KnowledgeWorks Forecast 4.0

Building Support for Student-Centered Learning:

A Toolkit for Exploring the Future

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KnowledgeWorks

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Exploring the Future to Support Student-Centered Learning

Exploring long-range futures can inform education stakeholders about changes on the horizon and inspire them to shift their mindsets about what is possible – and necessary – for learning. Engaging with future possibilities can help education stakeholders identify emerging opportunities and challenges, clarify what they need from learning and for their communities, ask deep questions about their work and set relevant goals.

As part of its Public Understanding and Demand initiative, the Nellie Mae Education Foundation partnered with KnowledgeWorks during the 2017-2018 school year to offer four school districts the opportunity to host customized workshops exploring the future of learning. These districts were already engaging their communities and stakeholders in dialogue about what student-centered learning could and should look like in their contexts, and adding a future lens provided a new perspective on that ongoing work. These workshops engaged a variety of audiences – including staff, teachers, students, parents and other community members – in exploring the future of learning as a way of sparking new ideas, partnerships and strategies for supporting learning experiences that benefit all students.

To support district leaders and other education stakeholders in engaging audiences in conversations about how schools and communities might respond to the changing landscape to shape the future of learning, this toolkit presents selected activities from those workshops.

About the Activities

The four activities included in this toolkit were selected because they resonated with the audiences whom KnowledgeWorks engaged and because they are easy for facilitators to adapt across settings and audiences.

An overview of each activity appears below.

ACTIVITY 1: Exploring Future Graduate Profiles
Explore the knowledge and skills that young people will need to thrive in the future.

ACTIVITY 2: Designing Student-Centered Learning Experiences
Design student-centered learning experiences, informed by future needs and inspired by real-life examples.

ACTIVITY 3: Mapping An Ideal Learning Community
Visualize the assets, relationships and supports contributing to an ideal future of learning.

ACTIVITY 4: Prototyping Solutions For Learners
Develop and model solutions to authentic challenges.

These activities are all generative and interactive. They can be facilitated by district leaders, teachers, learners, community members or any other education stakeholder. As detailed in the facilitation instructions, the activities were designed for specific audiences, but they can be adapted for district staff, students, community members or any combination of groups.

Each activity can stand alone, or facilitators can choose to extend the thinking and the experience by pairing Activity 1 with Activity 2 or by pairing Activity 3 with Activity 4. The facilitation directions and suggestions are based on KnowledgeWorks' experience working with groups through similar activities. Given how contexts and goals can vary, facilitators are encouraged to adapt the activities, timing and audience as appropriate to their needs.

Facilitator Considerations

The considerations below can help facilitators ensure that exploring the future of learning is a meaningful experience for their audiences.

Purpose and Anticipated Follow-up

Before convening a group, consider what the session is meant to accomplish; how participants' viewpoints will be shared with leaders, decision makers and other stakeholders; and how the group's input will inform future plans or actions. At the start of the conversation, inform participants of the context and follow-up plans so that they know how engaging with the future of learning connects with other efforts and conversations and how their insights will be used.

Group Size and Structure

All of the activities in this toolkit involve a combination of small- and whole-group work. Facilitators are encouraged to bring together audiences that represent diverse perspectives and that reflect and represent the communities in which the activity and broader conversation about student-centered learning are taking place. The ideal group size is 10 to 30 participants, which encourages discussion and sharing of multiple viewpoints. However, the number of participants can vary depending on each facilitator's comfort level. All activities include opportunities for small groups to share their work with the whole group, which requires more time for larger groups. Small groups should have three to five members to allow for a range of perspectives while enabling everyone to contribute.

Space and Materials

Rooms with tables where small groups can work collaboratively and where the entire group can see and hear one another and the facilitator are ideal. Facilitators should set up tables and arrange the materials listed for each activity prior to the start of the session. All required and optional materials are listed with each activity, and printable handouts for Activities 1 and 2 can be found in the appendix of this toolkit. When small groups are working with chart paper, they can hang it on the walls or on easels or can lay it on the tables. Depending on acoustics, having a microphone that can be passed among participants during whole-group conversations can be helpful.

Introductions and Warm Up

If the people working together in small groups do not know one another, facilitators should offer an opportunity for introductions and sharing of roles or participants' connection to the school or community. If desired, facilitators can choose to do that in a way that sparks the audience's thinking about the future. For example, they can ask small groups to share their names, roles, and a word or phrase that describes their ideal futures of learning.

Group Agreements

Facilitators are encouraged to consider what norms or expectations will help make the conversation as generative and productive as possible. Below is a collection of group agreements that have proven useful in workshops about the future of learning. Facilitators are encouraged to select five to six group agreements and to share them at the beginning of the conversation. Posting them on the wall can help keep them front of mind.

- **Build from what we all know today:** Bring your experiences and ideas to the table.
- **Keep your eyes on the horizon:** Remember that we are looking at the future, not at today. Push yourselves and your group members to think ahead.
- **Focus on possibilities:** Remember that something that seems impossible or unlikely today could happen in the future.
- **Recognize that emotional responses might arise:** Thinking about the future can be both exciting and scary. It is okay to feel hopeful, worried and anything in between, and you are encouraged to express those feelings.
- **Look at all sides:** When developing ideas, think about the needs and interests of students, parents, district and school leaders, teachers and other community members.
- **Balance future perspective with current demands:** Think about approaches that will help meet the district's, school's or community's goals today and which will also pave the way for future success.

Post-Session Reflections

After the conversation, facilitators can reflect on the next steps using the questions below.

1. What new ideas or insights seemed to be most interesting or exciting to the group?
2. What opportunities exist in your school or learning community to try some of the group's ideas or to share their perspectives with others?
3. What other groups might benefit from a similar discussion, and how might they be convened?

Additional Guidance

The following icons placed throughout the toolkit provide additional facilitation guidance.

FACILITATION TIP

Signals a tip for the facilitator to consider in planning the activity.

TALKING POINT

Signals a suggestion for what a facilitator might say at a given step. Facilitators can choose to follow that text closely or to put it into their own words.

ACTIVITY 1: Exploring Future Graduate Profiles

Objective

Participants will...

- Explore possible futures of work and learning.
- Identify the knowledge and skills that young people will need to thrive in the future.
- Reflect on the types of learning experiences that could support young people in developing future-ready knowledge and skills.

Timing/Audience

This one-hour activity was designed for a high school-student audience.

Materials

- One piece of chart paper per small group
- One piece of chart paper for facilitator note-taking during whole-group discussion
- One example of the "Knowledge and Skills" flip chart sheet (see illustration at step 11)
- One "Future Readiness Scenario" per person, with each small group's having a different scenario so that all four scenarios are distributed across the room. (See the appendix for printable materials.)
- Markers
- [Optional] Question prompts and questions written in presentation slides, on chart paper or on a white board
- [Optional] One piece of chart paper labeled "Reflections"

Activity Instructions

FACILITATION TIP

If the group has limited time to complete this activity, participants can read the scenarios prior to the session. In that case, the facilitator can skip steps four through eight and can instead lead a brief discussion about individuals' responses to the scenarios.

INTRODUCTION (10 MINUTES)

1. Explain the purpose of the activity, what the facilitator hopes participants will learn or gain from it and how their ideas and insights will be shared or used.

2. Ask participants what young children today might need to know and be able to do in the future and how those things might be similar or different from what students who are in high school today need. Take responses from volunteers or ask all participants individually to write a few notes in response to the question.

TALKING POINT

- Imagine a baby being born today. That baby will be a young adult in 2040.
- What about her experiences do you think will be the same as young adults' experiences today? What might be similar about what she needs to know and be able to do to succeed?
- What about her experiences do you think will be different? What might she need to know and be able to do that is different from what today's young adults need?

3 Provide an overview of how work and readiness is changing.

TALKING POINT

- Advances in digital technologies are changing the way people work, live and learn.
- Artificial intelligence and robots are becoming more commonplace in workplaces. They are helping people do their jobs better in some cases. In other cases, those machines are doing the job instead of a person.
- In addition, working one job for one's entire life, which used to be very common, rarely happens any more. More and more, people are working on lots of projects for different companies or are working more than one job at a time, either because they have to or because they like being more independent and getting to pick and choose what they do.
- At the very least, people will need to reskill and upskill throughout their lives as the employment landscape changes very quickly.
- Schools need to think about these changes because part of the purpose of education is to help students get ready for the next stages of their lives.
- The employment landscape in which today's young children find themselves could look very different from what work looks like today.

FACILITATION TIP

Read KnowledgeWorks' *The Future of Learning: Redefining Readiness from the Inside Out* for more details and information about changes affecting the future of work and readiness.

4 Ask participants to share their initial reactions to the changes affecting work and readiness.

5 Explain that, just because we can see what is changing, we cannot necessarily know how the future will turn out.

6 Point participants to the "Scenarios for the Future of Work and Readiness in 2040" handout.

7 Explain that each group has a scenario illustrating a different way the future of readiness might turn out and provide an overview of the four scenarios.

TALKING POINT

- Even though we cannot know what will happen in the future, we can still think about what might happen, and that can help us make decisions.
- To help us do that, we are going to explore four scenarios for the future of work and readiness in 2040.
- Each group has a different scenario, or a story about a possible future.
- Your job is to read about that future and then discuss with your group: What would someone who was working in that world need to know or be able to do to succeed?
- In one of the scenarios, **Partnering for Mobility**, people still have jobs, but they use machines – robots, artificial intelligence, self-driving cars and so forth – to help them do their jobs better. People change jobs frequently, but schools, governments and employers work together to anticipate workforce needs and make sure that people can always access education and gain new skills as they need them.
- In the second scenario, **Checking for Upgrades**, people again work with machines to help them, but more people work as independent contractors than as full-time employees. Employers hire people just as they need them, often for shorter-term projects. Some schools, governments and employers help people navigate their many options, but most people have to figure out on their own how to find work and upgrade their skills.
- In the third scenario, **Working the Platforms**, most people make a living by piecing together many small tasks, finding work through digital platforms. The only full-time positions are for highly specialized work. Competition is intense. People have to find their own ways to develop skills and attract new work while also representing their skills in ways that platforms can recognize.
- In the last scenario, **Finding New Meaning**, most people do not work the way they used to, but they still find meaningful ways to spend their time. Now that much work has been automated, new kinds of supports exist to meet people's basic needs. People contribute to society in ways such as caring for others, helping their communities or making art. Education focuses on helping them discover their personal strengths and paths.

EXPLORE FUTURES OF WORK AND READINESS
(10 MINUTES)

8. Ask participants to read their assigned scenario (either silently to themselves or aloud as a group, depending on the facilitator's preference).

9. Prompt small groups to discuss their initial reactions to the scenario after individuals or groups have completed reading. Ask them to consider what seems most important, interesting or different from today.

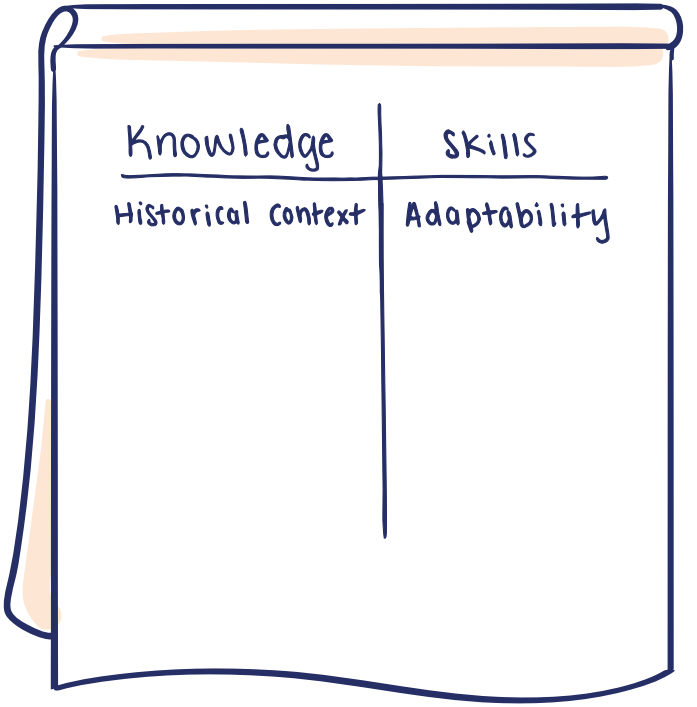
FACILITATION TIP

As groups are discussing their responses, circulate and listen to what participants think is most important or interesting. Then reference those ideas when setting up the next segment of the activity

IDENTIFY KEY KNOWLEDGE AND SKILLS
(30 MINUTES)

10. Explain that the group will next consider what knowledge and skills young people will need to thrive in scenarios such as the ones they read.

11. Point out the example of a "Knowledge and Skills" flip chart sheet and tell participants how to set up their sheets.



Example of flip chart set up and possible participant responses for step 11

12. Prompt groups to work together to add knowledge and skills to their list, keeping their scenarios in mind.

TALKING POINT

- Thinking about what work would be like in the scenario you read and what people would need to be successful, make a list of knowledge and skills that a young person might need to thrive in that future.
- Consider what knowledge and skills people learn today might still be important and also things that are not currently taught or prioritized in school. Add as many items to the list as you can.

13 Instruct groups to narrow down their lists, choosing the three to five items they think would be most important.

14 Ask each group to share the knowledge and skills they think would be most important. Write what participants share on chart paper, noting knowledge and skills that are similar across groups.

15 Facilitate a whole-group conversation to identify the key knowledge and skills that seem important, no matter which future emerges.

REFLECT ON NEW LEARNING EXPERIENCES
(15 MINUTES)

16 Ask participants to think about what kinds of learning experiences could support students in developing the knowledge and skills they prioritized.

FACILITATION TIP

Either prompt participants to ideate for a few minutes as small groups and then to discuss their ideas as a whole group or facilitate a whole-group conversation from the outset.

17 Write what participants share on flip chart paper, noting knowledge and skills that are similar.

TALKING POINT

- What kinds of learning experiences could help young people develop the knowledge and skills that you prioritized?
- What words would you use to describe those types of learning experiences?
- What's an example of a learning experience that would be helpful and engaging to students?

18 To help inform future priorities or goals, ask participants which of the attributes or examples of learning experiences would be most desirable or realistic in their school or setting.

FACILITATION TIP

If time allows, the facilitator can invite participants to reflect on their main takeaways or insights from the session, writing them on sticky notes and posting them to the "Reflections" flip chart sheet.

FACILITATOR NOTES

ACTIVITY 2:
Designing Student-Centered Learning Experiences

Objective

Participants will...

- Consider the attributes of student-centered learning experiences that would support the development of future-ready knowledge and skills.
- Design aspirational learning experiences based on those attributes.
- Reflect on opportunities to incorporate selected attributes or elements of the learning experiences into the group's setting.

Timing/Audience

This one-hour and 20-minute activity was designed for teachers from a range of grade levels.

Materials

- One piece of chart paper per small group
- One copy of the "A New Foundation for Readiness" handout per individual (see the appendix for printable materials)
- One set of "Student-Centered Learning Attributes and Examples" (in card or handout form) per individual (see the appendix for printable materials)
- Markers
- Sticky notes
- [Optional] Question prompts and questions written in presentation slides, on chart paper or on a white board
- [Optional] One piece of chart paper labeled "Reflections"

Activity Instructions

FACILITATION TIP

The facilitator may choose to lead the group through Activity 1, "Exploring Future Graduate Profiles," prior to engaging in Activity 2. In that case, the facilitator can replace step two with a brief discussion or recap of the knowledge and skills that the group thinks will be most important for young people in the future. The conversation about new learning experiences from Activity 1 can also inform step six of this activity.

INTRODUCTION (10 MINUTES)

1. Explain the purpose of the activity, what the facilitator hopes participants will learn or gain from the experience and how their ideas and insights will be shared or used.

2. Explain that, as new technologies and ways of organizing work change, certain knowledge and skills will become even more important than they are today.

FACILITATION TIP

For additional or alternative language about the changing nature of work, see Activity 1, step 3.

TALKING POINT

- Smart machines – or machines that can learn and perform complex tasks without direction from a human – are becoming more common in workplaces.
- Machines are becoming increasingly capable of performing tasks that people carry out today — including many tasks associated with professional and knowledge-based work.
- They are writing news stories, diagnosing diseases, and creating art.
- At the same time, fewer people are working in one job for their entire careers.

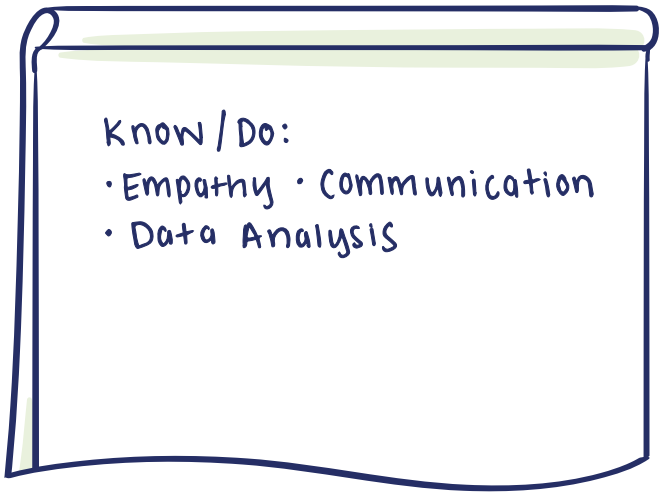
- More and more, people are changing jobs frequently, working more than one job at a time or working on different projects for different employers.
- To thrive in the emerging employment landscape, people will need to focus on developing their uniquely human attributes – such as connecting with one another, engaging in creative problem solving, and developing self-awareness – and on developing flexible skills that they can apply across settings.

3. Prompt participants to review "A New Foundation for Readiness," explaining that the graphic represents one point of view on what knowledge and skills will be important for education systems to support young people in developing for the future.

FACILITATION TIP

If the group has completed Activity 1, the facilitator can also ask participants to compare "A New Foundation for Readiness" with their own lists of knowledge and skills, noting similarities and differences.

4. Ask either the entire group or small groups to make a list of the three or four most important things they think people will need to know or be able to do in the future and to write them at the top of their piece of flip chart paper.



Example flip chart set up and possible participant responses for step 4

SELECTING KEY ATTRIBUTES OF STUDENT-CENTERED LEARNING EXPERIENCES (10 MINUTES)

5. Ask the group to reflect on whether they think that the learning experiences their school or learning community offers today develops those knowledge and skills effectively. Why or why not?

6. Explain that, to help young people develop future-ready knowledge and skills, learning experiences might need to shift.

FACILITATION TIP

If the group has completed Activity 1, the facilitator can reference the types of learning experiences that the group described in their final reflection conversation.

7. Prompt participants to review individually "Student-Centered Learning Attributes and Examples" and to discuss with their small groups what stands out.

TALKING POINT

- Which learning experience attributes and examples are most intriguing to you?
- Which attributes seem most supportive of the future-ready knowledge and skills that you identified?

8. Lead a whole-group discussion about the learning experience attributes and examples, inviting participants to share their responses to the questions above or any other reflections they have about the attributes and examples.

9. Ask each small group to select two to three attributes that they would like to incorporate into a learning experience at their school or learning community and to write those attributes near the knowledge and skills on their flip chart paper.

DESIGNING A STUDENT-CENTERED LEARNING EXPERIENCE (45 MINUTES)

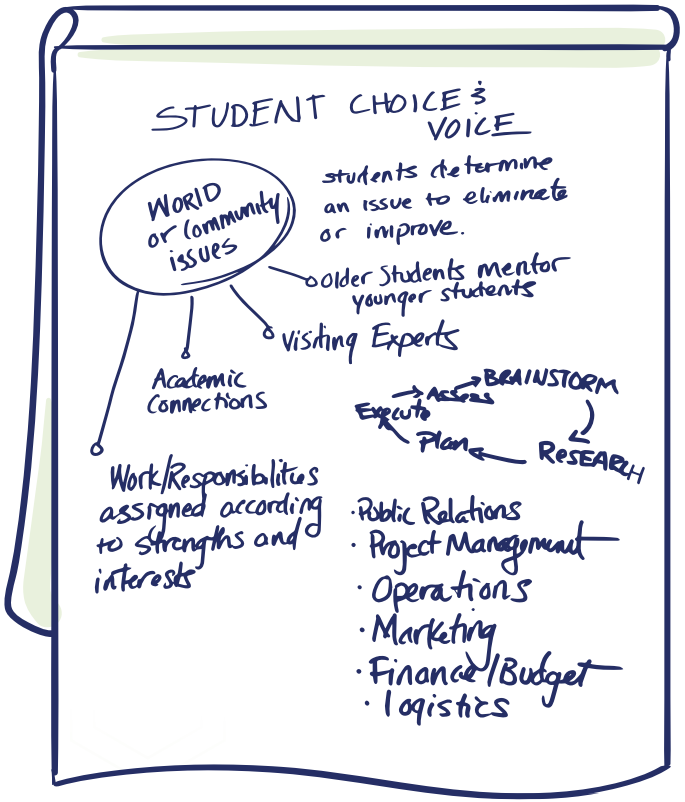
10 Prompt groups to draw or describe a learning experience that:

- Develops some aspect of the knowledge and skills that the group identified as being important
- Includes the attributes the group identified and
- Is aspirational, or something that they would like to see implemented in the future.

☼ *FACILITATION TIP*

The facilitator can provide the questions below to help prompt the group's thinking, either as a list posted for the entire group to see or as printed handouts for each table.

- What are students doing?
- What will be the result of what they are doing?
- Where does the learning experience take place?
- Who is supporting or teaching the students? How do learners and educators interact?
- What technology, materials and resources are they using?
- What is similar to today's learning experiences?
- What is different?
- How does the learning experience develop the knowledge and skills that you identified?



Example flip chart set up and final output for step 10

11. Once groups have drawn or described their learning experiences, ask each group to give its learning experience a title and a one sentence description.

12. Facilitate groups' sharing the title and one-sentence description of their learning experiences.

REFLECT ON THE PATH FORWARD (15 MINUTES)

13. Ask participants to reflect individually on what the school or learning community should prioritize based on the activity and discussions, writing one priority per sticky note.

14. Instruct participants to post their sticky notes on the "Reflections" flip chart sheet when they have completed the task.

15. Facilitate a discussion about the group's reflections and ideas.

FACILITATOR NOTES

ACTIVITY 3: Mapping an Ideal Learning Community

Objective

Participants will...

- Develop aspirational images of an ideal learning community.
- Identify key opportunities to move toward their ideal futures.

Timing/Audience

This one-and-a-half hour activity was designed for an audience of community members, including parents, nonprofit and community partners, district staff, and students.

Materials

- One piece of flip chart paper per small group
- Markers
- One piece of flip chart paper labeled "Opportunities and Challenges"
- Sticky notes
- [Optional] Question prompts and questions written in presentation slides, on chart paper or on a white board

Activity Instructions

FACILITATION TIP

If the community or district already has any vision statements or documents, the facilitator may choose to share those materials ahead of time, with the request that participants familiarize themselves with the material. Alternatively, or additionally, the facilitator may choose to share one or more of KnowledgeWorks' future of learning resources to spark the audience's thinking about future possibilities.

INTRODUCTION (10 MINUTES)

1. Explain the purpose of the activity, what the facilitator hopes participants will learn or gain from the experience and how participants' ideas and insights will be shared or used.

2. Ask participants to think about their ideal futures of learning. What do you want to be true about learning in this community in 10 years?

FACILITATION TIP

Some audience members may benefit from individual think-time. The facilitator can ask participants to write a word or phrase on a sticky note and then instruct small groups to share their words and phrases at their tables, or the facilitator can ask for volunteers to share with the entire group.

3 Explain the value of thinking about the broader community's role in learning and imagining what education could look like if learning took place both in and out of schools.

TALKING POINT

- Learning happens both in and out of school, and even learning that occurs in school can be supported by people and organizations in the community who care about youth and their education.
- For that reason, envisioning how people and organizations could work together in an ideal future can surface opportunities for partnerships and learning experiences that may not exist yet today.

MAPPING AN IDEAL LEARNING COMMUNITY (1 HOUR)

4 Prompt groups to map their ideal future learning community, using sketches, sticky notes, arrows and words to create a map of what learning would look like in an ideal future and how different people, places, and partners would be involved.

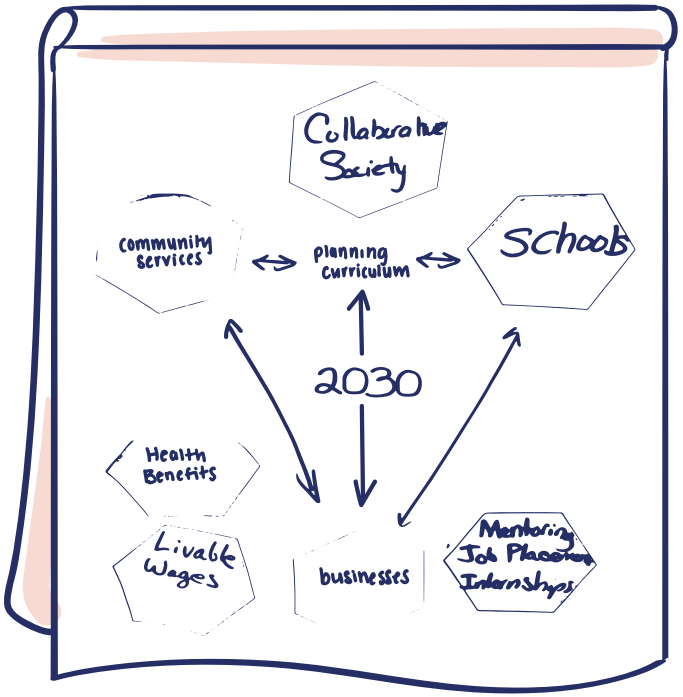
TALKING POINT

- Think about what learning would look like in your ideal world.
- Set aside what education looks like today and focus on what it could be.
- Think broadly. In the future, "learner" might mean something different than it does today. The places and groups in which people learn might be different. The reasons why people pursue learning might be different. The community might have access to different resources or opportunities than it does today.
- What seems impossible today might become possible in the future.

FACILITATION TIP

To help prompt the group's thinking, provide the following questions, either as a list posted for the entire group to see or as printed handouts for each table.

- What organizations, spaces and pathways would exist to support learning?
- Who is learning in this community? When, where, and why are they learning?
- Who is supporting learning? How do young people interact with other members of the community? What roles exist to support people in learning?
- How are the different components connected? How do they work together to create a learning ecosystem?
- How would you summarize in a sentence or two how learning works in your ideal future?



Example final output for step 4

5 Facilitate groups' sharing summaries of their ideal futures of learning.

6 Lead a discussion about key insights or similarities among the future images.

TALKING POINT

- What features showed up more than once?
- What generalizations could you make about what this group wants from learning in the future?
- What ideas are most exciting or interesting to you?

IDENTIFY OPPORTUNITIES AND CHALLENGES
(20 MINUTES)

7 Ask participants to reflect individually on opportunities and challenges related to making their ideal futures of learning a reality. Instruct participants to document their ideas on sticky notes, writing one opportunity or challenge per sticky note.

FACILITATION TIP

To help prompt the group's thinking, provide the following questions either as a list posted for the entire group to see or as printed handouts for each table.

- What existing resources, relationships or efforts could the school or community leverage to move closer to your ideal future of learning?
- What are the main obstacles or barriers that need to be addressed?
- What specific steps might the school, community or other stakeholders be able to take today?

8 Ask individuals to post their ideas on the "Opportunities" and "Challenges" flip chart sheets.

9 Lead a discussion about the key opportunities and challenges that should be addressed.

FACILITATOR NOTES

ACTIVITY 4:
Prototyping Solutions for Student-Centered Learning

Objective

Participants will...

- Identify an authentic opportunity or challenge to address that would support student-centered learning.
- Identify possible solutions to address that opportunity or challenge.
- Prototype a specific solution.
- Identify steps to implement elements of the prototype.

Timing/Audience

This two-hour activity was designed for an audience of students and teachers.

Materials

- Two pieces of flip chart paper per small group
- Markers
- Prototyping materials (e.g., pipe cleaners, bubble wrap, sticky notes, cardboard, etc.), set out on a side table

Activity Instructions

☼ *FACILITATION TIP*

The facilitator may choose to lead the group through Activity 3, "Mapping the Ideal Learning Community," prior to engaging in Activity 4. In that case, the facilitator can use the opportunities and challenges that resulted from that activity as a starting point for step two. If the group has not completed Activity 3 and the group has limited time, the facilitator may choose to provide one or more opportunities or challenges for the group to address. However, having some input from the group before finalizing the opportunities or challenges would be ideal. Example opportunities or challenges include:

- How might we empower students to take ownership of how they move through the building?
- How might we support students in feeling more prepared for adult life?
- How might we create a learning environment that supports health, wellbeing, and balance for all?
- How might we help students learn to advocate for themselves and others?

INTRODUCTION (15 MINUTES)

1. Explain the purpose of the activity, what the facilitator hopes participants will learn or gain from the experience and how their ideas and insights will be shared or used.

2. Ask small groups to identify a challenge or opportunity that would support student-centered learning in their school or learning community.

IDENTIFY A SOLUTION (30 MINUTES)

3. Ask small groups to generate ideas for new products, services, programs, tools or partnerships that could help address the challenge or enable the opportunity, writing each idea on chart paper.

FACILITATION TIP

To support the group's thinking, provide the following guidance, either as a list posted for the entire group to see or as printed handouts for each table.

- Be provocative. Give yourselves some time to push your thinking beyond what first comes to mind and focus on generating many possible solutions.
- Think of concrete solutions to the challenge or opportunity, things that someone could do to address it.
- Generate as many ideas as possible without stopping to discuss them.

4. Prompt the group to review their lists, noting or combining related ideas and narrowing down to the group's favorite solution.

PROTOTYPE THE SOLUTION (45 MINUTES)

5. Explain the value of bringing solutions to life by prototyping.

TALKING POINT

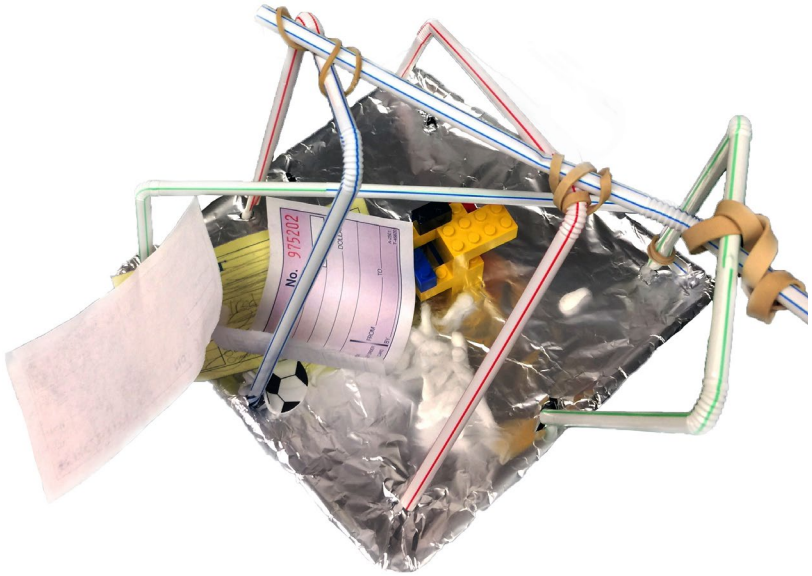
- Creating a physical representation of your solution requires you to get specific about what it is and how it works.
- Imagine that the solution has been implemented in the real world. Build the prototype as a way of thinking through the details.
- Working within the constraints of the available materials will help push your thinking.

6. Ask one member of each group to take as many prototyping materials as they can in 30 seconds.

7. Prompt the groups to build their solutions, considering the different components and allowing the physical materials to inspire new ideas about the solution.

FACILITATION TIP

If groups finish a prototype early or need to think more deeply about their solution, the facilitator can invite each group to summarize its prototype to another group (or to the facilitator) and to receive feedback or hear questions to inspire revision of the prototype.



Example prototype

8. Ask groups to create a title for their prototypes and to be prepared to explain to the whole group what it is and how it works in one to two sentences.

9. Facilitate small-group sharing of the titles and descriptions of the prototypes.

DEVELOP A PLAN (30 MINUTES)

10 Ask small groups to reflect on their prototypes and to consider what could be done to start working toward implementing the solution or an aspect of it.

11 Prompt them to create a list of action items that could put some of their ideas into action.

☼ *FACILITATION TIP*

To support the group's thinking, provide the following guidance, either as a list posted for the entire group to see or as printed handouts for each table.

- What aspect of your solution could reasonably be put in place today?
- Who would need to be involved?
- What resources would need to be secured?
- What challenges would need to be overcome?
- What might the first steps be?

12 Ask groups to share the next steps they could undertake to begin working toward their solutions.

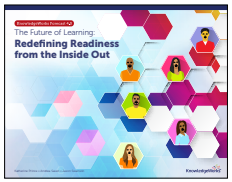
FACILITATOR NOTES

Conclusion

Exploring the future of learning can be a useful way to spark new conversations, bring together unlikely partners and provide space for stakeholders to think creatively by releasing some of the constraints of the present. By looking ahead and engaging all stakeholders in conversations about the future, educators and communities can imagine, build and sustain vibrant student-centered learning communities that enable each student to thrive.

Related Resources

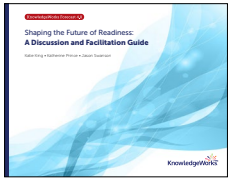
These and other future of learning resources can be downloaded by visiting KnowledgeWorks.org.



DOWNLOAD

The Future of Learning: Redefining Readiness from the Inside Out

This publication explores how readiness for further learning, work and life may be redefined to better prepare students for an uncertain future. By proposing a new foundation for readiness based on core social-emotional skills, it offers education stakeholders a framework for helping all students develop the skills needed to succeed in possible employment landscapes of 2040.



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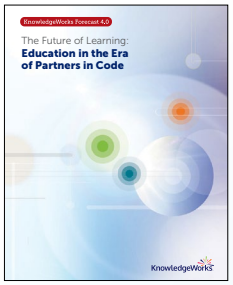
Shaping the Future of Readiness: A Discussion and Facilitation Guide

This guide provides activities and discussion guidance to help cross-sector groups of stakeholders consider their own paths forward in shaping the future of readiness.



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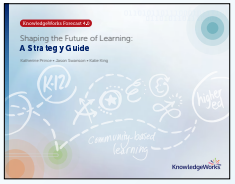
The Future of Learning: Education in the Era of Partners in Code

This forecast provides an overview of the era shift that is underway, exploring how five drivers of change might impact people, structures and society and identifying potential opportunities and challenges on the horizon.



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Shaping the Future of Learning: A Strategy Guide

This resource explores five foundational issues facing education and suggests strategies to help K-12 schools; informal and community-based learning organizations, such as museums and libraries; and higher education institutions create a future that serves all learners well.

Appendix Overview

"FUTURE READINESS SCENARIOS" HANDOUTS FOR ACTIVITY 1:
Exploring Future Graduate Profiles

Printing Instructions:
- Make sure that each small group has a different scenario.
- Make sure that all members of the same small group have a copy of the same scenario.

Handouts:
Future Readiness Scenario #1
Future Readiness Scenario #2
Future Readiness Scenario #3
Future Readiness Scenario #4

"NEW FOUNDATION FOR READINESS" HANDOUT FOR ACTIVITY 2:
Designing Student-Centered Learning Experiences

Printing Instructions:
Print one copy of the "New Foundation for Readiness" handout for each participant.

Handout:
"New Foundation for Readiness" Handout for Activity 2: Designing Student-Centered Learning Experiences

"STUDENT-CENTERED LEARNING ATTRIBUTES AND EXAMPLES" HANDOUT FOR ACTIVITY 2:
Designing Student-Centered Learning Experiences

Printing Instructions:
Print the handout double-sided and cut it into cards. Each attribute should have an associated example on the back.

Handout:
Student-Centered Learning Attributes and Examples Handout for Activity 2: Designing Student-Centered Learning Experiences

Future Readiness Scenario #1: Partnering for Mobility

Low Technological Displacement and Coordinated Social Innovation

1. ***What is work like in this future?***

This is a future in which some jobs have been automated, but most people still work. They often work for a company or organization for a short period and then switch roles and companies as new projects become available. It's not unusual for people to do different kinds of work over the course of their careers or even to do different kinds of project-based work at the same time.

2. ***How do people and machines work together in this future?***

Almost everyone uses artificial intelligence, algorithms, and robots to help them do their jobs better. That means they are not spending time doing repetitive tasks or things that machines can do faster. They are spending their time doing more complex work, such as using the information they get from their machine partners to solve problems or taking care of others.

3. ***What is learning like in this future?***

People no longer go to school just from age 6-18 or 22; they need to learn and relearn often. Because technology is such an important part of work and because it's changing so quickly, people frequently need to learn new skills to adapt. They can't leave their jobs to "go back to school" since a traditional degree path is often too slow. Most people take classes and do on-the-job training while they work and earn micro-degrees for each new skill they learn. They need to know how to balance these different responsibilities.

4. ***What kind of help do people receive in this future?***

Employers and the government work together to understand what skills are important and what kinds of roles are available. They communicate those needs to people and help connect people with jobs and skill-building opportunities. Just as people can go to public school for free when they are young, they are able to access the education they need to learn new skills throughout their lives.

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Future Readiness Scenario #2: Checking for Upgrades

Low Technological Displacement and Laissez-Faire Response

1. ***What is work like in this future?***

This is a future in which some jobs have been automated, but for a defined period of time. It's not unusual for people to work for multiple employers at once or to do different kinds of work on different projects.

2. ***How do people and machines work together in this future?***

Almost everyone uses artificial intelligence, algorithms, and robots to help them do their jobs better. That means they are not spending time doing repetitive tasks or things that machines can do faster. They are spending their time doing more complex work, such as using the information they get from their machine partners to solve problems or taking care of others.

3. ***What is learning like in this future?***

Things change quickly in this future, and people need new skills all the time. Some people work for employers that help them do that with time off or special training, but most people have to find ways to juggle work and learning at the same time to stay competitive. Sometimes spending time gaining new skills and taking classes doesn't seem like a good use of time because it's taking time away from work. But without ongoing learning, people fall behind on what they need to know and be able to do.

4. ***What kind of help do people receive in this future?***

People are mostly on their own to figure out how to navigate this rapidly changing world of work and learning. They always have to be on the lookout for the next work opportunity or a new person who can help them find a new project to work on. Even when they are out having fun, people are "always on," because they can't risk missing out on an opportunity to build a new skill or take on a new project. Depending on where people live, they may have some supports to help them find learning and work opportunities, but a lot of people have to figure it out on their own.

Future Readiness Scenario #3: Working the Platforms

High Technological Displacement and Laissez-Fair Response

1. ***What is work like in this future?***

This is a future in which many jobs have been automated, so people don't work in the same way they used to. They do small tasks whenever they can find them. Some highly skilled people still work full-time for one organization, but most people must piece together a living from many sources.

2. ***How do people and machines work together in this future?***

People use apps and algorithms to connect with all kinds of task-based opportunities, similar to how Uber and Lyft drivers use apps today. People are also monitored by sensors and data tracking that help potential employers know exactly what workers are good at and how they can hire someone quickly and cheaply.

3. ***What is learning like in this future?***

Learning often feels like a luxury in this future because everyone needs to be finding their next task all the time. Instead of degrees, many people have work-life logs that track every task and project they have completed and serve as a sort of resume and proof of experience. Because formal learning isn't always available to people, they often don't have the opportunity to learn new skills they would need to take on more responsibility and earn more money.

4. ***What kind of help do people receive in this future?***

People are mostly on their own to figure out how to navigate this platform-based world of work and learning. They always have to be on the lookout for their next task. They also have to be able to describe their skills and experience in a way that apps and algorithms can recognize. Depending on where people live, they may have some supports to help them find learning and work opportunities, but a lot of people have to figure it out on their own.

Future Readiness Scenario #4: Finding New Meaning

High Technological Displacement and Coordinated Social Innovation

1. ***What is work like in this future?***

This is a future in which many jobs have been automated, so most people don't work in the same way they used to. They contribute to their communities in other ways, like taking care of others, making art or things that others can use, or helping make the community run well. Some of these contributions are paid; others are not.

2. ***How do people and machines work together in this future?***

Machines do much of the work that people used to do, but people are still needed to maintain those machines and to develop new ways to use them. People also use machines to help them in their new projects. Sensors, data, 3D printers, and artificial intelligence help people make change in their communities or support them in doing things that depend on uniquely human qualities such as connecting with other people or coming up with new ideas.

3. ***What is learning like in this future?***

Learning is focused primarily on life planning. People learn how to identify their strengths and passions and how to find opportunities to use them productively. They learn how to manage their time, set goals, solve problems, and navigate opportunities, things that have become more important since most people don't have a 9-5 job any more. Ongoing self-development helps people shape their contributions over their lifetimes.

4. ***What kind of help do people receive in this future?***

Because so much work has been automated, having a job can't be the only way people support themselves. Social supports and government policies ensure that everyone receives a certain amount of money each month to meet their basic needs. In some places, this basic income is funded by taxes on smart machines; in others, certain things are now paid for directly by the government and are free to the people themselves.

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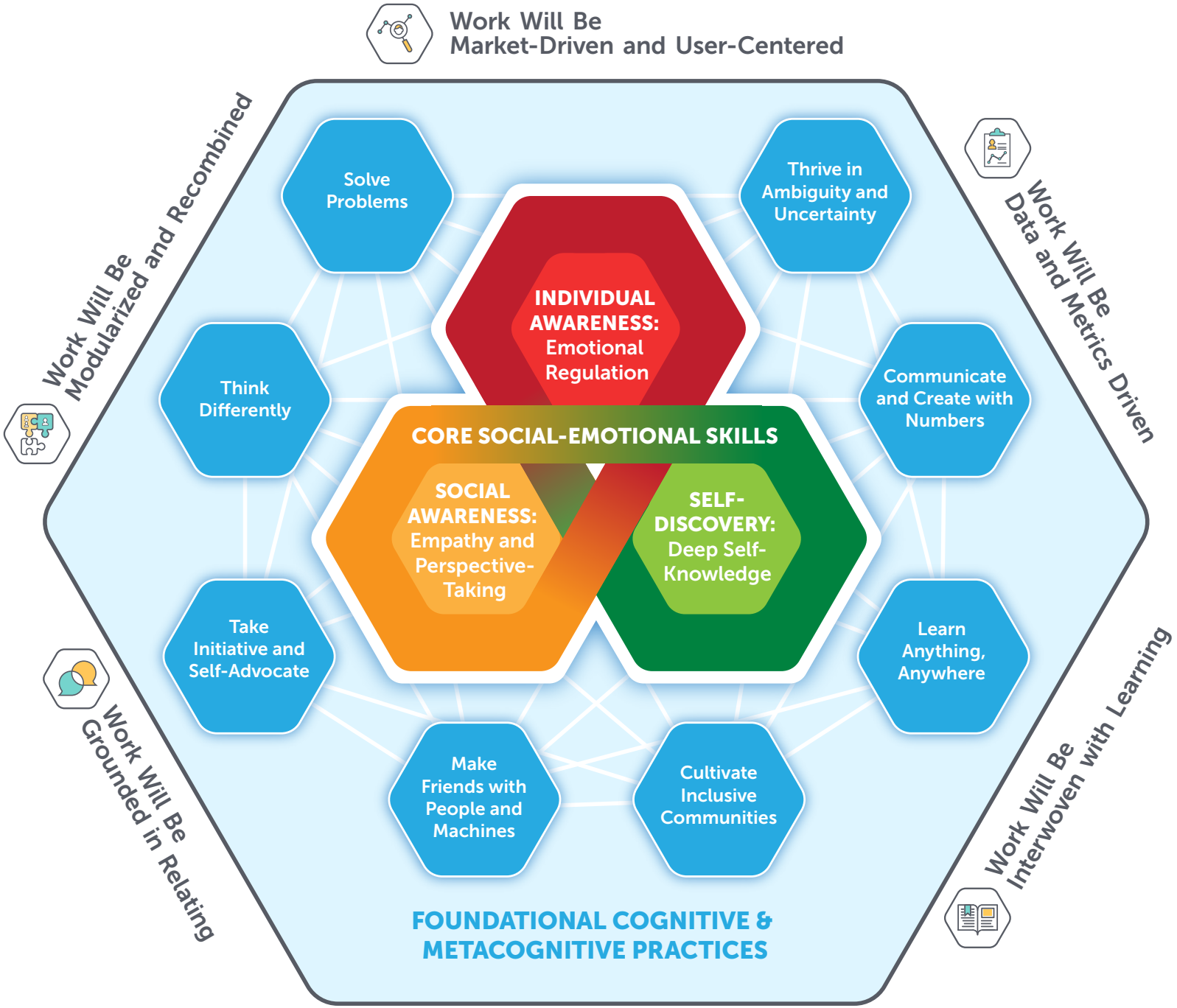

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A learning experience that exposes students to new people, places, and experiences	A learning experience that allows for multiple and authentic measures of mastery	A learning experience that supports social connection and development
A learning experience that groups students in meaningful ways	A learning experience that provides opportunities for learners to pursue multiple pathways	A learning experience that is interdisciplinary and collaborative
A learning experience that supports student reflection and self-knowledge	A learning experience that involves community members and partners	A learning experience that engages learners in developing and implementing authentic solutions to challenges and opportunities that are personally relevant to them

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Nonprofit organization Bridge Year's College Test Drives are an alternative to career fairs where students do a 15-20 minute hands-on simulation to learn about in-demand careers that require a 1-2 year degree and have a starting salary of $45,000 or more. Source: Bridge Year	At K-8 Waukesha STEM Academy in Waukesha, Wisconsin, students created digital portfolios. They develop a scrapbook of their learning highlights in partnership with advisors and content-area teachers, who facilitate student reflection on their learning. In lieu of a traditional parent-teacher night, students share their portfolios, explaining why they have chosen certain work samples and what they have learned. Source: Students at the Center Hub	Pittsfield Middle High School, a rural New Hampshire district that has undergone a student-centered redesign, recently implemented a student-proposed elective called "Drop the Drama" as a way to address negative peer relationships. A group of about a dozen girls developed the course with a teacher, and they are developing a school-wide campaign to improve the social environment and are drafting a code of conduct. Source: The Hechinger Report
Line Elementary teachers in West Newfield, Maine, started working toward cross-grade collaboration by experimenting with multi-age lunches and recess. Today, multiple grades are working on broad units like weather, cultures, or landforms. Learners choose an essential question, and older students mentor younger students to acquire information or develop products that demonstrate their learning. Source: Education Reimagined	At Clean Technologies Early College High School in Malta, New York, students are earning college credit and gaining work experience with local business and community partners while pursuing their high school diploma. Students earn 22 college credit hours, on average, and work experience in emerging industries, setting them up to follow any number of post-high school pathways. Source: KnowledgeWorks	Ross High School students in Hamilton, Ohio, can take career and technical courses through Butler Tech, and the partnership has seen award-winning results. Students in the Information Technology Program work in groups to design and develop real-world solutions—such as a school safety app and a nonprofit to distribute unused food to families in need—and participate in national and global competitions, helping them develop not only information technology skills, but also collaboration, communication, and problem-solving skills. Source: Butler Tech
Nystrom Elementary School in Richmond, California, uses mindfulness and restorative justice practices to address student conflict and to help students cope with trauma in their community. Implementing the practices have given students a common language with one another and with teachers to more productively express themselves. School culture has improved and suspensions have dropped dramatically. Source: The Mindful Life Project	DaVinci RISE High School in Los Angeles is embedded within multiple social-service-provider locations in high-need areas so their students, many of whom are over the age of 18, in the foster care system, without steady housing, or involved in the juvenile justice system, can also access services such as counseling, leadership development, case management, etc. Source: DaVinci RISE High	After learning about the socio-political and historical context of recent incidents of police brutality against people of color, an advisory class at Met High School in Providence conducted a teach-in for their school's staff on institutional racism and the Black Lives Matter movement. They have since been invited to present to and work with other schools and organizations to engage others in conversations about combating racism and developing local solutions. Source: Students at the Center Hub

Acknowledgments

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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 nearly 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 system-wide approach to sustain student-centered practices so that every child graduates ready for what's next.

Learn more at KnowledgeWorks.org.