

# Envisioning Human-Centered Learning Systems



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## Reorienting Education's Focus

The rapid changes and disruptions affecting the world require a deep shift in the way we see education in society and view the relationships between learners and educators and within and across communities. We need a vision of human-centered learning that is life-affirming for both people and the planet. In this vision, systems of teaching and learning would provide each person with the opportunities and supports that they need to thrive. These systems would also cultivate responsibility for, and stewardship of, society and the planet.

Many positive efforts that align to human-centered learning are underway, among them personalized, competency-based learning; student-centered learning; mindful classrooms; and restorative justice programs. While these are positive developments, too often they are implemented in ways that change features of the education system without truly transforming it. A classroom may be mindful, yet teachers may still work in overburdened, under-resourced schools. A learning experience may allow choice and voice, yet students may lack the power, agency and sense of personhood to challenge structures that impact their lives.

In its fullest form, human-centered learning is more than a classroom practice or a pedagogical approach. It is a systemic shift that aligns educational structures, policies, practices and learning experiences around the flourishing and well-being of the people involved in education – including students, teachers, administrators, families and community members. Re-envisioning education from the inside-out – starting from the well-being, aspirations and potential of its people – will help it become the social infrastructure that society and the planet need to meet the challenges of a new era characterized by uncertainty and accelerated change.

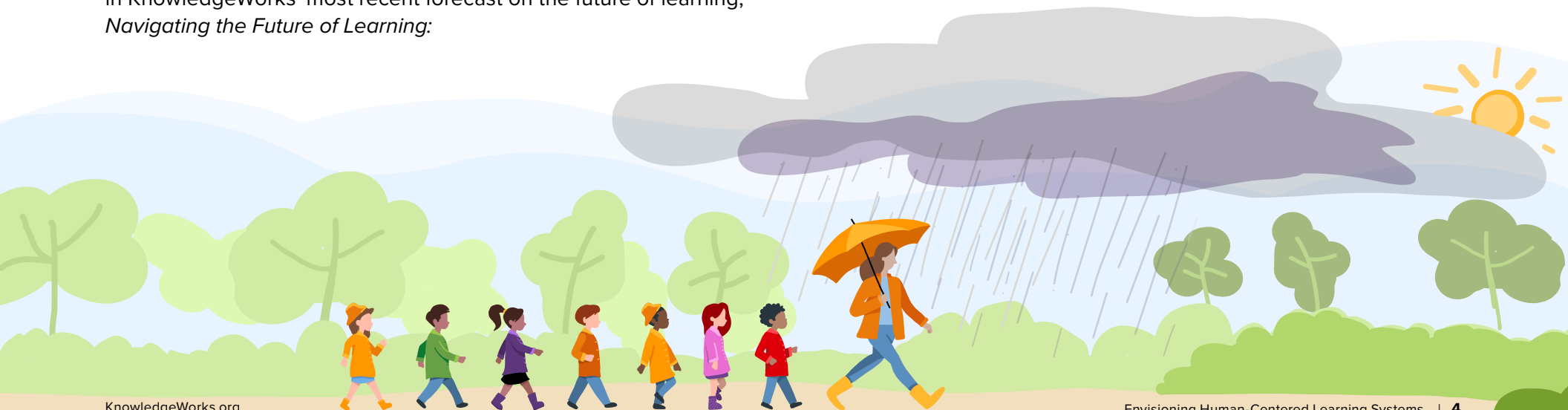
# Education in the Emerging Era

A new era is unfolding, driven by the rise of smart machines, data-driven automation and artificial intelligence. It is changing the ways in which we interact with our world, with one another and even with ourselves. New industries are rising and are displacing old ones; smart machines are reconfiguring employment and talent requirements; and community life is being altered by data-driven services.<sup>1</sup> In addition to these significant technology-driven shifts, the challenges of climate change<sup>2</sup> and expanding globalization are making the educational landscape even more volatile and uncertain.

Such forces of change have been revealing our institutions' rigidities, structural inequities and inability to change and adapt to emerging realities. The 2020 spread of the COVID-19 pandemic and widespread demand for the eradication of systemic racism represent just two recent examples of the kinds of destabilizing forces that can shine a spotlight on education's systemic inequities and on its failure to provide each learner with the opportunities and supports needed to thrive.

In this context, traditional institutional approaches to achieving well-being, security and a meaningful life are failing to deliver promised results.<sup>3</sup> Many people are questioning whether education is poised to support every learner, educators and community in navigating the challenges and opportunities of a rapidly changing world.<sup>4</sup> As stated in KnowledgeWorks' most recent forecast on the future of learning, *Navigating the Future of Learning*:

*Education — as both a cultural value and a system — is critical social infrastructure that can bolster our capacity for adaptation and evolution. During this period of transition, education's role in supporting the healthy development of young people, effective lifelong learning and community vitality will be increasingly crucial. Many of the organizations, institutions and systems that structure our daily lives and support learning are increasingly out of sync with both existing and emerging needs. The new era could exacerbate the current misalignment or inspire new frameworks for how we live, work and learn.<sup>5</sup>*





## Envisioning Transformation

People's visions of education's role in society and in the lives of young people shape how they respond to challenges and create opportunities. Visions define the boundaries for imagining what is possible and desirable. They frame our perceptions of schools, learners, educators and success and guide our actions and decisions.

Aspirational visions of education can provide the many organizations that comprise a learning community or learning ecosystem with essential guiding lights by which to align assumptions, focus on what matters and filter out distractions. Indeed, the very language of educational visions influences who is considered a stakeholder and who holds authority, how people within learning ecosystems are perceived and have opportunities to engage, how systems define and measure quality education and how people approach change.

Visions have the power to shape society's shared picture of what we consider possible for learning and human flourishing now and in the future. Educational leaders, changemakers and other stakeholders need to ensure that we share a bold vision that is oriented toward serving all people involved in education well and which is aligned to societal and environmental needs. We cannot develop new strategies for responding equitably and positively to the opportunities and challenges of the new era if we are guided by visions that are tied to the past. Instead, we need to challenge our assumptions about what is possible, using the emerging needs of the future along with the timeless needs of humans and collective stewardship of society and the environment as our guides. Only then can we create positive, systemic and sustainable educational transformation. Sharing a bold new vision widely will provide educational leaders, changemakers and other stakeholders with a beacon around which to orient their efforts toward brighter horizons for all learners.



*This image illustrates the relationship of a vision to vision elements and the strategic steps needed to create transformation.*

## The Promise of Human-Centered Learning

An area of provocation from the *Navigating the Future of Learning* forecast suggests a starting point for envisioning human-centered learning ecosystems. Rephrasing it as a question, we ask:

*What would happen if we reoriented teaching and learning systems, expectations and experiences to put a comprehensive view of human development at the center?*

This provocation suggests that prioritizing human development in all educational structures and processes could reveal new avenues for education transformation. If society viewed comprehensive human development and well-being for all stakeholders as being core priorities of educational systems and structures, what new possibilities might we have for realizing a more life-affirming social infrastructure that supports the well-being and flourishing of all learners, educators, societies and the planet? How might human-centered learning help learners and educators realize their aspirations and navigate a volatile future? What might this picture of education look like?

# About This Paper

To help inspire broad visions for education that focus on human development and enable positive experiences and outcomes for learners, educators and others involved in education systems, this paper describes an unfolding vision of vibrant, human-centered learning systems divided into four sections:

- » **Essential Elements of Human-Centered Learning** describes four essential elements of human-centered learning that together paint an aspirational picture of what education might look like and what it might hope to achieve for the people involved in and affected by it. It also identifies signals of change, or early indicators, showing how these essential elements are beginning to take root today.
- » **Making Sense of Human-Centered Learning** presents a set of questions that support readers in pausing to make sense of the vision. Its questions invite reflection on how the elements of this vision resonate with the reader's context and experiences and on what underlying values and assumptions they suggest.
- » **Strategies for Making Human-Centered Learning a Reality** presents a set of bold strategic steps, along with related actions, for aligning educational systems, structures, policies, practices and learning experiences with the vision for human-centered learning systems.
- » **An Invitation to Envision Transformation** shares some key insights about shifting society's collective educational vision toward human-centered perspective in order to cultivate vibrant and responsive learning communities and learning ecosystems.

## Methodology

*In addition to drawing from an ongoing literature review, KnowledgeWorks conducted qualitative interviews with twenty-one education stakeholders to explore the essential elements of a vision of human-centered learning. Interviewees included teachers, administrators, researchers, policymakers, parents and other out-of-school educators. They described the current reality of the education system as they experience it in their various roles and contexts. Then they imagined what a human-centered education system might look like and articulated what iconic images and concepts would characterize it. In so doing, they considered how stakeholders might interact and what structures, practices and priorities would shape approaches to learning. The authors distilled this information to a set of essential elements comprising a vision of human-centered learning. While this vision may have additional elements, the research focuses on four essential ones that would guide systemic decisions about structures, policies, practices and learning experiences.*

# Essential Elements of Human-Centered Learning

Four essential elements form the core of a vision for human-centered learning systems. Together, they paint a future picture of what education might value and prioritize if human development were its focus. These elements set aspirational sights toward which everyone can work in their own capacities and from their distinct educational and community contexts. They are described in the present tense, as if the vision had been realized.

## Education Liberates Young People to Participate Fully in Society

Human-centered learning enables every learner to practice free thinking, unconstrained by socioeconomic status, gender, sexuality, gender expression, race, (dis)ability, immigration status, linguistic heritage or other label. In doing so, it supports them to participate fully in society. This vision element has its roots in the Greek term *artes liberales*, which describes the curriculum necessary to function successfully as a free citizen and to work individually and collaboratively with others to meet the challenges of the future.<sup>7</sup> Interviewees described this element as helping learners realize their emergent self-concepts — a growing understanding of their identity, purpose and agency that is developed through engagement, reflection and expression. As one interviewee suggested, human-centered learning “is an expansive experience for individual

students, not one that closes down their imagination, passions, creativity or sense of self.”

An important catalyst for student liberation and continued self-development is critical consciousness, a learner’s deep understanding of the dynamic interplay between self-concept and society.<sup>8,9</sup> According to one interviewee, critical consciousness helps students “develop personhood in relationship to their own community.” By engaging in critical civic inquiry about how the dynamic structures and processes of society create systems of power, privilege and oppression, learners examine how they are positioned in the world through multiple lenses of race, class, gender, economic and environmental justice, and other



socioeconomic structures. As learners' critical consciousness grows, they understand themselves as descendants of, and participants in, an ongoing societal process. They become adept at understanding how these systemic structures intersect to frame and perpetuate dominant societal issues and how they themselves might act to change those systemic structures and to create more equitable and sustainable societal outcomes.

Liberation of the self through critical consciousness helps learners deepen their identities and clarify their intentions as a foundation for a lifetime of meaningful learning and societal participation. Human-centered learning equips learners with the skills needed for critical social awareness and self-confidence to challenge structures that limit or prevent their and others' full participation in society. According to Michelle King, who currently leads the Carnegie Museum of Art's Empowered Educator Series, students can, through their learning, become liberated to "create the society that they want to support human flourishing."<sup>10</sup>

## **SIGNALS OF CHANGE**

The signals of change below illustrate how collaborative hubs are emerging to provide students opportunities to engage in community-focused, student-led, critical inquiry projects that develop their critical consciousness. They focus on expanding students' ownership of their learning and on helping them manifest their values, agency and potential for participating fully in society.

### **Student-Centered, Critical Civic Inquiry**

Based on evidence showing that critical civic inquiry increases engagement among marginalized and historically oppressed students, researchers from Rowan University and University of Colorado Denver are collaborating to support student-led, project-based work. This work integrates academic contexts, participatory action research and critical inquiry in ways that drive students' ownership of their learning and create tangible community impact and social justice.<sup>11</sup> By fostering positive youth-adult partnerships, learners

co-design research and produce school-level policy changes that make their learning environments more inclusive for themselves and for future generations of students.

### **Youth Action Researchers at the Intersection (YARI)**

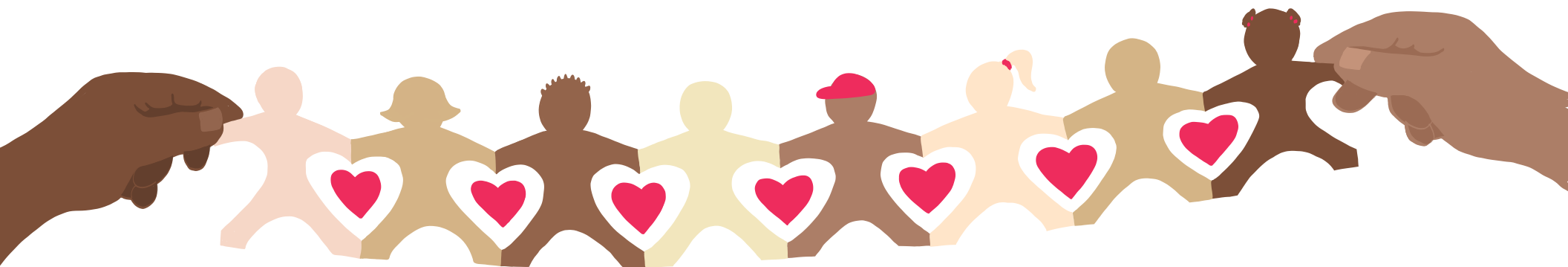
YARI is a student-centered research collaborative organized by KnowledgeWorks and partners in Rhode Island. Student researchers who identify as members of a marginalized group (race/ethnicity, LGBTQ or low socioeconomic status) and who have a learning difference are supported in investigating teaching and learning issues that impact their educational experiences. Their goal is to use their findings to advocate for meaningful change in teaching and learning systems and to advance equity.<sup>12</sup>

### **City of Bridges High School**

This progressive high school in Pittsburgh, Pennsylvania,<sup>13</sup> integrates a robust student-led, project-based curriculum with a foundation of mindfulness that includes practices of compassion, justice, peace and dignity. Students cultivate their agency by participating in all school committees and governance structures as well as by engaging in community-based projects. Daily meditation and training in practices of loving-kindness, empathy and benevolence serve the school's goal of transforming the world into a measurably more positive place.

### **Community Works Institute**

This nonprofit organization is focused on developing students as active citizens who are empowered to use critical inquiry and creative problem solving to improve their own communities. Community Works Institute partners with educators across the United States to help them reimagine their teaching practice and their relationships with students through the lens of place-based service-learning, sustainability and social justice.<sup>14</sup>



## Schools Organize for Love and Belonging

At its core, human-centered learning is care-based. It cultivates love and belonging for students, as well as for the many adults who play a part in students' learning journeys. Every learner needs the security and reliability of a safe and supportive base of care in order to own their learning and engage confidently with the world. Each educator needs respect and connection to thrive in their work with students and colleagues. Families with oppressed identities need to have trust and confidence that they and their children are recognized and valued for who they are and that their needs will be met.

In a fully realized vision of human-centered learning, schools and other places of learning have an organizational bias toward love. Companionate love — defined as feelings of affection, compassion, caring and tenderness for others — provides the supportive conditions for healthy neurological growth and secure attachment, two key buffers against the various social, racial and cultural stressors that learners face.<sup>15</sup> In addition to buffering against those stressors, schools that organize for love also mediate them, creating new systems and modeling relationships that do not perpetuate trauma and inequity. As the legendary Fred Rogers asserted, kids will not flourish unless they are loved just the way they are now rather than for whom they could become.

An organizational bias towards love also means that learning communities prioritize high-quality professional learning experiences that help educators grow and innovate. These communities share power and support risk taking. They afford professional respect in the form of manageable workloads and fair compensation. In a vibrant, care-based ecosystem, learning communities support educators in developing personal practices of self-care so that they are emotionally secure and prepared to engage in their students' complex lives while preventing their own burnout. Teachers, according to one interviewee, deserve training and support in practicing “self-awareness and reflection in which they learn their own triggers and trauma” so that they can support students' emotional and learning-related needs with full attention and compassion.

A culture of companionate love relates positively to employee satisfaction and teamwork and counters absenteeism and emotional exhaustion.<sup>16</sup> When teachers receive professional development around recognizing and regulating their emotions and creating positive, caring relationships, their feelings of burnout decrease and those of satisfaction increase. Additionally, teachers who work for administrators with developed emotion skills report having fewer negative emotions at work.<sup>17</sup>

In a fully realized vision of human-centered learning, education systems, structures, processes and learning experiences build positive, social connections across social, racial and cultural boundaries. In particular, connections that nurture acceptance and mutual aid cultivate feelings of love and belonging and mitigate the impacts of, and even prevent, isolation and loneliness. “It’s all brain chemistry. We’re co-constructed with all the systems that surround us,” explained an interviewee. Learners, educators and families who are emotionally secure can contribute to the well-being of others and develop the creativity, confidence and inclusive practices necessary to face life’s uncertainties, challenges and opportunities.

## **SIGNALS OF CHANGE**

The signals of change below illustrate how some education organizations are prioritizing love and belonging in their systems, structures, practices and learning experiences. They range from schools implementing social-emotional learning and racial literacy programs to states integrating culturally responsive curricula into their requirements.

### **Scaling Social-Emotional Learning**

In an effort to scale social-emotional learning, states such as Connecticut are convening multi-stakeholder sessions to integrate holistic social-emotional learning and cultural competence across schools, health agencies and other student-serving organizations. The programs also aim to support teachers in developing their own social-emotional skills to become more resilient and to develop their ability to listen to and support each child with compassion.<sup>18,19</sup>

### **Teaching Racial Literacy**

Howard Stevenson, PhD, of the University of Pennsylvania’s Graduate School of Education, author of *Promoting Racial Literacy in Schools*,<sup>20</sup> works nationally with schools, educators and parents to develop racial literacy skills that help them identify, read and recast stressful racial encounters with the purpose of resolving stress and promoting healing instead of simply surviving racial tension. His approach leverages in-the-moment therapeutic play, storytelling and emotion navigation skills to shift the focus away from color blindness toward racial literacy.<sup>21</sup>

### **CREATE for Education**

Creating Resilience for Educators, Administrators and Teachers (CREATE) is a professional development program for educators that offers retreats and onsite, school-based support focused on developing strategies to handle the stresses and recapture the joys of teaching. The program’s goal is to foster educator wellness in support of creating healthy, caring school communities.<sup>22</sup>

### **Curriculum Rooted in Diverse Experiences**

Educators and policymakers in California, Oregon and Vermont are advocating for ethnic studies laws to require K-12 coursework focused on countering eurocentrism and studying the histories and perspectives of non-white groups.<sup>23</sup> The goal is to expose all students to the histories of people of color and other marginalized groups, as well as to the systems and structures that have contributed, and continue to contribute, to oppression and racial inequities. Ethnic studies programs aim to make curricula more culturally responsive and inclusive of all learners’ experiences.





## Leadership Is Intentionally Inclusive and Co-Creative

In human-centered learning ecosystems, leadership structures and processes are actively inclusive of many forms of difference. They intentionally promote interdependence, shared power and co-creation among all stakeholders. For education to respond fully to the needs of all learners, inclusive co-creation is essential. According to educator, lawyer and activist John A. Powell, “In order to co-create, you need power. It’s not your house or my house. It’s not your city or my city. It’s our city. We co-create it. We make it together with all of our complexities and dreams.”<sup>24</sup>

Inclusive, co-creative leadership strives to cultivate a dense network of connections to dismantle inequitable systems and structures, particularly those in under-resourced and marginalized communities. Through trusted and inclusive connections people in leadership positions can enable a wide range of education stakeholders to cooperate and to respond to social, political, economic and environmental challenges and inequities that may impact different groups in distinctive ways.

One interviewee described this approach as a shift from traditional, hierarchical leadership roles, in which “administrators are leaders and teachers are followers,” to more horizontal partnerships that encourage distributed power and innovation. With inclusive and co-creative leadership, all educators can become leaders who enable

and empower one another, students, parents and communities to drive change through open and transparent processes that attend to racial and cultural biases and keep their eyes on vision. To meet the needs of their students, teachers freely collaborate to drive responsive change, weaving in participation from parents, community members and colleagues. An interviewee remarked that her students’ parents feel like outsiders and often lack trust in the school’s commitment to their children. Inclusive co-creation helps build trust and transparency. It holds a place for parents to express their hopes and concerns and to contribute their distinct talents.

When leading inclusively, education organizations seek to build co-creative relationships with other important agencies and institutions working in areas such as health, housing, food, transportation and environmental justice. They recognize that students’ and their families’ complex needs span the concerns of multiple community service and support organizations. For example, students might come to school hungry or live in inadequate housing, yet education organizations alone are not equipped to solve these problems. Forming cooperative connections across systems and sectors builds webs of support. When such networks share intention and power, they help bring more nodes into learning communities and learning ecosystems and strengthen those communities’ and ecosystems’

adaptive resilience. They meet the needs of distinct community cohorts in locally meaningful ways and create new, non-traumatizing solutions. Inclusive educational leadership seeks out other institutions to solve shared problems collectively, rather than taking on those problems alone.

## **SIGNALS OF CHANGE**

Some policymakers, educational decision makers and system designers are engaging in collaborative activities to address the reality that the needs of children, youth and their families span institutions. The signals of change below describe organizations that are advocating for and enabling equitable policymaking and design through inclusion, shared responsibility and coordination among constituents.

### **Liberatory Design**

This collaboration between National Equity Project and Stanford Design School provides education stakeholders with an interactive design framework and services that intentionally challenge racial and cultural biases alongside human-centered design.<sup>25</sup> The reflective component of the design process helps stakeholders challenge and overcome the institutionalized norms, structures and oppression that are embedded in institutions. It also supports relevant innovation and fosters agency among a learning community to take charge of its future.

### **The Whole School, Whole Community, Whole Child Model**

The Whole School, Whole Community, Whole Child model is a framework devised by the Centers for Disease Control and the Association for Supervision and Curriculum addressing health in schools.<sup>26, 27</sup> It recognizes that the health and education sectors serve the same populations in overlapping settings. The framework focuses on the link between health and academic achievement and is structured to help communities and states support schools and learner health. The framework uses ten components to focus policymaking on approaches that address health, safety, engagement and learning.

### **The Othering Institute**

This nonprofit at the University of California, Berkeley works with stakeholders to identify and eliminate barriers to improving young people's life prospects, promoting inclusion and enhancing and sustaining equitable policies and programs. Through its Targeted Universalism approach, the Institute develops leaders' professional capacity to identify targeted solutions that help potentially marginalized groups achieve the benefits of universal goals that are also intended to benefit everyone.<sup>28</sup>

### **Inclusive Schools Network**

The Inclusive Schools Network provides its members tools and support to evaluate and improve the quality of inclusive education with respect to learning differences and exceptionalities.<sup>29</sup> It helps teachers and parents learn strategies for enhancing inclusivity in areas such as assessment, parental involvement and classroom collaboration. Lastly, the network helps school principals build inclusive leadership in areas such as hiring and facilitating organizational change.

### **The Change Management Project**

School districts that are part of Next Generation Learning Challenges' change management project cultivate and leverage an inclusive, professional culture of distributed leadership. During the COVID-19 pandemic, this culture enabled them to implement rapidly new system designs and communications channels and to transition successfully to home-based learning.<sup>30</sup>





## Learning Becomes a Lifelong Personal Practice

In a fully realized vision of human-centered learning, students develop personal routines, practices and habitual approaches for tackling learning needs and fulfilling their aspirations. Many work and employment experts have written about the ongoing need for reskilling and upskilling as people move through their careers.<sup>31</sup> Being able to do so successfully requires an intentional, self-directed practice of learning and growth. Treating learning as a personal practice enables children and youth to develop the individual agency and techniques to break through learning plateaus and achieve goals, setting the foundation for lifelong learning.

Robust systems of human-centered learning prioritize a personal learning practice as an important “enduring understanding” that students develop throughout their educations.<sup>32</sup> Just as athletes may leave a training camp with personal practices for improving their skills and performance in their sport, students should come away from their K-12 experiences with deep knowledge of themselves as learners, including purposeful practices for how to acquire and grow the skills and knowledge that they need. When human-centered learning is enacted, students have repeated opportunities to practice and to reflect on how they learn best. They develop their own personal methods and rituals for setting challenging learning goals, engaging in a variety of learning

experiences and discussing feedback on their performance. They develop practices for identifying what knowledge or skill domains they need in order to address particular problems, for engaging with people and experiences that provide learning opportunities in those domains, for seeking out and growing from feedback and for persisting through setbacks and resolving errors or failures.

Learners also exercise true agency, taking initiative in building their own learning support systems. They become aware of the conditions, supports and tools that are necessary for them to drive their own personal growth and self-discovery, and they engage with people and resources in their broader learning ecosystem to get those things. As one interviewee stated, an effective learning practice is a “regenerative process that helps students take responsibility and ownership of their learning journeys.” Students with a well-developed learning practice can adapt and grow in any circumstance.

When learning becomes a lifelong personal practice, assessment shifts from providing comparative and reductive expressions of learners’ knowledge and skills to depicting rich portraits of learners’ behaviors, practices and habits. Learning experiences and assessments are intentionally designed, with supportive, developmental conversations with both teachers and the other

adults who serve as peers, mentors and guides helping students discover their motivations for learning as well as their most effective practices. Over time, these rich pictures of learner growth help reveal pivotal moments that provide learners with insights about themselves, their communities and the purposes that ignite their learning journeys.

## **SIGNALS OF CHANGE**

The signals of change below illustrate ways in which students are gaining more autonomy in directing, planning and assessing their own learning. In taking charge of their learning, they are gaining an enduring understanding about how to facilitate self-knowledge, spark self-directed growth and liberate their senses of possibility.

### **Mastery School of Hawken**

A new independent high school in Cleveland, Ohio, Mastery School of Hawken focuses on cultivating learners' enduring understanding and lifelong learning practices by combining opportunities for real-world problem-solving and personalized mentoring relationships with an assessment model that provides an interactive, visual picture of each learner's unique strengths and experiences using a Mastery Transcript.<sup>33</sup> Earning credit upon mastery of academic, cognitive and meta-cognitive skills and knowledge promotes learner practices of self-efficacy and persistence.<sup>34</sup>

### **Students as Leaders of Their Own Learning**

EL Education is an American school network that originated from a partnership between Harvard Graduate School of Education and Outward Bound. EL's teaching and learning approach is based on the premise that, in life, people will be judged on the quality of their character and the quality of their work. Students in EL schools take ownership of their work by engaging in real-world, project-based learning expeditions; by completing self-directed assessments that include frameworks for reflection and critique, rubrics for growth and expert assistance; and by deepening relationships with the natural world and communities through service.<sup>35</sup>

### **The Mindsets Project**

The Mindsets Project is a part of the Mastery Collaborative, a community of New York City schools who combine mastery-based and culturally responsive teaching to enhance independent learning. Three learning mindsets form the core of students' learning practice: a belief that intelligence can be developed; a belief that schoolwork is valuable because it is personally relevant; and a belief that one is connected to and respected by peers, is cared for by teachers and fits in to the culture.<sup>36</sup>

### **A SMART Learning Practice**

By framing homework as an opportunity to engage in intentional practice, educator Conred Maddox of Honolulu Community College developed the SMART learning practice. It reminds students to develop a Strategy, or plan, for their studying; to be Mindful and eliminate distractions; to be Adaptive to events that disrupt study plans; to be Reflective about what works and what does not and change learning strategies accordingly; and to be Timely by prioritizing their learning practice over other demands.<sup>37</sup>

### **One Stone Lab School**

Idaho's One Stone Lab School is a student-led, tuition-free high school that develops student leadership and impact through relevant, purpose-driven and passion-based learning experiences. Assessments focus on supporting growth in disciplinary knowledge, social-emotional skills, creative problem-solving through human-centered design and professional habits of work. Learners use performance-based evaluations, peer-to-peer reviews, self-evaluations, coaching observations and written feedback to develop a robust learning practice.<sup>38</sup>

# Making Sense of Human-Centered Learning

Together, the four essential elements of a human-centered learning vision enable new ways in which people relate to education systems, society and the natural environment. As a reminder, these elements are:



Education Liberates  
Young People to Participate  
Fully in Society



Schools Organize  
for Love and Belonging



Leadership Is Intentionally  
Inclusive and Co-Creative



Learning Becomes a  
Lifelong Personal Practice

The following questions can help you make sense of this vision. They invite reflection on how its elements resonate with your context and experiences and on what underlying values and assumptions they suggest.

- 1. Which aspects of the four vision elements resonate the most for you?**
  - » How do they connect with your organization's or learning community's stated aspirations?
  - » Where do you see evidence of these vision elements in your organization or learning community?
- 2. Looking at the vision elements together:**
  - » What new values and assumptions about education systems, success stories, learning, educators, students or key education issues do they suggest?
  - » What existing values and assumptions do they challenge?
- 3. How might existing challenges faced by your organization or learning community change if any or all of these vision elements were realized?**
  - » Do the vision elements suggest any new possibilities for resolving problems or tensions in your organization or learning community?
  - » Do they suggest any new opportunities for your organization or learning community?
  - » Do they suggest any new opportunities, roles or relationships in your professional practice?

**4. In what ways might a vision of human-centered learning provide a rationale for new teaching and learning systems, structures, practices and learning experiences?**

- » If a human-centered learning vision were realized in your organization or learning community, what kinds of stories might students, educators, families and communities tell about their experiences?
- » What specific programs, structures, practices and priorities would be different?
- » What might be possible that does not seem attainable today?
- » How might your professional practice change?
- » How might your personal and organizational understanding of, and relationship with, natural resources and the environment change as a result of enacting life-affirming learning experiences for all?
- » Where are the biggest gaps between your current reality and the vision of human-centered learning?
- » What assumptions might be barriers to transformation?

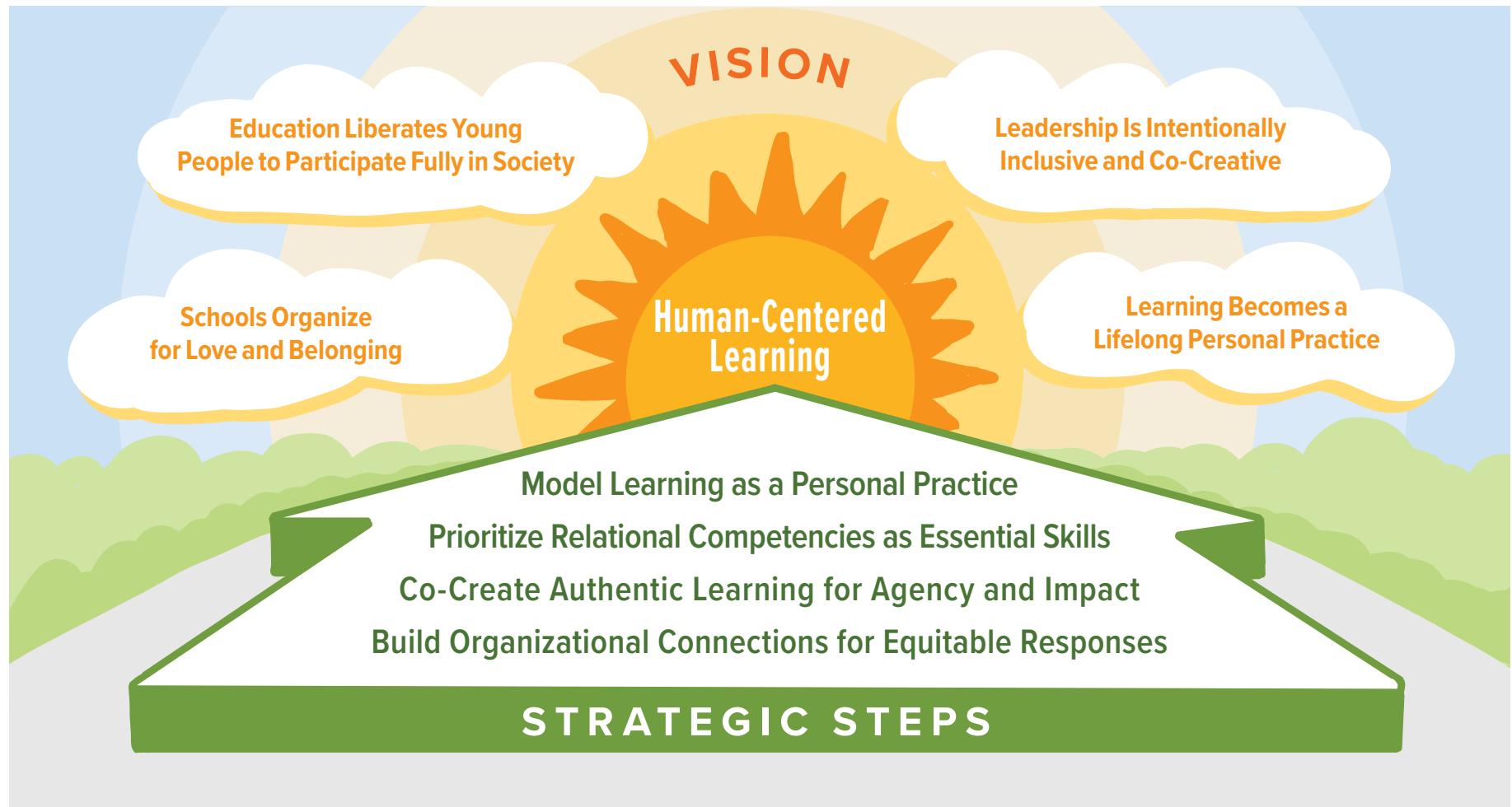
**5. How do the ways in which you communicate about your organization or learning community reflect any or all of these vision elements?**

- » Looking at your communications and messaging – including your website, promotional materials, social media, newsletters, parent communication, curriculum guides, professional learning materials and internal communications – what words, terms and concepts reflect one or more of the elements?
- » What kinds of language would you need to adopt to narrate and enact a vision for human-centered learning that celebrates every person and their collective stewardship of communities and the planet?



# Strategies for Making Human-Centered Learning a Reality

The vision of human-centered learning explored in this paper paints an aspirational picture. Bold steps will be necessary to bring this vision to life. Four strategies suggest ways in which learning communities and other organizations can begin to make this vision of human-centered learning a reality for all learners, educators and communities. The description of each of the following strategies includes a rationale describing how the strategy would help bring about human-centered learning, along with specific actions that can serve as starting points for moving it from vision to reality.



## Co-Create Authentic Learning for Agency and Impact

An important strategy for achieving human-centered learning is to co-create with learners authentic, life-affirming learning experiences that build learners' agency and impact and reflect learners' spheres of concern — including family, school, community and the planet. Such learning provides students with opportunities to contribute actively to their communities. It enables them to explore and extend the scope of their power as they apply skills and witness how their work can create positive, tangible impacts on issues that matter to them and to the people about whom they care.<sup>39</sup>

The responsibility for, and potential impact of, such work can raise the stakes for learners and can motivate them to acquire new

skills and knowledge. In particular, co-created, authentic learning experiences can help foster love, belonging and inclusion, as students must learn how to cross boundaries of race, age, gender and socioeconomic background to achieve their goals. As one interviewee described, “It’s about students working together in authentic communities in which everyone realizes that they have to work together in deep collaboration, work through differences and become aware of the power of their differences.” Repeated engagement in co-created, authentic learning that is focused on building learners’ agency and impact will foster the development of a learning practice that learners can apply to many kinds of learning challenges and projects throughout their lives.



## ACTIONS

The actions below suggest ways of co-creating authentic learning experiences with learners that are situated in their communities and build agency and impact.

### Integrate Critical Inquiry into Learning Experiences

To drive learners' agency and impact, approaches to learning — including project-based learning, student-centered learning and personalized, competency-based learning — need to incorporate critical inquiry methodologies and research practices.

- » Integrate the following kinds of critical questions into learning experiences to help students critically examine issues and analyze hidden assumptions, values and power structures within their communities, institutions and cultural contexts.
  - Whose perspectives are reflected? Whose are absent?
  - Whose interests are served? Whose are not?
  - What assumptions are being made?
  - Whose values are being transmitted?
  - Who has power in this situation, and where does it come from?
  - How might this look from the perspective of other groups or communities?<sup>40</sup>

### Build Learner and Educator Social Capital

Co-created, authentic learning benefits significantly from a constellation of peers and adults who can provide learners with support, advice and mentoring. Knowing how to cultivate a strong and diverse social network will help learners launch their lifelong learning journeys. It will also help educators develop their inclusive leadership by building bridges to the broader learning community.

- » Support learners and educators in identifying community members who might participate in critical inquiry discussions to help co-design research, evaluate project possibilities, identify desired impacts and assess outcomes against those impacts.
- » Help students learn the value of diverse relationships and how to cultivate them to become mentors, coaches, learning partners, inspirational guides or confidantes.
- » Help prepare community members to be open to, and ready for, supporting learners and educators in their learning journeys and critical inquiry.



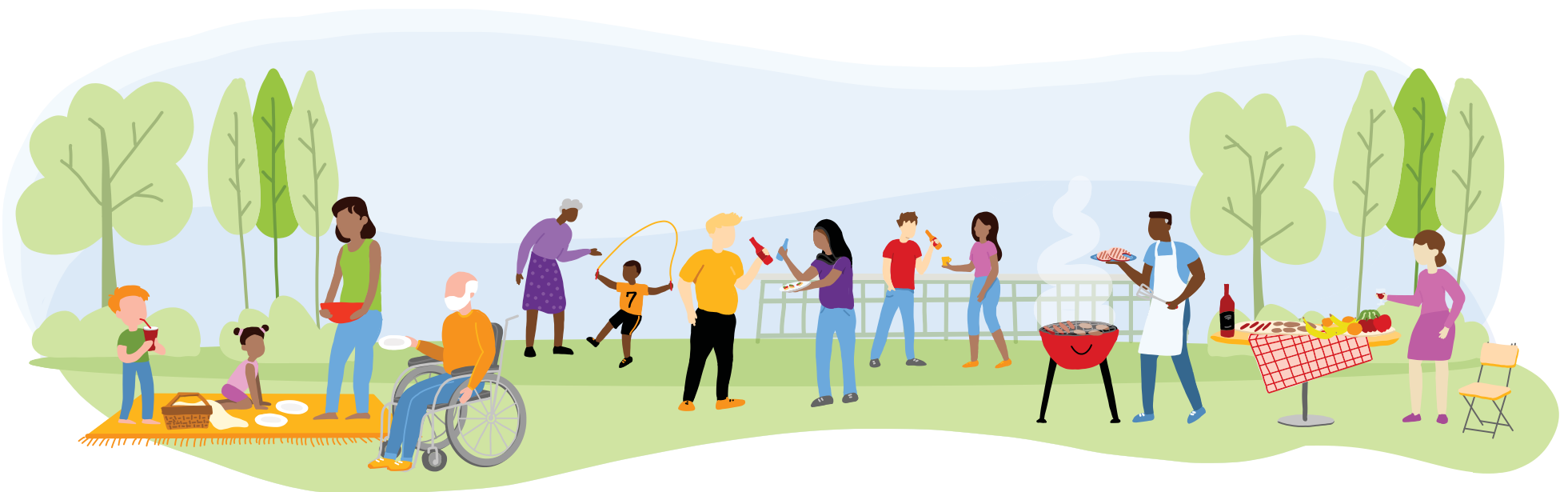
## Prioritize Relational Competencies as Essential Skills

Relational competencies are foundational skills that help people develop individual, social and cultural awareness in order to create positive human connection, take perspective and deepen understandings of one another and ourselves. They include social-emotional skills, racial literacy and cultural navigation skills that help people understand one another and communicate and interact effectively across cultural boundaries. Together, relational competencies form a foundation of critical cognitive and meta-cognitive skills that are essential for developing inclusive leadership, creating schools and learning communities that foster love and belonging, and helping learners cultivate a resilient learning practice.

Relational competencies rest on a set of core emotion management skills that help individuals recognize, understand, label, express and regulate emotions.<sup>41</sup> Exercising these emotion skills helps educators and students become “emotion scientists” rather than “emotion

judges.”<sup>42</sup> Without assigning preconceived meanings, they explore the emotional triggers driving people’s behavior in order to improve their ability to navigate complex social interactions and to achieve positive outcomes.

Cultural competence and racial literacy leverage emotion skills to increase openness and perspective in cross-cultural and racial encounters, with the goal of diffusing stress and tension and creating more equitable interactions. Culturally responsive classrooms can bridge difference and enhance belonging by positioning learners’ cultural diversity as an asset. Racially literate leaders can build inclusive, co-creative structures and systems that recognize and meet diverse needs in learning communities. Together, these relational competencies support educator and learner practices that are essential for driving systemic human-centered learning.





## ACTIONS

The actions below suggest ways of integrating relational competencies across learning communities in order to shape more human-centered educational systems and structures, along with more life-affirming practices.

### Build Capacity in Relational Competencies

Individuals, organizations and systems need to develop capacity for deepening relational competencies. In order for educators and learners to develop and practice these skills, relational competencies need to be integrated across daily teaching and learning activities. Look for ways to build momentum by leveraging existing programs and practices.

- » Identify current initiatives in schools, districts or states that focus on developing any one relational competency (social-emotional skills, racial literacy or cultural navigation skills). Highlight these efforts, demonstrating how they form part of a broader and more robust practice of relational competence.
- » Assess your own skills in the three relational-competence areas (social-emotional skills, racial literacy and cultural navigation skills). Which area is most developed? How might you build this area and strengthen your competence in the others?
- » Collaborate with others to explore ways of combining relational competencies and embedding them into existing curricula; student projects; school rituals; educator practices, professional learning and self-care opportunities; and other educational processes. Approaches may need to be tailored to honor different groups' experiences.
- » Identify ways in which relational competencies might help educators and other stakeholders manage their emotions, navigate cultural complexity, understand the origins of racial tension and identify strategies for working through it across their interactions with students, colleagues, partners and community stakeholders.

### Design Supports for Educator Care

Educators' needs for support vary among individuals and evolve over time and across contexts. Explore what a system of educator care might look like for educators in your learning community or sphere of influence.

- » Convene educators to describe what personal and professional self-care would look like across the educator lifecycle. Consider what kinds of skills and practices seem necessary for educators to preserve and manage their health and wellness. Explore what external supports, training and resources they might need.
- » Explore partnerships to create synergies for educator support (for example, local health, financial, housing, fitness, spiritual, cultural and environmental organizations).
- » Consider what obstacles educators might need to confront in order to nurture their health and well-being. Ask them what they need from leadership in order to engage in self-care.
- » Examine what values and assumptions might support educator's personal and professional health and well-being.
- » Identify what relational skills educators might need to realize this vision of personal and professional self-care.



## Model Learning as a Personal Practice

For learning to become a lifelong practice, students must recognize that the value and power of being an effective learner extends beyond the classroom or other learning environment and into their communities and across their lifetimes. A personal learning practice helps learners develop agency and drives their active participation in society. As such, learning must be modeled as a set of lifelong personal skills and practices through learning experiences, assessments and cultures.

One way of modeling learning as a personal practice is to expand assessments to include rubrics and reflective prompts that enable students to examine critically their learning needs, habits and strategies, as well as their expected learning outcomes.

Performance-based assessments can help learners reflect on what kinds of thinking processes, skills and knowledge are necessary to solve certain kinds of problems. Similarly, self-directed assessments can enable learners to explore their own learning gaps, identifying the skills and knowledge that they need to achieve personal learning goals or community impact and consulting with teachers and mentors about learning strategies. As learners repeatedly reflect on how they learn in various learning contexts and for various goals and purposes, they will become more aware of what behaviors, habits and routines comprise their most effective personal learning practices and how such a practice is relevant for life. Taking ownership of assessment is an essential component of an effective learning practice.<sup>43</sup>



## ACTIONS

The actions below suggest opportunities for modeling learning as a personal practice for learner growth and development.

### Implement Self-Directed Assessments

Find ways for learners to take charge of their own assessments of learning in order to build their skills in reflecting on, planning for and improving their learning practices. Shift ownership of assessment from teachers to students.

- » Partner with students to use assessments to help identify both learning gaps and the kinds of learning experiences that would help close those gaps.
- » Teach students to give and receive feedback that points to a new direction for growth and improvement rather than to judgement.<sup>44</sup>
- » Enrich vocabularies of assessment to enable informative and culturally responsive student-teacher and peer-to-peer communication around learning goals, gaps, needs, study strategies and mastery.
- » Encourage students to describe their plans and strategies for mastering particular learning targets. Then, invite them to articulate how those strategies reflect their practices as learners.

### Create Learning Practice Portfolios

Identify ways of using portfolios to help students assess how they learn and examine the daily routines and strategies that support their learning. Include examples of significant learning relationships, interactions, challenges and critical inquiry questions that have shaped a learner over time.

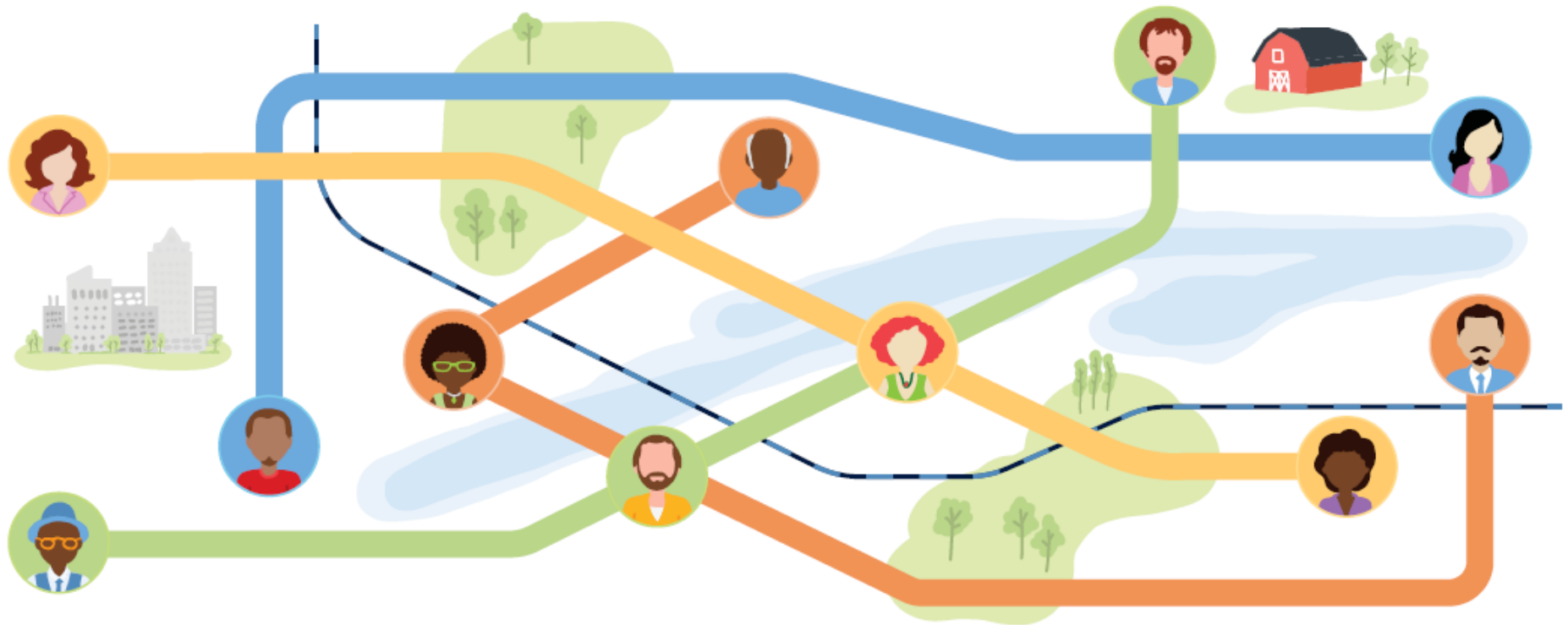
- » Ask learners to create maps of their learning journeys, either over the years or during a particular project or course, that include key failures and challenges that they have overcome, along with key discoveries along the way.
- » Have learners keep a journal of critical questions that emerge as they engage with communities, complete projects and reach learning goals. Ask them to reflect on and identify the learning approaches, skills, knowledge and relationships that would help them explore these questions.
- » Expand the scope and breadth of portfolio discussions. Include reflections on learning strategies, examining patterns in, and possible new directions for, their learning.
- » Involve more adults, peers, community members and professionals in sharing discussions about student portfolios. In addition, ask adults to share their own learning practices. In particular, engage teachers, principals and district leaders in sharing milestones from their own work. Ask them to describe what they learned and the learning strategies and practices that supported that learning.



## Build Organizational Connections for Equitable Responses

Developmental psychologists assert that child development is impacted by layers of family and societal issues that span institutions, such as parental loss of employment, neighborhood decline, industrial shifts, housing costs and food policy.<sup>45</sup> Inclusive, co-creative leadership needs to build connections with other social systems and institutions to help education stakeholders unravel structures of oppression and inequity and to enable all students to access relevant and equitable opportunities for learning and development. To this end, leaders should look for organizational synergies where combined efforts could add up to more than single-entity efforts. Forging partnerships in ways that encourage inclusive innovation and targeted problem solving will help stakeholders move away from one-size-fits-all solutions to educational challenges.

As policymakers, institutional leaders and community organizers work together across organizational boundaries and hierarchies, they also need to make their own structures and processes transparent and inclusive. In order to see and appreciate the gaps and unintended consequences in well-intentioned policies, services and social supports, cross-institutional stakeholders need to look within first, examining the roots of their assumptions, then build open channels of communication and co-creation with those whom they aim to serve. Stakeholders need to develop the relational competencies necessary to uncover their biases, to communicate and listen openly across differences, and to see problems and possible solutions from fresh perspectives.



## ACTIONS

The actions below will help build the leadership and organizational approaches necessary for developing more equitable and interconnected policies, programs and solutions.

### Use Targeted Universalism as a Problem-Solving Approach

Examine how universal protections (solutions or supports that are the same for everyone) may exclude particular groups or create unintended barriers. Adopt targeted universalism (an approach that favors group-specific solutions to shared challenges) as an approach to innovation.

- » Invite community members, learners, educators and decision makers to form design teams that can lead a collaborative process in which solutions are co-created to meet learner, educator and community needs.
- » Conduct community audits in which institutional leaders and community members examine where universal, one-size-fits all solutions are having unintended, inequitable impacts on communities. Share ideas about how multiple institutions might contribute to new solutions.
- » Invite stakeholders from diverse sectors (such as health, urban planning and housing) to share how they might each contribute to possible education solutions and to explore how collaborative efforts might yield new opportunities.
- » Looking across domains, conduct regular discussions with leaders, decision makers and existing and prospective users of services in order to build trust and identify new issues that could benefit from targeted policy and program development.
- » Actively and regularly participate in discussions hosted by other community leaders. Encourage others to do the same.

### Develop Relationally Competent Leadership

All educational leaders and decision makers need to prioritize the development of their relational competencies. These competencies are essential for ensuring inclusion in systems and processes and for distributing power to foster cooperation and collaboration. This goal is particularly important for those who work to build equitable learning communities and ecosystems across institutional, economic and cultural boundaries.

- » Ensure that leadership development opportunities, such as programs for building-, district- and state-level leaders, include training in emotion skills, cultural competence and racial literacy and support participants in processing and assimilating the insights raised by that training.
- » Require and provide opportunities for continuing education and reflection on how relational competencies can enable equitable relationship building across boundaries. Find ways to engage in this professional learning with partner organizations and other collaborators.
- » Create safe spaces for leaders to engage in regular conversations with staff and other colleagues for the purposes of uncovering unintended biases, practicing open communication and reframing racial encounters for enhanced understanding.
- » Provide opportunities for leaders to practice detecting their own discomfort when engaging with differences of opinion, values and behaviors and to learn how to work through what is triggering such a reaction without putting undue burden on a person with marginalized identity to help them develop insight.
- » Likewise, ensure opportunities for leaders to use social and emotional skills, racial literacy and cultural navigation skills to increase understanding of how others' perspectives and socio-cultural contexts may influence behavior.

# An Invitation to Envision Transformation

The vision for human-centered learning described in this paper places the healthy development, well-being and creative potential of all people at the center of educational systems, structures, practices and learning experiences. It provides a positive, shared focus for building the social infrastructure and educational approaches needed to meet the challenges of a rapidly changing and uncertain future. Human-centered learning provides a frame for examining our existing assumptions about education and for identifying where they might need to shift. It invites us to examine how we might enable the breadth of transformation needed to engage each educator and learner in meaningful ways and to support every educator, learner and community in thriving. Indeed, human-centered learning in its fullest form is necessary to achieve such systemic transformation.

The strategies presented in this paper represent just some of the ways in which education stakeholders might bring human-centered learning to life. Our hope is that every educator, school, innovator and changemaker working across system levels will be compelled by this vision to engage others in setting a life-affirming course for education and in taking action toward making human-centered learning a reality.



## Interviewees

This paper could not have been developed without the insights of the education stakeholders who participated in the interviews that explored the current realities of today's education systems along with possibilities for human-centered learning. Much gratitude is due to the individuals listed below for their time, thoughtfulness and courage in engaging with future possibilities.

**Amy Anderson**

Executive Director, ReSchool Colorado

**Sheila Arredondo**

Senior Program Associate, WestEd

**Kara Bobroff**

Deputy Secretary of Identity, Equity, and Transformation,  
New Mexico Public Education Department

**Wendy Brawer**

Educator and Business Coach, Unbound Productions

**Kirk Cooper**

Educator and Director, Sees the Day

**Diana Divecha**

Developmental Psychologist, Yale Child Study Center

**Abbie Everett**

Director of Teaching and Learning, KnowledgeWorks

**Ross Hall**

Co-Founder, The Weaving Lab

**Virgel Hammonds**

Chief Learning Officer, KnowledgeWorks

**Lisa Haney**

Executive Director, California Teacher Collaborative

**Carlos Hipolito**

Associate Professor and Counseling,  
University of Colorado Denver

**Rebecca Hong**

Director of Institutional Equity, Spence School

**Ulcca Joshi Hansen**

Chief Strategy Officer, Boundless

**Ben Kirshner**

Professor, Learning Sciences and Human Development,  
University of Colorado Boulder

**Kathryn Lee**

Director of RULER for Families,  
Yale Center for Emotional Intelligence

**Marguerite Lukes**

Director of Research and Innovation,  
Internationals Network

**Kelley McBride**

Third-Grade Teacher,  
Oakland Unified School District

**Anne Olson**

Director of State Advocacy, KnowledgeWorks

**Sean Slade**

Senior Director, Global Outreach, ASCD

**Natalie Thoreson**

Social Justice and Anti-Oppression Educator,  
InVision Consulting

**Shelley Zion**

Professor of Urban Education, Rowan University  
Provost's Fellow, Diversity, Equity and Inclusion  
Faculty Director, Center for Access, Success, and Equity



# Endnotes

1. KnowledgeWorks. (2018). Navigating the Future of Learning. Retrieved from <https://knowledgeworks.org/resources/forecast-5>.
2. Balingit, M. (2019, January). Out of the Ashes, Schools in Fire-Ravaged Paradise, California, Struggle to Rebuild. Washington Post. Retrieved from [https://www.washingtonpost.com/local/education/out-of-the-ashes-schools-in-fire-ravaged-paradise-calif-struggle-to-rebuild/2019/01/17/148771fc-03df-11e9-b6a9-0aa5c2fcc9e4\\_story.html](https://www.washingtonpost.com/local/education/out-of-the-ashes-schools-in-fire-ravaged-paradise-calif-struggle-to-rebuild/2019/01/17/148771fc-03df-11e9-b6a9-0aa5c2fcc9e4_story.html).
3. Bandelli, A. (2017, June). Education Can't Keep Up with Our Fast-Moving World, Here's What Needs To Change. World Economic Forum. Retrieved from <https://www.weforum.org/agenda/2017/06/new-approaches-education-changing-society>.
4. OECD (2018, May). The Future of Education and Skills Education 2030. Retrieved from [https://www.oecd.org/education/2030-project/contact/E2030\\_Position\\_Paper\\_\(05.04.2018\).pdf](https://www.oecd.org/education/2030-project/contact/E2030_Position_Paper_(05.04.2018).pdf).
5. KnowledgeWorks. (2018). Navigating the Future of Learning. Retrieved from <https://knowledgeworks.org/resources/forecast-5>.
6. The Grove Consultants. Visual Planning and Templates. Retrieved from <https://grovetools-inc.com/collections/visual-planning-templates>.
7. Strauss, V. (2015, April). What the 'Liberal' In 'Liberal Arts' Actually Means. Washington Post. Retrieved from <https://www.washingtonpost.com/news/answer-sheet/wp/2015/04/02/what-the-liberal-in-liberal-arts-actually-means>.
8. Freire, P.M. (1973). Education for Critical Consciousness. Retrieved from <http://abahlali.org/wp-content/uploads/2012/08/Paulo-Freire-Education-for-Critical-Consciousness-Continuum-Impacts-2005.pdf>.
9. Murry, A. (2017, February). Rejecting Face Value: Critical Consciousness in the Classroom. Retrieved from <https://medium.com/sanford-inspire-program/rejecting-face-value-critical-consciousness-in-the-classroom-ae7eb551e1e4>.
10. King, M. (2015, July). Learning How to Make a Life, TEDxPittsburgh. Retrieved from <https://www.youtube.com/watch?v=xG9AJTsxq4A>.
11. Students at the Center Hub. Critical Civic Inquiry: Student-Centered Learning. Retrieved from <https://studentsatthecenterhub.org/resource/critical-civic-inquiry-student-centered-learning>.
12. Pello, R. (2020, February). Ready for Take Off: Youth Action Researchers at the Intersection (YARI). KnowledgeWorks. Retrieved from <https://studentsatthecenterhub.org/blog/ready-for-take-off>.
13. City of Bridges High School. Retrieved from <https://cityofbridgeshighschool.org>.
14. Community Works Institute. Retrieved from <https://communityworksinstitute.org>.
15. Barsade, S. G., & O'Neill, O. A. (2014). What's Love Got to Do with It? A Longitudinal Study of the Culture of Companionate Love and Employee and Client Outcomes in a Long-term Care Setting. Administrative Science Quarterly, 59(4), 551–598. Retrieved from <https://journals.sagepub.com/doi/abs/10.1177/0001839214538636>.
16. Ibid.
17. Cipriano, C. & Brackett, M. (2020, April). Teachers Are Anxious and Overwhelmed. They Need SEL Now More Than Ever. EdSurge. Retrieved from <https://www.edsurge.com/news/2020-04-07-teachers-are-anxious-and-overwhelmed-they-need-sel-now-more-than-ever>.
18. Stringer, K. (2019, October). To Build Emotional Intelligence in Students, Start With the Adults. SEL Pioneer Marc Brackett Helps Schools Do Both in 'Permission to Feel'. The74Million.org. Retrieved from <https://www.the74million.org/article/to-build-emotional-intelligence-in-students-start-with-the-adults-sel-pioneer-marc-brackett-helps-schools-do-both-in-permission-to-feel>.
19. Yale Center for Emotional Intelligence. Retrieved from <http://ei.yale.edu/creating-community-emotional-learning-connecticut>.
20. Stevenson, H.C. (2014). Promoting Racial Literacy in Schools: Differences That Make a Difference. Retrieved from <https://www.tcpspress.com/promoting-racial-literacy-in-schools-9780807755044>.
21. Graduate School of Education University of Pennsylvania. Howard C. Stevenson. Retrieved from <https://www.gse.upenn.edu/academics/faculty-directory/stevenson>.
22. CREATE. Retrieved from <https://createforeducation.org>.



23. Goldstein, D. (2019, August). Push for Ethnic Studies in Schools Faces a Dilemma: Whose Stories to Tell. New York Times. Retrieved from <https://www.nytimes.com/2019/08/15/us/california-ethnic-studies.html>.
24. Powell, J. A. (2019, April). Building Belonging in a Time of Othering. Tony Iton, Interviewer [Transcript; Othering and Belonging Conference]. Retrieved from [https://www.rev.com/transcript-editor/shared/z8K5KiAPIAh2UWTpYzeqZc46dLG6SIMiYcf9VDiguensT\\_15tN9DS65uvdsejklqg\\_elIJ7iTcT7G\\_U5pTVJONdjj5](https://www.rev.com/transcript-editor/shared/z8K5KiAPIAh2UWTpYzeqZc46dLG6SIMiYcf9VDiguensT_15tN9DS65uvdsejklqg_elIJ7iTcT7G_U5pTVJONdjj5).
25. National Equity Project. Liberatory Design. Retrieved from <https://www.nationalequityproject.org/>.
26. Centers for Disease Control and Prevention (2020, February). Whole School, Whole Community, Whole Child (WSCC). Retrieved from <https://www.cdc.gov/healthyschools/wsc/index.htm>.
27. Association for Supervision and Curriculum. Learning Health: Whole School, Whole Community, Whole Child. Retrieved from <http://www.ascd.org/programs/learning-and-health/wsc-model.aspx>.
28. Othering and Belonging Institute. Retrieved from <https://belonging.berkeley.edu>.
29. Inclusive Schools Network. Retrieved from <https://inclusiveschools.org>.
30. Calkins, A. (2020, May). When Humans, Not Systems, Run Schools. NGLC. Retrieved from <https://www.nextgenlearning.org/articles/when-humans-not-systems-run-schools>.
31. Illanes, P., Lund, S., Mourshed, M., Rutherford, S. & Tyreman, M. (2018, January). McKinsey Global Institute. Retrieved from <https://www.mckinsey.com/featured-insights/future-of-work/retraining-and-reskilling-workers-in-the-age-of-automation>.
32. An enduring understanding is a big idea or core process that has value beyond the classroom and into life. UAF Instructional Design Team. Enduring Understandings: The learning that will stay with you. Retrieved from <https://iteachu.uaf.edu/enduring-understandings>.
33. ReDesigning High School. Mastery School of Hawken. Retrieved from <https://redesigningschool.org/the-mastery-school-of-hawken>.
34. Mastery Transcript Consortium. What We Do. Retrieved from <https://mastery.org/what-we-do/mastery-transcript>.
35. Berger, R., Rugen, L. & Woodfin, L. (2014). Leaders of Their Own Learning: Transforming Schools through Student-Engaged Assessment. Retrieved from <https://eleducation.org/resources/introduction-to-leaders-of-their-own-learning-why-student-engaged-assessment-matters>.
36. Mastery Collaborative (2019, December). Mindsets for Learning: An Introduction. Retrieved from <https://www.masterycollaborative.org/blog/2019/12/11/mindsets-for-learning-an-introduction>.
37. Maddox, C. (2019, January). Getting Students to Practice. Faculty Focus. Retrieved from <https://www.facultyfocus.com/articles/effective-teaching-strategies/getting-students-to-practice>.
38. One Stone (2019). Disruption BLOB: Bold Learning Objectives. Retrieved from <https://onestone.org/disruption-blob>.
39. See Ulcca Joshi Hansen's "Re-Imagining High-Quality School Choice for Families: Diverse School Orientations and Learner-Centered Schools" for a description of an educational orientation called "purposeful exploration" that prioritizes learners' human development in the context of their larger communities. Hansen, U. J. (2018, February). Re-Imagining High-Quality School Choice for Families: Diverse School Orientations and Learner-Centered Schools.
40. Suggested by Ashley Murry. Murry, A. (2017, February). Rejecting Face Value: Critical Consciousness in the Classroom. Retrieved from <https://medium.com/sanford-inspire-program/rejecting-face-value-critical-consciousness-in-the-classroom-ae7eb551e1e4>.
41. Ruler. What is RULER? Retrieved from <https://www.rulerapproach.org/about/what-is-ruler>.
42. Brackett, M. A. (2019). Permission to Feel. New York: Celadon Books.
43. See Ulcca Joshi Hansen's "Re-Imagining High-Quality School Choice for Families: Diverse School Orientations and Learner-Centered Schools" for a discussion of alternative assessment and list of promising examples. Hansen, U. J. (2018, February). Re-Imagining High-Quality School Choice for Families: Diverse School Orientations and Learner-Centered Schools.
44. Dweck, C. S. (2012). Mindset: Changing the Way You think To Fulfil Your Potential. London: Little, Brown Book Group.
45. Bronfenbrenner, U. (2009). The Ecology of Human Development: Experiments by Nature and Design. Cambridge, Massachusetts: Harvard University Press.

## About the Authors



**Andrea Saveri** of Saveri Consulting makes the future actionable for clients through research-based foresight, highly creative engagement experiences, visual maps and forecast artifacts. She partners with clients to create clear strategic pathways to transformation and resilience in a highly complex world. Andrea is a graduate of Harvard University and the University of California at Berkeley.



**Katherine Prince** leads KnowledgeWorks' exploration of the future of learning. As Vice President, Strategic Foresight, she speaks and writes about the trends shaping education over the next decade and helps education stakeholders strategize about how to become active agents of change in shaping the future. Katherine holds a BA in English from Ohio Wesleyan University, an MA in English from the University of Iowa and an MBA from The Open University and is a member of the Association of Professional Futurists.



**Maria Romero** is Senior Manager of Strategic Foresight at KnowledgeWorks, where she supports the organization's strategic foresight research, analysis and writing on the future of learning. Maria holds a BS in Sociology from the Universidad Central de Venezuela, advanced studies in Communications from Universidad Católica Andrés Bello and an MS in Foresight from the University of Houston. She is a member of the Association of Professional Futurists and co-authored *Beyond Genuine Stupidity* and *The Future Reinvented*.

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## About KnowledgeWorks

KnowledgeWorks is a nonprofit organization dedicated to advancing personalized learning that empowers every child to take ownership of their success. With 20 years of experience exploring the future of learning, growing educator impact and working with state and federal policymakers, our passionate team partners with schools and communities to grow a systemwide approach to sustain student centered practices so that every child graduates ready for what's next. Learn more at [KnowledgeWorks.org](https://KnowledgeWorks.org).

To obtain print or digital copies of KnowledgeWorks' 2018 forecast, *Navigating the Future of Learning*, visit [KnowledgeWorks.org/forecast-5](https://KnowledgeWorks.org/forecast-5).

