Asia Society | Center for Global Education

POLICY STUDIES ASSOCIATES, INC.

System Supports for 21st Century Competencies

Christina A. Russell

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ASIA SOCIETY

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POLICY STUDIES ASSOCIATES, INC.

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INTRODUCTION

For more than a decade, Asia Society has partnered with education systems, communities, and universities to advocate, provide professional development, offer resources, and build capacity for approaches to ensure that all students are equipped with the skills necessary to succeed in the global era. As part of this mission, the Global Cities Education Network (GCEN), an international learning community of education systems from North America and Asia, was launched in 2012 to promote the sharing of promising practices, identification of common challenges, and generation of systemic solutions to ensure that all students develop the knowledge and skills that they need for a global twenty-first century. High-level leaders from the education systems and often from partner institutions—including representatives from the business community and academia—gather annually at a symposium hosted by a GCEN city to collaboratively discuss problems of practice, visit and learn from local schools, and receive facilitation and insights from education experts.

To enable deeper investigation of challenges and solutions related to education policy and practice, in 2014 GCEN created working groups grounded in priority issues identified by cities, starting with working groups on teacher professional learning and career and technical education. In November 2015, Asia Society convened the first meeting of a third working group focused on 21st century competencies in conjunction with a GCEN convening in Shanghai, China. This working group included representatives from six urban systems in the United States and in Asia, who came together to share experiences and discuss challenges for supporting the development of 21st century competencies for students. System representatives included both leaders of the formal learning system (e.g., school district leaders) and of the non-formal learning system (e.g., leaders of expanded learning, co-curricular, or extracurricular programs that take place after school). The goal of the working group is to explore **system-building approaches**—including system-building across the formal and non-formal sectors—to integrating 21st century competencies throughout a student's educational experience, acknowledging the importance of these competencies for all students as a fundamental, integrated part of learning. Although many efforts focus

Education Systems in Working Group

United States

Denver Public Schools (Colorado)
New York City Department of Education and ExpandED Schools (New York)
Seattle Public Schools (Washington)

Asia

Hiroshima Prefectural Board of Education (Japan)
Seoul Metropolitan Office of Education (South Korea)
Singapore Ministry of Education (Singapore)

What Are 21st Century Competencies?

Education systems in the working group do not use a common term to define the competencies that young people need to succeed in school, careers, and life: they are alternatively called noncognitive skills, soft skills, and social and emotional skills, among others. These competencies and skills are defined based on the local priorities and contexts of each system. Asia Society chose the appellation 21st century competencies for its working group to encompass the types of skills, attitudes, and knowledge that systems have prioritized as goals for students. As a foundation for discussion, Asia Society also chose to use a classification of the skills and behaviors needed for success that emerged from the National Research Council (2012), organized around the following three domains. The interpretation and relative priority of these competencies, however, was expected to vary based on the underlying values and local contexts of each system in the working group.

- Interpersonal, including communication, collaboration, responsibility, and conflict resolution
- Intrapersonal, including flexibility, initiative, appreciation for diversity, and the ability to reflect on one's own learning
- Cognitive, including critical thinking, information literacy, reasoning and argumentation, and innovation

on the adoption and integration of 21st century competencies at the classroom, program intervention, or school level, less attention has been paid to creating system-wide structures for building capacity and sustaining approaches for supporting the development of these competencies for all students through the core education system rather than through separate programs or add-on interventions. That system-building goal is the focus of the working group and of this brief.

The long-term goal of this working group is to share and disseminate emerging system-building practices with promise of effectiveness. The practices and policies discussed in this brief and in the working group are still exploratory, reflecting the developing field of 21st century competencies. This brief does not attempt to make claims about the effectiveness of these practices. Rather, the goal of this brief is to explore how structures within and across education systems support and enable the integration of 21st century competencies into learning.

The findings outlined in this brief are based on discussions at the November 2015 working group meeting, and on interviews conducted by the primary author with working group participants from each of the three US cities. This brief also includes information from background papers contributed by local researchers on the three national systems in Asia.

WHY SYSTEM-BUILDING FOR 21ST CENTURY COMPETENCIES?

The mission of education is evolving and expanding. In introducing a recent international comparative study of education goals and policies, Fernando Reimers commented that systems are challenged to ensure that "education is relevant to the demands that students will face over the course of their lives—such as the demand to live long and healthy lives, to contribute positively as active members of their community, to participate economically and politically in institutions that are often local as well as global, and to relate to the environment in ways that are sustainable" (Reimers & Chung, 2016). Each of the six participating education systems came to Asia Society's working group with distinct policy environments, and with different definitions of and priorities for 21st century competencies, grounded in the needs and contexts of their communities. Nonetheless, as summarized below, several parallels emerged in the forces and reasons driving interest in developing systemic structures for supporting the development of 21st century competencies in students.

FOUNDATIONS FOR SYSTEM-BUILDING

In the last several years, various other research and policy organizations in the United States and internationally, including Asia Society, have commissioned research, developed frameworks, and articulated goals for the types of skills and outcomes—beyond academic learning—that young people will achieve through their education. In general, these efforts have been focused on (1) defining competencies; (2) examining their impact on measures of academic or life success; and (3) exploring how competencies can be integrated into instruction.

Frameworks that define and promote competencies point to the growing expectation of the role of education systems to help students develop not only content knowledge but also the skills and attitudes needed to succeed in interconnected economies and societies of the twenty-first century. In the United States, the Common Core State Standards were developed beginning in 2009 with support of the National Governors Association and the Council of Chief State School Officers, and are currently adopted by the majority of states. These standards were created to define the "knowledge and skills students should gain throughout their

K-12 education in order to graduate high school prepared to succeed in entry-level careers, introductory academic college courses, and workforce training programs" (www.corestandards.org). These standards are intended to encourage instruction that emphasizes critical thinking, analysis of evidence, and application of learning to real world issues. Other policy and advocacy organizations have also developed frameworks promoting a broad purpose of education: for example, the Partnership for 21st Century Learning framework integrates content knowledge with competencies such as problem solving, communication, and collaboration that students need to succeed in work, life, and citizenship (www.p21.org). Similarly, a report from the Brookings Institution emphasizes that education needs to prepare young people to succeed in a world of changing technology, interconnectedness, and new forms of employment that require skills that include teamwork, creativity, and persistence (Winthrop & McGivney, 2016).

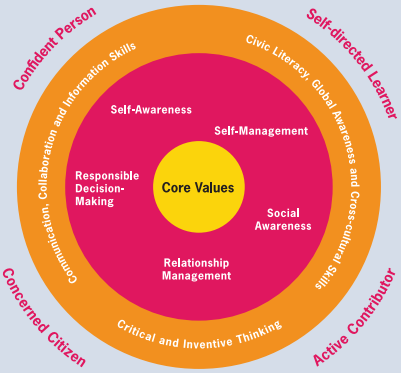
In Asia, national curricula and frameworks for instruction are increasingly incorporating the development of 21st century competencies as a central objective, reflecting the belief that traditional cultural values and the development of academic knowledge must be complemented by additional skills that enable young people to succeed in a changing world. For example, in Singapore the *Framework for 21st Century Competencies and Student Outcomes* (see sidebar) was developed to articulate and communicate priority competencies throughout all levels of the national education system.

Supporting youth in developing these competencies is increasingly seen as linked to success, both in and out of school. In *A Rosetta Stone for Noncognitive Skills* (Roberts, Martin, & Olaru, 2015), a paper commissioned by Asia Society, the authors reviewed evidence on the relationship between noncognitive factors and outcomes for youth, drawn from meta-analyses by researchers including Poropat (2009), and Durlak, Weissberg, and Pachan (2010), noting evidence that noncognitive traits were positively associated with school-related outcomes including academic performance, self-perception, and positive social behaviors. This review also cited evidence from studies finding correlations between noncognitive traits and workplace outcomes, including performance and behavior.

In remarks at the November 2015 working group meeting, Koji Miyamoto of the OECD also presented research

Singapore: Framework for Education Outcomes Guides Integration of 21st Century Competencies

The *Framework for 21st Century Competencies and Student Outcomes* (shown below, and commonly referred to by teachers as the "21CC framework") was introduced in Singapore in 2010. The 21CC framework is grounded in a common national vision of the values, skills, attributes, and dispositions collaboratively identified as critical to enable young people to thrive in an increasingly Volatile, Uncertain, Complex and Ambiguous (VUCA) world, developed through a collaborative process including the Ministry of Education, which sets policy; the National Institute for Education, which prepares and trains teachers; and schools.



At the core of the framework are the values of responsibility, respect, resilience, integrity, care, and harmony that will help students function effectively in a turbulent and fast-paced twenty-first century. The middle ring articulates the social and emotional skills that are necessary for students to recognize and manage their emotions, develop care and concern for others, make responsible decisions, establish positive relationships, as well as handle challenging situations effectively. The outer ring of the framework articulates what are known as emerging 21CC: civic literacy, global awareness and cross-cultural skills; critical and inventive thinking; and communication, collaboration and information skills. Together, these values and competencies nurture the twenty-first-century Singapore citizen as a confident person, self-directed learner, concerned citizen, and active contributor (articulated as the system's desired outcomes of education).

framing the importance of fostering the development of 21st century skills through education policy and practices, noting that a longitudinal analysis in nine countries in North America, Europe, and Asia had found positive associations between these competencies and a multitude of desired outcomes, including:

- **Academic outcomes,** including college completion
- **Workforce outcomes,** including income level by age 25
- **Personal outcomes,** including life satisfaction, and reduced bullying and depression

In all education systems, this triumvirate of academic, workforce, and personal outcomes drives the vision for success for youth. The specific measures of success within each of those areas varied, and the relative level of priority of each of those outcomes ebbed and flowed, based on local context, but the education systems in the working group shared the vision of developing youth who were personally successful, career ready, and ready to learn and perform academically.

Information is also converging about the ways in which competencies can be integrated in and supported in education systems. At the working group meeting, OECD's Dr. Miyamoto highlighted characteristics of interventions that help to support the development of competencies: these interventions are interactive, experimental, practical, and reflective, and emphasize coherence across learning contexts. Similarly, in *Teaching and Learning 21st Century Skills* (Saavedra & Opfer, 2012), a report prepared for Asia Society's first GCEN meeting, the authors make recommendations for pedagogical approaches for teaching these skills grounded in empirical research about how students learn, including but not limited to making the learning relevant, teaching the skills as part of content disciplines, using teamwork, and encouraging students to reflect on their learning process.

EDUCATION SYSTEMS: FORMAL AND NON-FORMAL LEARNING CONTEXTS

The involvement of both non-formal learning systems and formal learning systems to the development of 21st century competencies is core to Asia Society's working group. Traditionally, the roles and responsibilities of the formal learning system—schools and classrooms—have been distinct from those of the non-formal learning system—including enrichment, afterschool, and summer programs offered by external organizations in partnerships with schools.

A report on transversal competencies in the Asia-Pacific region conducted case studies in 10 systems to identify practices through which school policies and school plans incorporate these competencies into classrooms (Asia-Pacific Education Research Institutes Network, 2016). This study found that while school-based instructional practices were beginning to shift to support competency development—for example, developing more student-centered instructional approaches, and recognizing non-academic competencies as priorities in lesson plans—much of the competency development also occurred through the extracurricular system.

In the United States, academic learning has been seen as the core purpose of the formal learning system, whereas positive youth development has typically been the domain of the non-formal education system. However, as research and advocacy increasingly demonstrates a connection between 21st century competencies and school success, a greater shared responsibility has evolved. Formal school systems have increasingly begun to take on development of these competencies, and often work closely and strategically with non-formal learning partners, creating a more comprehensive and integrated education system.

However, although formal education systems are typically committed in spirit to helping students develop the competencies that they will need to succeed in life beyond school, they are less likely to be intentional

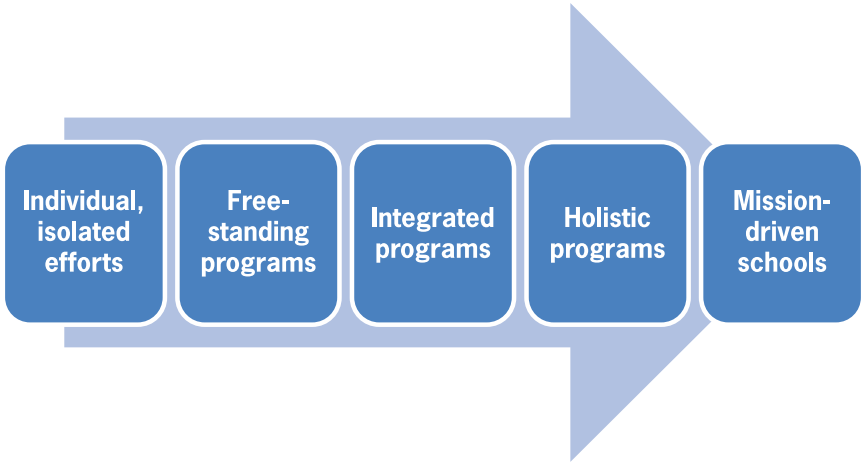
in practice about how the development of these competencies is integrated into instruction and the learning experience (Roberts, Martin, & Olaru, 2015). Asia Society's working group focuses on bridging that divide and on documenting system practices to make the development of 21st century competencies an integrated part of the educational experience for all students.

The system-building approaches will vary based on the policy context of each of the working group cities. For example, among the three Asian cities in the working group, the movement toward integrating 21st century competencies into the education system has typically been part of a revision of the national curriculum and has been driven by a desire to produce graduates who will be able to contribute productively to the changing society and economy, which increasingly requires traditional values to be complemented by independence in thinking, innovation, and collaboration. In contrast, in the United States, adoption of new education standards or models occurs at the state and district levels. Therefore, local priorities dictate policies and programs and may focus on developing competencies that support readiness to learn, career readiness, or other goals that are foundational or complementary to academics. This distinction is important to keep in mind when considering the approaches to system-building and integration of 21st century competencies under way in each of the six systems in the working group, described in the rest of this brief.

INTERNATIONAL APPROACHES TO 21ST CENTURY COMPETENCY SYSTEM-BUILDING

In his remarks at the initial meeting of the working group, David Conley of the University of Oregon presented a spectrum for the integration of 21st century competencies into education systems, as illustrated in Exhibit 1. For system-building and a sustained approach to help all students develop these competencies, the goal is to shift along the spectrum from isolated efforts of teachers or programs (whether offered within the traditional school day or as enrichment programs) toward mission-driven schools, guided by a system-wide vision and structure and supported by a range of formal and non-formal learning experiences.

Exhibit 1: Spectrum of System Integration of 21st Century Competencies



Source: David Conley, Asia Society Convening on 21st Century Competencies, November 2015, Shanghai, China.

Four promising strategies for system-building emerge when examining the experiences of the six systems in the Asia Society working group: (1) prioritizing within the local context; (2) developing models and teacher professional development; (3) bridging the formal and non-formal learning system; and (4) creating tools and resources. Assessing and adapting to the local context is an essential first step, but there is no right sequence to the other three strategies—some systems may implement them sequentially, some in parallel. But together, these strategies, described below, can help systems develop a holistic and mission-driven approach supported by policies and resources that ensure that all students have access to opportunities to develop these competencies.

PRIORITIZE WITHIN THE LOCAL CONTEXT AND VALUES

Although there have been several efforts to define and develop frameworks of competencies, including the National Research Council framework grounding the working group discussions, simply adopting a framework or model is unlikely to lead to a sustainable system. A "one-size-fits-all" approach to 21st century competency development would be unlikely to take root within any education system. Rather, the rationale, approaches, and priorities must align with the contexts and values of the local community. And that alignment cannot be achieved unilaterally; it requires deliberate engagement of groups and individuals who influence education policy, resources, and decisions within the community.

To be impactful, a system of 21st century competencies must include a vision that is shared and communicated within a community, resources invested to support the integration, and stakeholders committed to ensuring full implementation, continuous improvement, and sustainability. This has been shown through research on system-building and collective impact for education, which emphasizes the need to invest time in collaboration and in developing a shared agenda among key cross-sector stakeholders—including the formal school systems and the organizations that support the non-formal learning opportunities—to ensure that an approach gains traction and maintains support (Henig et al., 2016).

Several systems in the 21st century competencies working group have embraced this approach of engaging a range of community stakeholders to build a movement around 21st century competencies. For example, a New York City school system representative noted the importance of "finding a champion" (or several champions) to ensure that the 21st century competencies work has high visibility, and consequently is allocated resources. Finding that champion requires engaging stakeholders to understand the community priorities, and current gaps in the system, in order to align the work of the district. For example, the New York City Department of Education is refining its Academic and Personal Behaviors framework (see sidebar) in response to feedback from workforce development leaders in the city who want to ensure that the city is preparing students for

New York City: Focusing on Academic and Personal Behaviors

The New York City Department of Education has developed a set of College and Career Readiness benchmarks that include Academic and Personal Behaviors, defined as "the learning habits and skills that support academic readiness and include noncognitive, socio-emotional qualities that support resiliency and college/career persistence." These behaviors include:

- Persistence
- Engagement
- Work habits and organizational skills
- Communication and collaboration skills
- Self-regulation

The district is piloting professional learning strategies to help teachers increase their capacity to implement instructional approaches that support the development of these behaviors. An established network of community partner organizations also exists in New York City, and efforts are under way to more intentionally match and align the resources available through this non-formal education system with the goals and needs of individual schools.

jobs. To align the work of the education system with the goals of this important group, aligning the language and the content of the framework was key, as a system leader noted:

> *We hear the same skills and behaviors come up […] but they are called different things in different sectors. […] We want stakeholders to see themselves. We want employers to see New York City preparing students for jobs. But we also want teachers to be able to operationalize and see connections to instruction.*

Refining the language of the framework, and adding in a more explicit focus on college awareness, is one step in the direction of ensuring community-wide buy-in and support for the integration of these competencies into the education system.

By aligning the framework around a common, cross-sector community agenda, the system can begin to ensure that (1) the competencies prioritized resonate with both the education and workforce communities, and (2) resources (such as the development of pilot professional development programs) are available to enhance the capacity of schools and teachers to help students develop these competencies, gradually moving from standalone efforts in individual schools to more integrated programs for all schools.

In Denver, the school board undertook extensive community planning to arrive at the Denver 2020 strategic plan (see sidebar), engaging a working group that included school staff members as well as parents, students, and community stakeholders. The result was a clear message that an exclusive focus on test scores and graduation rates was not sufficient, and as a result a complementary whole child goal emerged as a priority. Spending the time to undertake a comprehensive planning process resulted in a system-wide policy that makes Denver "mission driven" on the continuum of integration. As a result, resources are specifically allocated to ensure success: because of the planning investment, the system was able to hire leadership staff, develop a resource bank of complementary services, and provide targeted supports to schools to ensure the implementation of this goal.

Denver Public Schools Strategic Plan: Committing to Whole Child Goal

The Denver Plan 2020 established "support for the whole child" as one of five strategic goals, committing Denver Public Schools (DPS) to "creating a setting that fosters the growth of the whole child." The Board of Education approved a definition of "whole child," developed by a steering team, that states: "In Denver Public Schools we are committed to providing equitable and inclusive environments where we ensure that students are Healthy, Supported, Engaged, Challenged, Safe, and Socially and Emotionally Intelligent." DPS aims to foster positive school environments where students have access to qualified, caring adults and to the resources they need to succeed, including "to pursue their passions and interests, support their physical health and strengthen the social/emotional skills they need to succeed in school, and eventually, in college and careers, including managing emotions, establishing and maintaining positive relationships and making positive decisions."

According to a DPS leader, the whole child goal ensures that all schools and all students in the district have equal access to the resources available to support the foundations of success. The district believes that providing these whole child supports will also improve achievement:

> *We've been working hard to improve student academic achievement. Each year we do a little better, but still not truly satisfied. We have to do something truly different. [With the whole child goal], there is a recognition that you can't build the house on a shaky foundation. […] There is recognition by the school board and all of us that our students need to have foundational needs taken care of. We're not giving up the academic mission, but we are complementing the academic mission.*

DEVELOP MODELS AND INVEST IN EDUCATOR TRAINING

As systems begin to comprehensively integrate 21st century competency into schools and instruction, teachers and educators will need support to do so in an effective and meaningful way. This work requires a new set of capacities and skills among educators. Systems in the working group shared several approaches for supporting teachers in this shift. Offering targeted professional development to teachers can help them to develop new instructional strategies and to build capacity to implement the respective frameworks. The working group cities have begun to experiment with and implement system-wide strategies to build the capacity of teachers to support the development of these competencies.

For example, in Singapore the *Framework for 21st Century Competencies* has been used to guide curriculum planners to develop the national curriculum to ensure that the development of these competencies is effectively integrated into subject syllabuses. As part of their regular professional development, teachers enhance their pedagogical content knowledge, as well as deepen their subject knowledge, in order to complement their efforts in developing their students' 21st century competencies within their respective discipline or subject areas more effectively. The framework also guides schools as they adapt the national curriculum to meet the needs and aspirations of their students.

Hiroshima is also investing in and piloting new system-wide approaches for supporting the development of 21st century competencies. First, the system is piloting new models of schools to engage students in competency-based learning approaches, and in thinking critically about the application of their learning to global problems (see sidebar). Second, to support all teachers in learning to implement new student-oriented learning approaches to support these competencies, Hiroshima is also offering a Core Teachers Training Course in which lead teachers from each school learn about and share ideas for competency-based education strategies that promote student-oriented learning, which they in turn disseminate to other teachers in their schools. Through this two-pronged system-wide approach of supports for teachers, Hiroshima can ensure that all teachers begin to develop the skills needed to shift their instructional approaches to better support 21st century competency development, even as new, more innovative student-centered structures for learning are being piloted in a smaller number of schools.

Seoul has a similar goal to transition to a more student-centered approach to learning in both formal classroom

Hiroshima: Promoting 21st Century Competency Development through New School Models

The notion of "Zest for Life"—which emphasizes a balanced development of academic knowledge, mind, and body—drives Japanese education policy, seeking to empower youth to assume responsibility and develop the competencies to guide the country to a sustainable future.

As a strategy for implementation, the *Hiroshima Innovative Action Plan* was developed to shift from teacher-centered instruction to student-centered, competency-based instruction, emphasizing not just the acquisition of knowledge but also the "ability to use knowledge and collaborate to create new ideas" and develop a "lifelong learning ability."

Hiroshima is developing new school models to support this goal. For instance, in the Hiroshima Innovative School (piloted from 2015 to 2017), supported by OECD, 59 first- and second-year high school students from Hiroshima work with peers from abroad to develop creative and cooperative models to solve local problems. Through local, area, and global school conferences, participating students think critically about community issues and collaborate to develop solutions to these issues. They share discussion and reflection on online platforms and are assessed using a performance-based rubric, using self-assessment, peer assessment, and third-party assessment.

Hiroshima is also exploring the creation of additional school models to promote student-centered learning, such as a Global Leader School that focuses on project-based and experiential learning; and a flexible hybrid school for working students that encourages career exploration.

activities and extracurricular activities, driven by a national curriculum mandate (see sidebar). As a result, the Seoul Metropolitan Office of Education is significantly rethinking the traditional authority within its education system, and delegating more authority at each level—from principals to teachers, and from teachers to students—in order to encourage more student self-governance and involvement in decision making. For example, in a "Citizens in School Uniform" project, students learned communication and presentation skills by advocating for issues that were important for them at several levels of governance, first at the school level, then in a town hall meeting, and finally at the Office of Education. This significant shift in a traditionally exam-based education system is not easy; and to facilitate it the system is beginning to simultaneously rethink its professional development approaches, to build more teacher capacity to incorporate student leadership and self-governance into instruction.

By strategically aligning system-wide goals for students with new models of instruction and supports for teachers in implementing these models, these systems are demonstrating the types of investments that can help to sustain the integration of 21st century competency development.

Seoul Metropolitan Office of Education: Shifting to Student-Centered Learning

The 2015 revised National Curriculum of South Korea is designed to help each student become "a creative person who discovers something novel by means of diverse challenges and ideas based upon basic abilities," "a cultivated person who appreciates and promotes the culture of humankind on the basis of cultural literacies and understanding of diverse values," and "a person who lives in harmony with others, fulfilling the ethics of caring and sharing, as a democratic citizen with a sense of community and connection to the world."

To encourage the development of these traits, the curriculum calls for an **Exam-Free Semester** during which middle school students explore career opportunities and develop self-directed learning abilities, involving cooperative projects, discussion, and project-based learning; and the integration of **cross-subject themes** throughout the curriculum, including safety/health education, character education, education for democratic citizenship, and career education. In addition, four **Creative Experiential Learning components**—self-regulated activities, club activities (such as sports clubs), volunteer activities, and career exploration activities—aim to stimulate learning through experiencing and doing, making content relevant to the learners' experience.

In implementing this curriculum policy, the Seoul Metropolitan Office of Education has emphasized autonomy in instruction, encouraging schools to delegate authority from principals to teachers and from teachers to students in order to involve students in decision-making processes and to strengthen students' self-governing skills in both curricular and extracurricular activities. The goal is to promote the creativity, problem-solving ability, communication skills, global awareness, and leadership that students will need to thrive and be competent beyond their school years.

In line with this trend, both the central national government (Ministry of Education) and the Seoul Metropolitan Office of Education perceive Global Citizenship Education (GCED) to be one of the key components of the 21st century competencies, and thus carry out a series of policies and programs to promote GCED, aligned with global education and development goals promoted by UNESCO.

SUPPORT STRATEGIC PARTNERSHIPS BETWEEN THE FORMAL AND NON-FORMAL SYSTEMS

Bridging the divide between the learning that can occur during the formal school-day curriculum and through non-formal or extracurricular opportunities can be an effective strategy to leverage resources across the community to strategically support the development of 21st century competencies. Investing in the development of school-day teachers may be insufficient for the development of a fully integrated system

of 21st century competencies, as the academic mission of schools will always be a priority for teachers. The non-formal system can offer complementary opportunities and supports. For example, Seattle Public Schools (see sidebar) has traditionally had a very decentralized system of partnerships, with more than 1,000 partners across the school system. The system is now investing resources in creating a more strategic approach and is creating a partnerships framework to help conceptualize the degree of alignment, to better support partners at each point of the partnership, from entry into the school system, to matching partners and schools, to implementation, to enhancement of the support services provided. In addition, the district has begun developing a multi-year professional development plan for program partners, has offered joint professional development focused on future orientation and growth mindsets to school-day and partner staff so that all educators who work with students share a common understanding of and approach to the district's goal for engaging with and supporting youth in developing targeted competencies.

In New York City, the formal education system can serve as a connector between schools and partner organizations through city-wide initiatives such as the community schools initiative designed to leverage community resources within a school building to support student success; the city-funded after-school initiative; and other initiatives to expand the school day and to bring the strengths of nonprofit organizations into the school. However, a representative acknowledges the need to be still more strategic to better connect these resources to schools: "Partners feel like they can't get traction, and schools would love more resources." As the integration of 21st century competencies work deepens, the system hopes to be able to hire a full-time partnership director to better identify and match resources, and to begin quarterly meetings for partners. With more alignment and integration, the hope is that 21st century competencies will increasingly be perceived as something that is "not standalone, but that integrates across the school day and the [afterschool] day."

Seattle: Developing a Comprehensive System

Seattle Public Schools (SPS) has defined learning dispositions critical to success in school, career, and life, including: creative thinking, critical thinking, communication skills, collaboration skills, perseverance skills, and a growth mindset. A unique approach to system development is in defining the manifestation of these competencies through the opportunities that educators provide for students to practice and develop these skills, emphasizing the intentionality of competency development through instruction.

To support this intentionality, SPS is creating an infrastructure framework that identifies the building blocks needed to support this work. Two of those building blocks are **partnerships** and **performance-based assessment.** First, as part of an effort to better utilize the services offered by partners, SPS has created an advisory board and begun offering joint professional learning opportunities both for school-day teachers and for community partners who work with students to encourage a shared approach across all elements of a student's educational experience. Second, SPS plans to refine a **performance-based assessment** rubric that was first piloted through arts programming to help teachers determine the extent to which students develop and master the targeted competencies.

According to a district leader, the goal is to "take the work that is happening in isolation and pull it together in the community."

CREATE TOOLS AND RESOURCES TO SUPPORT COMPETENCY DEVELOPMENT

Declaring a system-wide approach to 21st century competency development is not sufficient: to ensure implementation, systems must also invest in an infrastructure of tools and resources. There must be a clear pathway for implementation, and concrete resources and tools provided by the system can ensure that schools have the capacity to implement the strategies to support 21st century competency development.

For example, Denver Public Schools hired an Executive Director of Whole Child Supports to help implement a more coherent approach to the supports and resources available to schools and students. Each school in Denver is developing an action plan to support the whole child goal of the district's strategic plan, aligned to Personal Success Factors identified as goals, which include optimism, curiosity, zest, self-control, gratitude, grit, and social intelligence. The success of the action plan relies on the interaction of multiple tools developed by the system. First, each school will receive data from a student survey, aligned to the Personal Success Factors, which will allow the principal to hone in on the particular challenges and areas for growth of that school. Second, each school will have access to a menu of supports to help identify resources and activities to address the identified challenge. Schools will also have the guidance of experts to help them navigate these systems. The system's investment in this infrastructure of supports is designed to bring more equity and coherence to leverage whole child supports. According to a system leader, "A lot of supports were driven by relationships. A principal who was a go-getter and institutionalized could get a ton of resources through relationships. A new principal who didn't know who to call could end up with a situation with no resources, and we wanted to eliminate that inequity."

As described earlier, in Singapore the *Framework for 21st Century Competencies* has provided a common understanding and language for discussing these competencies and how they can help young people succeed. However, moving from discussion to practice is not always easy. To facilitate that process, Singapore has also deliberately integrated 21st century competency development into curricular documents (e.g., syllabus documents and teaching and learning guides) to help teachers better understand the competencies and to make the connection to instruction and student learning. For example, specific competencies that are natural fits with subject areas are highlighted and aligned to the learning outcomes of relevant subject areas.

Investing in creating these common tools that are available to all schools and to all teachers facilitates system-wide adoption of 21st century competency instruction and support, by not relying on individual educators or schools to create approaches that might be inconsistently implemented, or inconsistently aligned with the goals of the approach.

21ST CENTURY COMPETENCIES: THE LEARNING CONTINUES

Although the six education systems that participated in the working group were committed to the integration of 21st century competencies and had taken steps toward that integration, the work was not complete. As one leader commented: "There is rich discussion, but less clarity around how to get there." At the root of the continued challenges that systems faced in integrating these competencies throughout the system were two primary issues: (1) changing the culture of expectations for education across all stakeholders in the system; and (2) the looming issue of assessment.

CHANGING MINDSETS ABOUT THE ROLE OF EDUCATION

Even if policy stakeholders support the integration of 21st century competencies into the education system, a change in mindsets needs to trickle down throughout the education community for this to take root in practice. Engaging stakeholders and developing a shared vision are a first step. But this process can often

be hindered by competing priorities or pressures. Academic learning clearly remains a priority in all systems, for parents, students, and teachers. Teachers have to shift to think about how to incorporate 21st century competencies into academic learning, not treat them as an add-on or a distraction.

For example, system leaders in Seoul commented on the need to change the role of the teacher from a "deliverer" to a "facilitator" as part of the new model of instruction, a shift that will require significant support and a change in mindset, given the competing needs in a culture that remains oriented to the college entrance exam. In Singapore, some stakeholders continue to emphasize academic success on exams over holistic education. To change mindsets, there are ongoing efforts to develop schools' distinctive programs to develop students' interests and character; and changes are being made to national examinations for primary school students to reduce an excessive focus on examination scores. In Hiroshima, leaders noted the need to involve parents in supporting a culture of 21st century competency development, and to support teachers in understanding the new policy goals and school models. New York City distributes a booklet to all parents and students that describes skills and behaviors required for success.

However, leaders note that these communication efforts will be truly effective only when the value systems and processes are embedded throughout, and when parents, teachers, and school leaders are all engaged in the same conversations about how supporting competencies will support student success. This work will take time, sustained effort, and commitment and communication on the part of leaders to make small shifts and continue to encourage the change in mindsets among all education stakeholders.

DETERMINING SUCCESS

As integration takes root, education systems increasingly grapple with the question of how—and when—to measure their success in helping youth to develop 21st century competencies. Although there is no universally acknowledged best approach to measuring 21st century competencies, researchers have identified a variety of assessments, and strategies for selecting the most appropriate assessment, including in Asia Society's *Measuring 21st Century Competencies* report (Soland, Hamilton, & Stecher, 2013). However, a fundamental question facing all systems is whether measurement is intended to be used for formative purposes—to inform decision making and targeting of resources—or for summative purposes with accountability implications for students or for schools.

This distinction has important implications for the selection of measures and for the ways in which they will be used by the system. Assessment for accountability purposes requires clear alignment between teams providing support for implementation and assessment, in order to be able to make links to the work provided. For example, in Denver, an accountability measure for "whole child" will be required as part of the strategic plan. Leaders are intentionally "trying to lead with support before accountability, but we know that accountability is around the corner." For now, data from a student survey developed by the district and aligned to its goals is used in a formative way, to help schools identify their action plan goals; eventually, principals will likely be asked to set an accountability goal based on these data, so that the district can report on progress.

In contrast, Singapore thus far has focused on the formative assessment of 21st century competencies as part of the process of teaching and learning, so that contextually meaningful feedback can be provided to help students progress in their cultivation of this repertoire of skills, attributes, dispositions, and values. Similarly, Seattle had created a performance-based assessment for competency development through the arts as part of a previous initiative that may form the basis of a new observation- and performance-based approach to monitoring the developing of 21st century competencies among youth.

Also central to the question of measurement is the timing of measurement. This is a question that system leaders grapple with on three interrelated levels. First, for how long must an intervention be implemented—and how much must individual students be exposed—for its effects to take root and to expect to see measurable change? Second, is it realistic to expect to see the benefits of 21st century competency development in the measurable short-term, given that the goal is to foster long-term life success? As one partner noted, "We should really be looking at success in life down the road [post-college], but no one will have patience for that." Third, what is the role of an assessment of 21st century competencies relative to other high-stakes assessments for academic performance or college entrance? Should assessment be integrated, additive, or substituted for one of these exams?

RECOMMENDATIONS AND IMPLICATIONS FOR SYSTEM-BUILDING

The strategies that have emerged from the six systems in the United States and Asia participating in Asia Society's working group suggest that it will take ongoing commitment, effort, and investment on the part of both formal and non-formal education systems to shift support from the development of 21st century competencies from individual programs to an integral part of the overall mission of the education system. To do so will require tailoring of a framework of competencies to the needs and priorities of the local community, as well as a combination of strategic supports for teachers; development of tools, resources, and models; and intentional bridging of non-formal and formal learning partners, depending on the resources available locally. Based on these findings, as education systems consider the best approach for building systems that support the integration of 21st century competencies into the educational experiences for all students in their local context, we suggest that the following questions should be considered:

- **What is the local context of, and what are the priorities for, 21st century competencies?** What is leading to interest in developing these competencies? How does that influence the approach that is taken by systems and supporters? What goals for students or for the community are underlying this effort? These goals might include increased academic readiness, workforce development, character or civic education, or a combination of the above. Articulating the goals and drivers—and engaging a wide range of stakeholders in these decisions to ensure a community-wide shared vision—can help determine the implementation strategies to promote, the resources to allocate, and, eventually, the measurement strategies to consider.

- **How will implementation of 21st century competencies shift from being a targeted program or intervention for some students, to a core part of the mission of teaching and learning for all students?** Will 21st century competencies be addressed as part of core academic subjects in all schools, or through non-formal learning opportunities?

- **What tools are needed to help schools integrate 21st century competency development or to leverage existing resources?** What curriculum or measurement tools already exist? Who will be responsible for developing new tools and resources, in the formal and in the non-formal learning systems?

As Asia Society's 21st century competencies working group continues to share practices and lessons learned through the pilot initiatives and early implementation of policies discussed at the November 2015 meeting, there will be additional opportunities to deepen learning around several core questions that face the field:

- **Mindsets:** What are the most effective strategies to demonstrate the value of 21st century competencies to each of the stakeholders? What information resonates most? Who does the message need to come from?
- **Piloting models:** What types of models can be piloted and shared for integrating 21st century competencies? What lessons can be shared across systems, for developing models of extracurricular learning, of integration into core content, and of teacher training?
- **Cross-sector coordination:** How can the formal and non-formal education systems develop a shared vision and work together to strategically support the development of 21st century competencies? What is the role of each sector in developing models, building the capacity of staff, and delivering programs and supports to students?
- **Sustainability:** How can systems—formal and non-formal—allocate resources to support the capacity-building for educators, tools for schools, and learning opportunities for students, that will ensure that the 21st century competencies work will have impact and continue to be seen as an integral part of the system?

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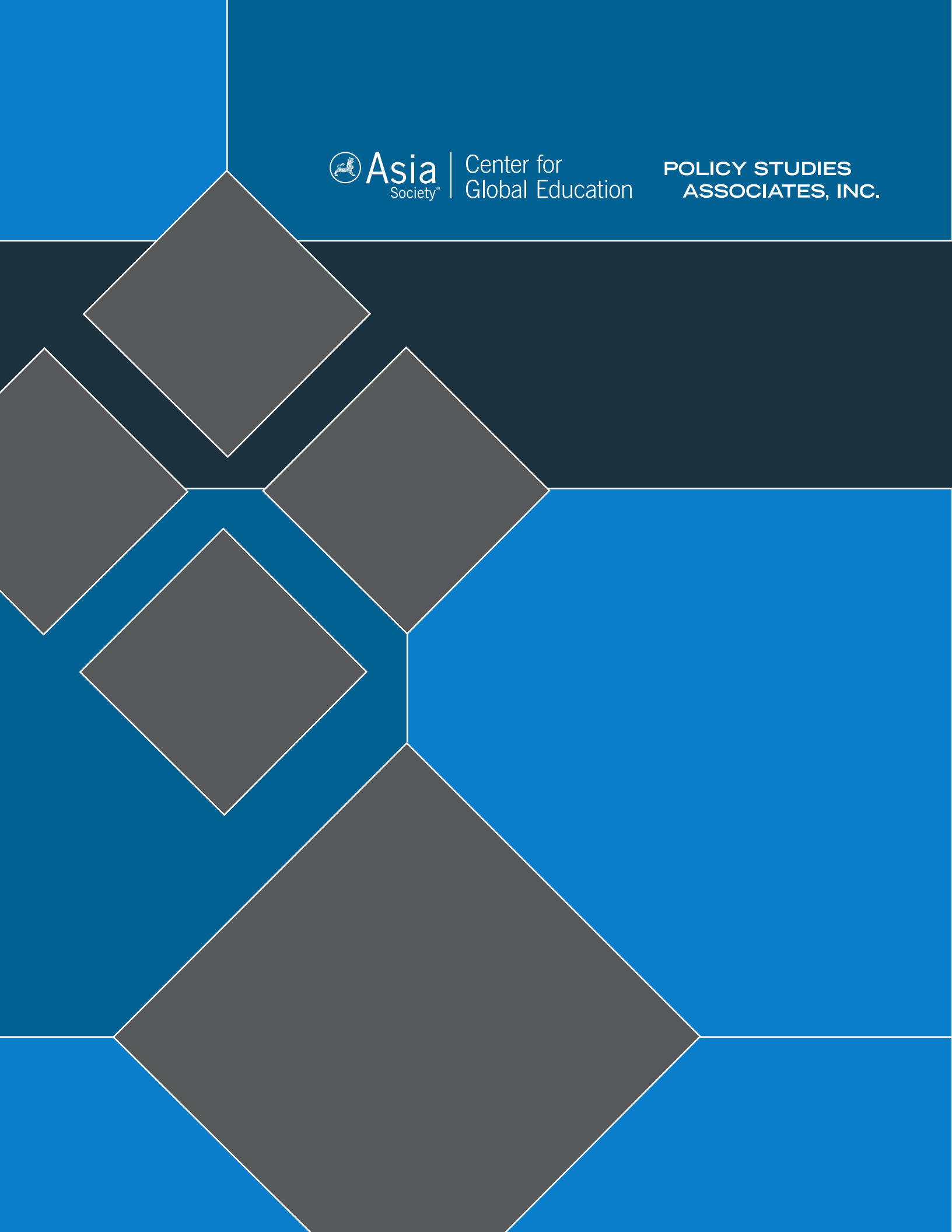
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