other" (often called 'self-handicapping' by biologists).

This framework is not a purely intellectual or philosophical concept. Cultivating a sense of compassion and systems thinking requires a shift in behavior as much as in thoughts and beliefs. Some of the core practices include meditative reflection, deep listening or "Check Ins" where we provide our full care and attention to another, circle practices, journaling, developing awareness of our own ways of seeing and making sense using tools like the Ladder of Inference, and a variety of conceptual model building practices where people work together to better understand systemic forces at play underlying particular problems and how they can work together to shift these.

We introduce and support these practices through a blended learning model with hands-on workshops as an introduction to the tools and approaches and a digital platform for the growing global community to learn with and from one another, share curricular units and stories and to have follow-up learning modules delivered online, both by MIT and advanced practitioners in global field sites.

Case Studies in Classroom Practice

International School of Zug and Luzern, Switzerland

In the following case study, we highlight how the Compassionate Systems framework has been implemented within an international school in Switzerland with primary grade students. In this pilot, the lead teacher, who is also the Director of Teaching and Learning in the 1,200 person school, and a small team of educators developed a unit focused on international migration using the compassionate systems tools. He shares his motivation for this selection,

> *"In the lead up to this unit, students were aware of the current refugee crisis in Europe and had seen images, heard news reports and observed the number of refugees and migrants increasing both in Switzerland and the countries nearby.*
>
> *Teacher reflections from the previous year showed that students had shown empathy for migrants, particularly refugees, and were emotionally affected by what they had learned. It was felt that students had not really understood the complexity of people moving and the impact it had on the infrastructure or culture of a country or community. Many students found it challenging to comprehend why governments were making decisions to prevent or limit the number of refugees coming into countries.*
>
> *It was hoped that through using the compassionate systems tools, students would **gain clearer understandings of multiple perspectives and the wider impact of decisions and actions**."*

During the unit, students were introduced to compassionate systems tools including:

- *Simulations:* games, role plays and other ways of illustrating behaviors, actions and their consequences

- *Behavior over time graphs*: picking key variables and tracking how they change over time

- *Stock and flow diagrams*: how inflows and outflows alter a stock that accumulates the difference between the two

- *Connection circles*: identifying relevant variables in a situation, arraying them around a circle, and the drawing arrows tracing assumed causal connections

The process started with a simulation developed by the teaching team and students drawing "behavior over time graphs." The simulation involved playing a game with dice. In small groups, students imagined they were working for a government department, conducting research on the impact of migration. Students started by drawing their own country boundary and then worked with 20 dice, each of which represented 200 refugees.
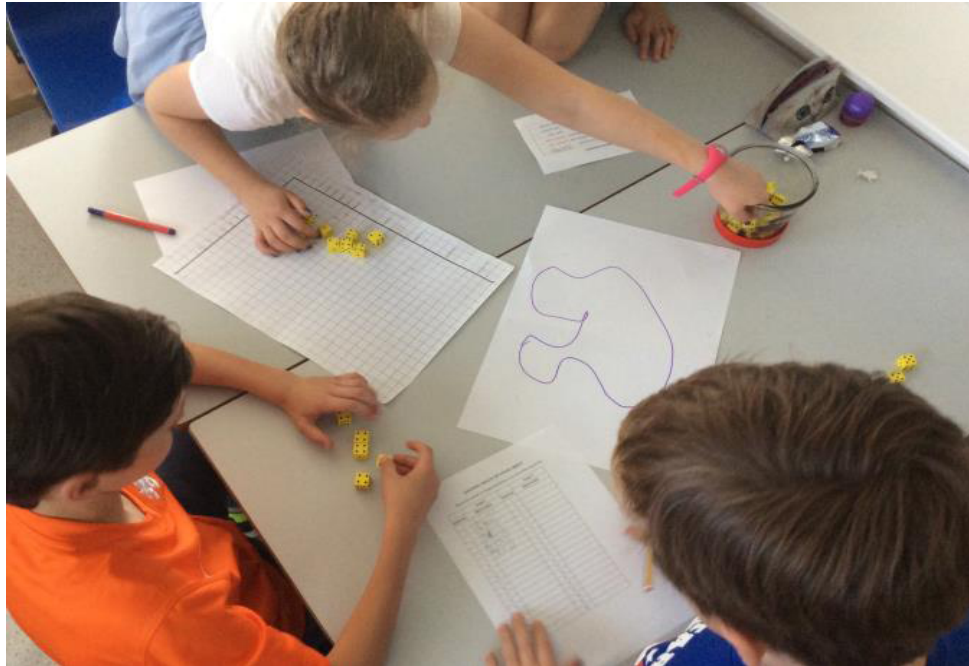

Figure 1: Students working through a simulation of migration and its impact.

Midway through the simulation, it was explained that a conflict had broken out in a nearby country and this meant that the rules of the game had changed. As students created the behavior over time graphs, they quickly realized that with the new conditions, the number of refugees was increasing rapidly and they would reach the "maximum" number very soon. As they hit the maximum number of refugees, students stopped for an emergency meeting and decided what action to take.

Building on this experience, students used stock and flow diagrams and then connection circles. The aim is to show how key variables changed over time and then step back and build a simple model of their own regarding factors that connected to migration flows, and to see how the

shifts in flows affected the stock of refugees over time. The stock and flow diagrams were used to help students explain "push" and "pull" factors impacting migrants and communities. Before drawing the diagram, students roleplayed the stock and flow experience in which they acted as the stock (migrants) and the teacher chose what factors would pull them towards the country or push them out.

Figure 2: A stock and flow diagram students created in class

The refugee simulation game was used to help students show how a conflict may increase the number of refugees wanting to leave or enter a country. The two runs of the simulation highlighted why governments may feel the need to change the rules or laws and how these changes can impact individuals and communities. Connection circles were drawn to help students make sense or visualize how different factors linked to migration are connected. The students were then able to tell stories using these visual aids.

The students used these graphical representations to tell "migration stories" from different points of view. Throughout the larger unit, students had various opportunities to hear the stories of and interview refugees in the school and local community, and learn more about the

charities and organizations working with them. Some refugees they spoke with had positive experiences and were content being in Switzerland, despite the long and challenging journey to get there. Others explained that they were not enjoying life in Switzerland. Some visiting speakers shared that they felt uncomfortable with the culture or that they did not have the same rights as existing citizens or other migrants.

Reflections from Students and Educators

At the conclusion of the pilot unit, the teaching team provided the following reflections:

> *"The simulation encouraged students to show empathy for the different parties involved in the simulation and* **view things from multiple perspectives**. *Not only did they empathize with the refugees, as had happened previously in the unit, but they also understood why governments might act in certain ways. They considered how the people already living in the country might feel and react to the growing population. Students came up with possible solutions, including sharing the responsibility with neighboring countries, but also saw the complexity in this.*
>
> *As students felt ownership of their country, they were* **thinking deeply** *about how it might be affected and also* **felt a connection to the different groups** *that they were focusing on."*

The students at the School speak over 50 home languages and the learning support teacher for the English language learners commented that the practical and graphical nature of the learning experiences and tools helped students to access concepts and explain their thinking effectively. For example, one student started by asking the question: "Why can't the richer countries just let everyone in?" Many students shared this feeling. They connected to their own experiences: moving to Switzerland and feeling welcome, living in high-quality apartments and having good educational and social opportunities. Many students' thoughts at the start of the unit were broadly: "Of course, everyone would want to live here in Switzerland!" As they learned more about the many considerations (education, homes, food, jobs, language, culture), they started to understand that "letting everyone into a country" was a much more complex issue.

One student's comment towards the end of the unit showed that her thinking had changed and that she was showing more compassion. She shared that: "At the start of the unit I used to think 'whatever' when I saw people in the community who looked different to me. Now I see people and I think, 'I wonder what their story is?'"

After reflecting on the positive impact of using the compassionate systems tools and pedagogy in grade 4, the teachers shared their experience with the rest of the primary school staff. The process in grade 4 had been carefully documented with video footage of students and teachers sharing their hopes and reflections both before and after the unit. The teachers felt the best opportunity to take this to the staff was to present in an after-school staff meeting. The meeting started with a short introduction to complexity science, systems thinking and the need for all of us to show compassion in today's often overwhelming society. Their presentation was met with good reception and they are working to integrate the compassionate systems framework in other grades across the IB school.

International School of Indiana, United States of America

For the International School of Indiana, an International Baccalaureate school in Indianapolis, nurturing compassionate integrity is essential to building the capacity for international mindedness, a core value of an IB education. This begins with developing the IB Learner Profile attributes within conditions designed to deliberately integrate both the cognitive and affective aspects; systemic with empathetic. The tools and practices used with this framework relate directly to the IB approaches to learning skills, and the approaches to teaching required to successfully deliver this framework are exactly those approaches to teaching we embody as IB teachers.

The IB curriculum at the International School of Indiana is based on six transdisciplinary themes. Each of these units are worked on for six weeks in the classroom. In the first year introducing the Compassionate Systems framework, the lead teachers worked on prototypes across grades 1-5, focusing on the following curricular themes: Grade 1: Hunger and Food

distribution; Grade 2: Human impact on Animal Habitats; Grade 3: Art as a form of activism and change; Grade 4: Immigration and Human rights; and Grade 5: Access to Energy.
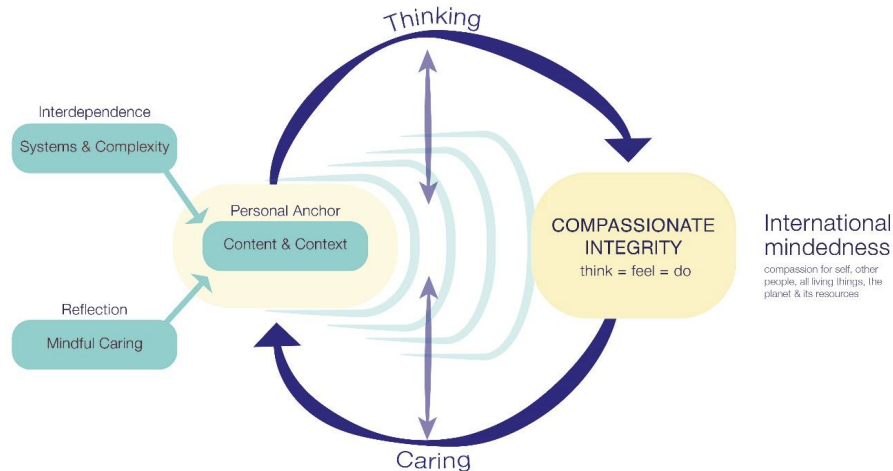
In the above chart, the IB Indianapolis school sketches some of the core elements in cultivating compassion:

1. *Personal anchors*: role-play simulations and experiences
2. *Systems thinking tools*: interdependence and interconnectedness
3. *Mindfulness and reflection:* meditative practices, self and group check ins.

For example, in one of their Grade 1 units focused on food, they combined these three core elements in the following way:

1. *Personal anchor:* We create a situation in which the children can feel hunger pangs. We cancel their morning snack and move lunch by 45 minutes so it is later in the day.

2. *System thinking tools:* We use behavior over time graphs to graph how our stomachs feel and sound every hour along with our mood as we get hungrier.

3. *Mindfulness and reflection*: We use a process called a check in when we all meditate on the central idea "Everyone on earth has the right to nutritious "food." We share our thoughts during our mindful reflection. These are recorded weekly to see the progression in the thinking.

These systems thinking tools were used to help children analyze and understand the personal experiences of food, our relationships to food, how food is produced and processed, how food is shared around the world, and how our knowledge and choices about food can help end hunger. In this unit, educators use these system thinking tools like connection circles, icebergs, ladder of inference, stock and flow and behavior over time graphs – each of these tools incorporate all three of those elements on the left of the chart to achieve thinking and caring about a topic.

Reflections from Educators

Lingyan Shao, a third grade Mandarin homeroom teacher at the International School of Indiana, reflects on her experience using the Compassionate Systems Framework in her 3rd grade class:

> *"When Mrs. Trina (Haygaru, the school principal) called a first meeting to our third-grade teachers, it was my first time hear[ing] about System Thinking. I was very curious and excited, but in the meantime a little bit concerned because the concepts, such as stock and flow, behavior over time graph, ladders of inference etc., are difficult to explain to students at this grade. Nevertheless,* **we need to utilize these strategies to build up students' compassion.** *I felt that it already sounded very difficult for me as a teacher. How could it be possible to even teach third grade students to have a good knowledge of this?*
>
> *We kicked off our unit with a simulation of walking with two gallons of pond water. We took the water from a pond that is one mile away from our school, and then carried it back to school. During the walking, when one of my students found out that there was one gallon of water was left on the ground, instead of just walking way, he tried to fill into his two gallons because there was a little bit space in his each of two gallons. I could tell that it was already overwhelming for him to carry his two original gallons of water. I asked him why he still wanted to add more water into his containers. He just gave me a very simple answer which everybody can say it but few people are really willing to do it. He told me and I quote "I don't want to waste water because there are many people around world that don't have enough water." What a lesson to me! And it was* **so natural that the kids show their compassion.**
>
> *After the walk, the students exhibit different kinds of emotions and feelings which we had expected. We had a* **deep talking and discussion about their energy, feelings, thinking, and**

*cooperation through the walking experience. Then the behavior over time graph was there. It turned out to be not that hard. **Because the kids experienced and felt it so the graph was not abstract for them at all.** For the next other lessons, our third-grade teachers and administrator always plan ahead together. We think, try, and reflect. We also lead the students to do the same way.*

It was a great learning and teaching adventure for me as a teacher. By using the System Thinking, the kids are getting more and more confidence on deepening their thoughts and explaining their ideas better."

Compassionate Systems Network: Field Project Status

Following the initial prototypes within IB schools in the Spring and Fall of 2017, a number of additional sites have started to form using the Compassionate Systems framework. The following gives an overview of where the Compassionate Systems framework is actively integrated in classrooms and schools, across administration levels, and in organizations working with at-risk youth.

International Baccalaureate (IB)

Of the original 9 prototypes sites within the IB, most have continued to work with a compassionate systems approach in a few classrooms and several have gone further, extending to entire school. Practitioners are working as individuals or in small teams within schools in Hong Kong, Dubai, Madrid, Los Angeles, and Guatemala City. Sites in Kenya, Switzerland, Indianapolis (USA) and Dubai are working school-wide. The IB are in the process of offering an introductory training of the framework to all teachers across the approximately 7,000 schools that are part of the worldwide IB network.

In 2019, we have started a more extensive process with IB sites that want to become "hubs" in their local communities, where they will work with local stakeholders and less affluent schools that want to become part of the Compassionate Systems approach to education. The initial hubs will be in Jakarta, Indonesia; Luzern, Switzerland; and potentially Vancouver, British Colombia and Mombasa, Kenya.

Greater Lawrence Technical School

Through partners at MIT, we were introduced to the Greater Lawrence Technical School in Massachusetts in the Spring of 2018. We have had the opportunity to introduce the Compassionate Systems framework to the principal and key staff at the school. Greater Lawrence is the first vocational school in our global community. We will continue to stay connected and will be training more staff in the basic tools and practices in 2019.

National Center for Youth Law

The National Center for Youth Law (NCYL) has worked for more than four decades to improve the lives of disadvantaged children and youth. NCYL prioritizes addressing complex challenges that disproportionately impact children and communities of color, rooting their efforts directly in the communities they seek to serve, with the belief that people closest to the problem are closest to the solution. Partnering with the communities most impacted by social inequity and structural racism, integrating youth development principles into the policies and practices of youth-serving agencies.   The Compassionate Systems program at NCYL is emergent and currently includes a staff of 48 working in California and Arizona, partnering with school districts, public agencies and community non-profits to build the conditions under which all children and youth - particularly those that are in foster care, experiencing homelessness or involved with the juvenile justice system – receive a high-quality education. In choosing our work, the NCYL aims to build systems of support where healing centered practices interwoven into every aspect of the student, family, community and practitioner experience.

Valor Collegiate Academies

The Valor schools in Tennessee are widely recognized as national leaders in social-emotional learning, working with a "personal compass" for all students and regular restorative circle practices for all staff and all students. They are building a new high school in Fall 2019 and want to integrate a compassionate systems approach in all classes from onset on.

We have had key staff members attend our training and expect to customize an in-house program in the Spring of 2019 for all teachers and leaders of the high school.

Innovation Academy

Innovation Academy is a systems thinking charter school [MOU1] based in Massachusetts where several teachers, the school principal, and leadership team have been through our training as well. With almost twenty years of experience in systems thinking education, the school serves as a support for many of the other schools in the Compassionate Systems network on how to integrate systems thinking tools in classrooms. Several teachers at IA have also integrated the Compassionate Systems framework into their work.

Gentofte District, Denmark

Gentofte District includes one school site in Denmark where all teachers and leaders are going through an extensive training program in the Compassionate Systems framework. This school is seen by the school district as a prototype for how to bring the framework to the entire district, which is one of the most respected in Denmark. They are currently combining peer learning and learning journeys to expand the work.

Indonesia

The British School of Jakarta, the International Baccalaureate Organization, the Wadah Foundation, which is a J-WEL member, and United in Diversity, an NGO that has done cross-sector leadership development with MIT, started to work together in 2019 to develop a hub for compassionate systems education in Indonesia. At the first gathering hosted by the British School in January 2019, over 60 educators and key stakeholders were training in the foundations of compassionate systems, and, during the design process for a longer-term plan, a core team came together and grappled with developing a shared vision and purpose,

parent engagement, and how the British School could become a beacon for the Compassionate Systems framework throughout the region. Part of the prototype year in Jakarta, hosted by the British school, is a focus on engaging local Indonesian communities to take the efforts beyond BSJ. There will be follow-up training of all BSJ teachers and staff in May and October 2019, involving also the Wadah Foundation and UID. Alongside the training of teachers and staff, our youth coaches are working with an ambassador group of students who will connect with other such ambassador groups around the world in various hubs, focusing all their work in the Compassionate Systems framework on the 17 UN sustainable development goals. BSJ is already supporting schools serving low-income populations, and a first step for students from the Compassionate Systems ambassador group is to begin connecting with these students and share some of the concepts and ideas they have learned. Additionally, the ambassador students will engage with at-risk communities that the Wadah Foundation is working with as well.

Transforming Refugee Education Towards Excellence

In 2017, the Abdul Latif Jameel World Education Lab (J-WEL) at MIT, the philanthropic organization Community Jameel and Save the Children, an international NGO, started a conversation about how we might work together to address the challenges Syrian migration presents for Jordan's education system. What grew out of that conversation is a program we are calling "TREE," or Transforming Refugee Education Towards Excellence. TREE will rely on task teams of teachers, principals and representatives from the Ministry of Education working to support 1,500 K-12 teachers across Jordan. It will emphasize training in the Compassionate Systems framework with a distinct focus on teacher- and student well-being as well as teacher professional development and a commitment to educational excellence. In particular, the teams will help teachers develop the skills they need to manage their classrooms in the current conditions where many children are severely traumatized, classrooms are very full and many schools have double shifts every day, to accommodate the educational needs of the refugee children as well as the Jordanian. Our collaboration will expose teachers to opportunities in blended learning, where some of the learning occurs online; and give

teachers a better understanding of student wellbeing and overall school climate and how to make sure they and their students are cared for through a grounding in compassionate systems. This is a five-year project aimed at the specific challenges in Jordan. If it is successful, we have aims to extend it across the region to countries facing similar challenges elsewhere in the Middle East.

Youth Teaching Youth

The spread of the Compassionate Systems framework depends on people sharing and working together. Critical to the growth of this framework is a process of youth leadership where younger people grounded in compassionate systems go into classrooms and work with other students directly. Some may come with a focus of introducing the tools and practices to students of all ages, and others with the focus of teaching older students how they can go into classrooms of younger students and teach them themselves. Starting in the Danish site at the Gentofte District, this youth-to-youth network is rapidly spreading to other sites and hubs. This growing network will be integral to the upcoming work in Indonesia and Switzerland. We expect it might spread to many of the other sites and hubs as well as we tap into the enormous potential of dedicated youth who see the importance of this work for their future. The primary focus for the "youth-to-youth" work is the 17 United Nations (UN) sustainability goals. Starting in January 2019, we will have students from different hubs connecting with each other across the globe to explore how they can collaborate further to enhance their local and global impact.

Future Directions

The Compassionate Systems framework offers a cognitive and affective foundation for understanding our global citizenship, what the International Baccalaureate (IB) network calls "International Mindedness." Internationally minded networks are essential to the community we aim to build. As you can see from the diverse international field sites surveyed above, each represent spaces across the globe where the Compassionate Systems framework is being established, tested, and

refined. **These networks of committed individual practitioners and researchers will play a crucial role in building capacity and sustainable impact.**

Core to the community and capacity building is documenting the core practices in the Compassionate Systems framework and sharing these more broadly. Through a grant by the Abdul Latif Jameel World Education Lab, Boell, Senge and others are **creating an online platform as a resource to share resources, serve as a public library, and connect fellow practitioners directly**. The web platform will also help in developing research standards for the work and consistent documentation that will be shared through the online platform and capacity building workshops.

This year, we will also **launch a certification program** to train individuals in teaching the Compassionate Systems framework so they can then run workshops that introduce these tools to other educators. The certification program as currently envisioned will involve three in-person gatherings over the span of a year, complemented by monthly online learning sessions, coaching and peer mentorship.   This could be the first step toward a graduate level certificate in Compassionate Systems.

We live in a world facing mounting global challenge. An essential question for the future of education is how do we help students to reflect on, deeply understand and respond mindfully and compassionately rather than just feeling overwhelmed by the complexity of these systems. We conclude with the words of one grade 9 student in Hong Kong that powerfully illustrate this need for international compassion and a vision of how we can get there:

> *"Humans are selfish beings. Most people only think about themselves and no one else. Broadening their awareness of international-mindedness makes people more aware of everyone around them, allowing them to not only consider themselves but other people, too. **If people start treating each other better and with more respect then society will change into something a lot better."***

About the Authors

Mette Miriam Böll

Mette Miriam Böll (Boell) is a biologist by training, specializing in the evolution of complex social systems, mammalian play behavior and philosophy of nature. Mette has a Ph.D. in organizational ethology from the Center for Semiotics, Aarhus University, and holds additional degrees in contemplative leadership and the philosophy and history of science. She uses her training in these diverse areas to research how moods and feelings are transmitted in social relations and how the resulting relational fields in turn shape the larger systems human beings are parts of, with a particular focus on education.

In 2014, Boell joined Peter Senge and Daniel Goleman to form the Triple Focus Initiative, which then merged into the Garrison Global Collaboration for Integrative Learning. This community of researchers and educational practitioners focuses on exploring the impact of integrating contemplative social-emotional learning (SEL) and systems thinking in education. This organization has transitioned into The Center for Systems Awareness, co-founded with Peter Senge. Boell currently serves as Director and research coordinator of the center. Main projects include partnerships with universities, schools and community organizations focused on building capacity for systems leaders in education, integrating compassionate integrity within school curriculums and broader organizational settings, and studying generative social fields at the classroom, school, community, and larger systems level.

In 2016, Boell co-founded the Systems Leadership Institute with Peter Senge and Robert Hanig that seeks to promote development of "systems leadership" – leaders who foster collaboration for systemic change across the educational sector. Boell's portfolio here involves research design, co-facilitation of introductory and advanced capacity building and design and facilitation of long-term organizational interventions, like one currently taking place in collaboration with the California Department of Education's expanded learning division.

In 2018, Boell joined MIT as a Research Affiliate. Her focus is working with The Abdul Latif Jameel World Education Lab (J-WEL). J-WEL's mission is to spark a global renaissance in education for all learners. Leveraging MIT's resources, they convene a global community of collaborators for sustainable, high-impact transformation in education through research, policy, pedagogy, and practice.

Boell previously held a position as head of research at Metropol University College, (a teachers' college) in Copenhagen and before that she taught neuroscience of emotions to college- and American students studying abroad. She is currently working on a book, summarizing the different efforts with the working title "Systems Awareness."

Peter Senge

Peter M. Senge is the founding chair of SoL (Society of Organizational Learning), a global network of organizations, researchers, and consultants dedicated to the "interdependent development of people and their institutions", Senior Lecturer, Sloan School of Management MIT, and cofounder of the Academy for Systemic Change, which seeks to accelerate the growth of the field of systemic change worldwide. His work centers on promoting shared understanding of complex issues and shared leadership for healthier human systems. This involves major cross-sector projects focused on global food systems, climate change, regenerative economies, and the future of education.

Senge is the author of *The Fifth Discipline* and coauthor of the three related fieldbooks: *Presence*, and *The Necessary Revolution. The Fifth Discipline* (over two million copies sold), was recognized by *Harvard Business Review* as "one of the seminal management books of the last 75 years," and by the *Financial Times* as one of five "most important" management books. The *Journal of Business Strategy* named him one of the 24 people who had the greatest influence on business strategy in the 20th century. Recently, he was named to the "1000 Talents" Program (Renzai) in China to help China become a leader in systemic change, to benefit itself and the world.

Senge graduated from Stanford University with a BS in engineering. He holds an MS in social systems modeling and a PhD in management from the MIT Sloan School of Management.

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