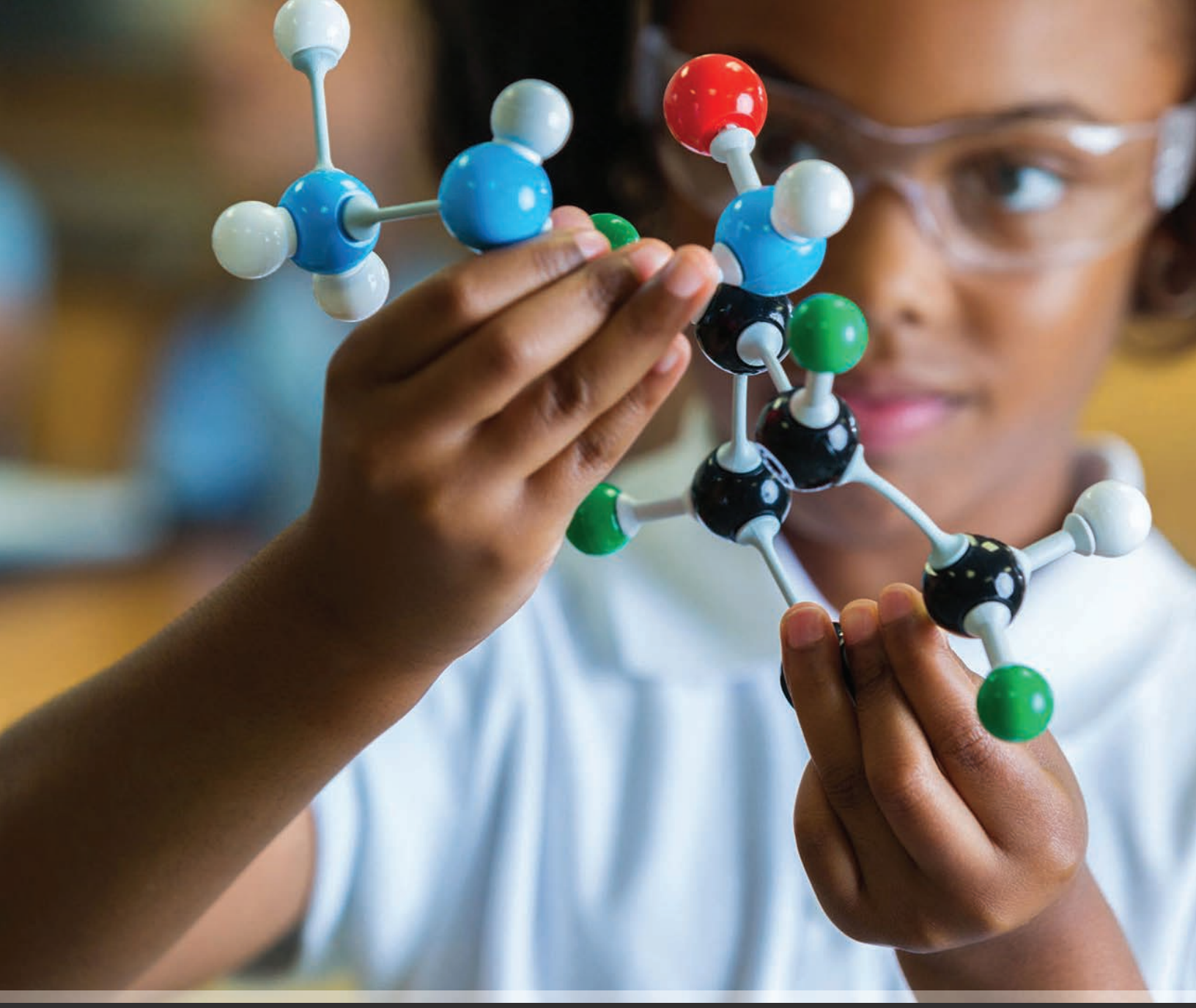


STUDENTS AT THE CENTER

A JOBS FOR THE FUTURE INITIATIVE

FIVE ELEMENTS FOR ASSESSMENT DESIGN AND USE TO SUPPORT STUDENT AUTONOMY

Andrew Calkins, David Conley, Margaret Heritage, Nicole Merino, Raymond Pecheone, Linda Pittenger, Denis Udall, and Justin Wells

July 2018

JOBS FOR THE FUTURE

JFF is a national nonprofit that drives transformation in the American workforce and education systems. For 35 years, JFF has led the way in designing innovative and scalable solutions that create access to economic advancement for all. Join us as we build a future that works.

WWW.JFF.ORG

STUDENTS AT THE CENTER

A **JOBS FOR THE FUTURE** INITIATIVE

Students at the Center is a leading national voice for the knowledge, skills, and dispositions all youth need to succeed in college, career, and civic life. Our work synthesizes—and adapts for practice—current research on key components of student-centered approaches to learning that lead to deeper learning outcomes. Our goal is to strengthen the ability of practitioners and policymakers to engage each student—and especially low-income and marginalized youth—in acquiring the skills, knowledge, and expertise they need to succeed in today's and tomorrow's economy and be lifelong learners.

WWW.JFF.ORG/DEEPERLEARNING

ABOUT THE WILLIAM AND FLORA HEWLETT FOUNDATION ASSESSMENT FOR LEARNING CLUSTER

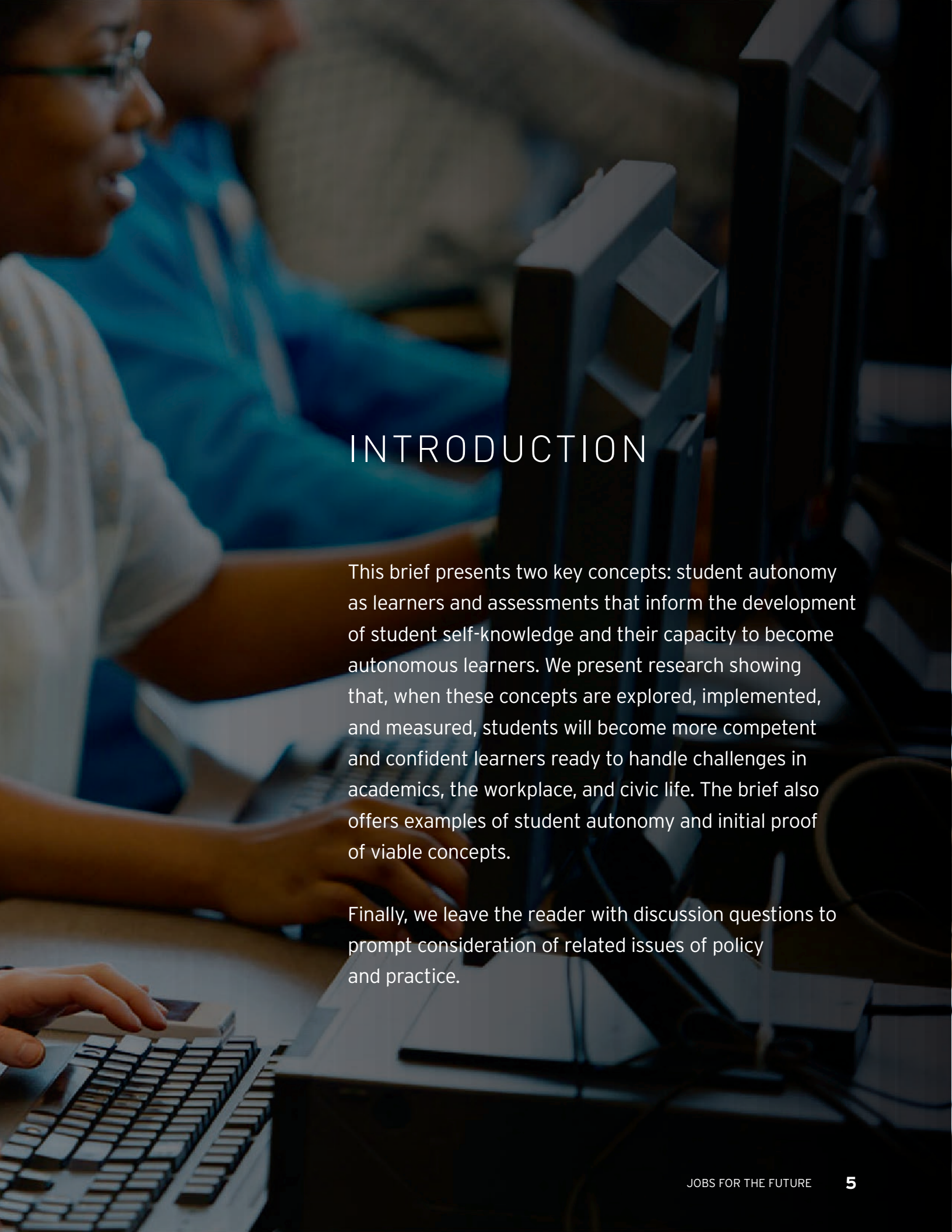
From 2015 – 2017, JFF and Stanford Center for Assessment, Learning, and Equity convened a group of Hewlett Foundation grantees to work together to build the field of assessment for learning. Individually, each member of this group is a widely-recognized expert. Members formed interest-based working groups that explored specific areas in assessment for learning such as equity, self-regulation, and systems of assessments. Together, "Hewlett Assessment for Learning Cluster" members produced the *Ten Principles for Building a High-Quality System of Assessments*, a comprehensive roadmap for school leaders to improve current systems of assessments, focus on on equity, and develop a learner's academic proficiency, career skills, and civic aptitude. In addition, members were invited to explore how assessment, including students' self-assessment, can positively affect and shape students' self-regulation competencies. This brief is the result of the group's exploration on how to prepare students for success in college and in their careers. The workgroup's approach calls for students to develop deep knowledge within and across disciplines, apply that knowledge to novel situations, and engage in creative and critical thinking skills that will solve problems. In addition, this brief integrates the research on the supports needed for students to become independent, self-regulated learners.

This working paper first appeared as: William and Flora Hewlett Foundation Assessment for Learning Working Group (2017). *Principles for Assessment Design and Use to Support Student Autonomy*. Lexington, KY: Center for Innovation in Education.

This report was funded by The William and Flora Hewlett Foundation.

William and Flora Hewlett Foundation Assessment for Learning Working Group (2018). *Five Elements for Assessment Design and Use to Support Student Autonomy*. Students at the Center: Deeper Learning Research Series. Boston, MA: Jobs for the Future.

TABLE OF CONTENTS



INTRODUCTION

This brief presents two key concepts: student autonomy as learners and assessments that inform the development of student self-knowledge and their capacity to become autonomous learners. We present research showing that, when these concepts are explored, implemented, and measured, students will become more competent and confident learners ready to handle challenges in academics, the workplace, and civic life. The brief also offers examples of student autonomy and initial proof of viable concepts.

Finally, we leave the reader with discussion questions to prompt consideration of related issues of policy and practice.

WHY NOW?

In America, states and communities are responding to the challenge of ensuring that all students can master content knowledge at higher levels, develop essential skills and dispositions as lifelong learners, take responsibility for their own growth, and thrive within a larger social context. These outcomes represent much higher expectations, stemming from deeper levels of learning than presently offered in most traditional curriculum, and a more active role for learners. To understand, practice, and demonstrate what they must do to be ready for success, students will need an autonomous mindset.

STUDENT AUTONOMY

The term "student autonomy" embraces two related constructs that can prepare young people for college and careers.

- **Student Agency:** According to a report from Harvard University, "agency is the capacity and propensity to take purposeful initiative—the opposite of helplessness." Young people with high levels of agency do not respond passively to their circumstances; they tend to seek meaning and act with purpose to achieve the conditions they desire in their own and others' lives." [1] Indicators of student agency in school include a sense of efficacy, a growth mindset, a goal-orientation to learning, and higher future aspirations.[2]
- **Self-Regulated Learning:** Self-regulated learning (SRL) is one aspect of the broader skill of self-regulation.[3] SRL involves employing strategies to learning such as goal-setting, developing plans to achieve goals, monitoring progress toward goals, and upon reflection adapting learning approaches to move closer to desired learning goals.[4] SRL applies not only to cognition but also to motivation and overt behavior—for example, removing distractions from a learning situation, effective time-management, and the focused exertion of effort.[5]

EQUITY, ASSESSMENT, AND STUDENT AUTONOMY

At a time when our nation is becoming increasingly diverse, all students must have access to supports, learning opportunities, and resources that result in the development of skills and dispositions associated with student autonomy.

Learners should have the right to educational experiences that support advancement in school, continued learning in college and the workplace, and productive engagement as a citizen, as well as navigation of systems they will encounter in wider social contexts (e.g., healthcare, personal finance). Therefore, equity considerations demand that educators are purposeful and intentional about helping all students develop autonomy, or independence, as learners. The question is: How will educators understand autonomy as a transferable disposition or mindset for all students, which can be coached, learned, and assessed?

"Assessment" is both a noun (an assessment task) and a verb (reasoning from evidence).[6] One of our elements is concerned with assessment as a noun, but we will do well to remember that assessment as a verb can impact equity goals. The National Equity Project defines educational equity and working toward equity as follows:

Educational equity means that each child receives what he or she needs to develop to his or her full academic and social potential. Working toward equity involves:

- Ensuring equally high outcomes for all participants in our educational system;
- Removing the predictability of success or failures that currently correlates with any social or cultural factor;
- Interrupting inequitable practices, examining biases, and creating inclusive multicultural school environments for adults and children;
- Discovering and cultivating the unique gifts, talents and interests that every human possesses.[7]

Some cautions about assessment use emanate from this definition. Educators should create learning environments in which teachers know their students well; offer opportunities to learn, progress, and succeed to all students equally; and promote the development of strong learner identities for all students. In this vein, a goal of assessment use is to engage students in active reflection about what it means to be a learner and, in participation with others, to construct shared knowledge about learning.[8]

ASSESSMENTS THAT INFORM DEVELOPMENT OF STUDENT AUTONOMY

Assessment in the United States plays a prominent role in K-12 education and exerts a range of influences on teaching and learning, including affecting student dispositions and mindsets toward learning. Students are more likely to develop key processes of student autonomy when they encounter systems of assessments that they consider to be useful and valued, and that are co-created by and used by actual students. Proper use of this information by teachers and students enables its utility for supporting learning and autonomy. Teachers need to understand how students learn the subject matter or skills being learned, problems students may encounter, how this evidence appears in assessment tasks, and how to help the students. This help can include teacher and peer feedback and opportunities for self-assessment and decision-making built into their classroom experiences as a matter of routine.

Because of these influences and the importance of student autonomy to learning and life skills, we offer the following five elements for the design and use of assessment in support of equitable student autonomy. These five elements support a broader system of assessments, such as that laid out in *Ten Principles of Building a High-Quality System of Assessments*.

What Do We Mean by "A System of Assessments"?

No single assessment, assessment approach, or piece of student work can provide educators, students, parents, and the public with information about what learners know and can do. A system of assessments combines a range of measures and teaching approaches that result in a more complete and accurate profile of individual students and of schools as a whole.[9] Such a system can enable improvements that lead to student mastery of the full array of college- and career-ready knowledge, skills, and behaviors, in a timely and rich manner, as noted in Ten Principles.

FIVE ELEMENTS FOR ASSESSMENT DESIGN AND USE

We argue that the following five elements are largely not embodied in current assessment practice. We offer these elements to inform conversations in schools, districts, and states about systems of assessments that are most likely to support more students in achieving readiness for college, career, and life—especially those students who are chronically underserved.

1. **Provide accessible and actionable information that supports further learning**
2. **Be understood, embraced, and valued by students as authentic and worthwhile**
3. **Align with curriculum and instruction to support knowledge transfer**
4. **Create opportunities to build strong identities**
5. **Promote equity**

1

Provide accessible and actionable information that supports further learning

Assessments that support student autonomy and enhanced ownership of learning provide information to teachers and to students in time to be useful for (1) instructional decision-making, (2) guiding students' attention to their own learning through meaningful and targeted feedback, (3) helping students enhance their identities so that they better understand who they are and what they want to become, and (4) identifying community and cultural assets to support greater access and opportunity to learning for all students. Information provided by assessments is useful in these ways when it reveals specific areas where students are struggling, highlights specific areas where students are on firm ground, and then fosters students' reflection on their approaches to learning. This information can be used by teachers and students to adapt learning strategies and tasks to support students and help them achieve their goals.

The classic example of an assessment that does not reflect this element is the standardized test whose abstracted, averaged score arrives half a year after it was taken (if it reaches the student at all). What helps develop student autonomy are assessments that provides timely feedback and prompts both student and teacher reflection that can guide a student's work on the same or a similar task in the near future. Examples of timely feedback include revising a lab report or taking another attempt at a collaborative project.

Element One Example

WestEd's Student Agency in Assessment and Learning (SAAL) project focuses on supporting student autonomy through peer interaction.[10] In peer feedback, the focus is on interactive sharing of information between peers about how learning is progressing. Peers provide feedback on their work related to specific performance criteria that is intended to help one another reflect on their own learning and determine next steps for themselves. In this way, peer feedback assists students to engage in a cyclical process of determining next steps (goals), planning how they will reach those goals, monitoring implementation of their plan, and receiving feedback about progress. In the SAAL project, teachers use a continuum that ranges from a novice or incomplete implementation to a more expert level of implementation to support peers in providing effective feedback to each other.

2

Be understood, embraced, and valued by students as authentic and worthwhile

By "authentic," we mean that students engage in real-world tasks and experiences for meaningful purposes and for audiences that can benefit from such work. If students understand, embrace, and value assessments as authentic, they will be more likely to view the assessments as having genuine worth, both as they experience them and as they use the information from them to advance and deepen learning. "Understand" in this context means that students know the goal and the reason the demonstration required by an assessment may be necessary for them to improve their learning. "Embrace" does not mean that students must love the assessment; it means that they willingly—and, in a perfect world, voluntarily—undertake it and are provided some opportunities to express their learning through multiple modalities. "Value" signifies relevance to aspirations that students genuinely feel, whether through extrinsic or intrinsic motivators.

Some examples: Students engaged in internships may be given assessments that are the actual task they are expected to do in the workplace. An intern working on a design team in an architectural office may be asked to review and critique a draft building plan, for instance. The results will be shared with the rest of the team, and the intern will receive feedback on the quality of the critique offered. In internships requiring the operation of machinery, the intern may not be allowed to operate the machinery until demonstrating the ability to do so. In a hospital, an intern may have to demonstrate knowledge of safety procedures and the ability to follow them before being allowed near patients. In a classroom, students may be asked to be attorneys in a moot court in which they must prosecute or defend a case to demonstrate a range of skills including analytic reading, ability to organize an argument, and oral presentation skills. The students might be judged by members of the legal profession who volunteer to come into the school for a day to do so.

The following tools may be useful for considering the design of assessments and their level of authenticity:

Authenticity Continuum tool:

http://lciltd.org/tools/Assessment/AuthenticityContinuum.pdf

Checklist for Assessment to Produce Learning:

http://lciltd.org/tools/Assessment/Checklist_ssmentToProduceLearning.pdf

Creating Systems of Assessment for Deeper Learning:

https://edpolicy.stanford.edu/sites/default/files/publications/creating-systems-assessment-deeper-learning_0.pdf

Element Two in Practice:

Mini case 1: At Parker-Varney (PV) Elementary School, Principal Amy Allen believes that authentic projects engage students like no other project. Taking on the challenge of a real-life project energizes and motivates students and provides formative opportunities for teachers and students to assess their use of knowledge, skills, and dispositions as the project develops. An example of such a project arose when a third-grade-level team of students recognized that the single biggest barrier for learning at their small school was the lack of a cafeteria to serve fresh lunches every day. They discovered this information based on surveys they had conducted of their classmates and teachers and students of 13 other elementary schools in Manchester, New Hampshire. Armed with these data, they took on a project of proposing that a small cafeteria be set up within their existing school. They presented their proposal to the city school board and stated the possible cost savings of having an operating kitchen and the potential of increasing revenue from lunch sales. The students then took on another survey, this time of the daily weight of food discarded per student in their school versus at other schools. When they found that the weight of lunch refuse was double for PV students in comparison, the students advocated for a dishwasher and reusable trays versus ones made of Styrofoam. As the project evolved, the teacher was able to provide feedback to students that helped them refine their propositions, surveys, and data analysis and presentations. The feedback also made them aware of how they were applying their knowledge and skills to the project activities. In addition, the students used a collaboration and communication rubric to assess their own skills in these areas. At the end of the project, students returned to city hall to report that they had reduced trash by 75 percent and lunch sales were up 75 percent. Any visitor to PV Elementary School today is first shown their new cafeteria by these same students, something they do with pride, as they recount their story.

Mini case 2: In the Pittsfield, New Hampshire, school system, first- and second-grade students engaged in an inquiry science project where they learned about water and the water cycle, and researched questions they had about the town's water. Through their study and use of the scientific method, they learned how water is tested and why, and the importance of having access to clean water. During this project, students discussed as a group how they could make an impact on ensuring clean water access in their school. Their research helped students see the value of clean water and of keeping water clean by encouraging recycling. The students tested their own filtration devices, and recorded, graphed, and communicated data to others. After presenting to the class, they decided to create a presentation for the Parent Teacher Organization in which they proposed obtaining a bottle-filling station for the school. More about the project can be learned *here*. Aspects of this project were used as a summative assessment for three different subjects: science, graphing for mathematics, and English language arts speaking and listening competency.

3

Align with curriculum and instruction to support knowledge transfer

When students know what is expected of them and how their learning will be assessed, they can take greater control over how they go about their learning. Coherent, coordinated curriculum, instruction, and assessment create a framework within which student autonomy in learning can thrive. Implementing this element necessitates more assessments that derive from classroom practice. This requires more conscious planning of assessments that are sensitive to curriculum and instruction, while also providing opportunities for students to apply knowledge and skills across content domains.

An example is the International Baccalaureate (IB) model, where each course has a common set of aims and objectives for which teachers must teach and assess. In this approach, evidence of learning is gathered as close to teaching and learning as possible. Assignments allow students to make choices about content, manage their time, study alone or with others, and produce multiple versions of work. The aims and objectives of the assignments also promote desirable instructional methods. The IB model challenges students to apply content and skills across curriculum areas and in interdisciplinary projects they design themselves. The IB model supports the key goal of transfer (taking something learned in one setting and applying it to another) by requiring learners to apply their learning to a fresh context as authentically as possible. Curriculum, instruction, and assessment work together to build student autonomy and transferring abilities.

Another example of this element and how it supports far transfer comes from Envision high school, where student Kaleb Lawson had to defend a portfolio of his work before a panel. It was the culminating moment of a larger performance assessment system that functioned over his four years at the school. That system was designed not simply to gather evidence about his college and career readiness; it was designed to help Kaleb and his peers understand what it means to be college and career ready, and for that understanding to boost their capacity for autonomy. As Kaleb, now in his mid-twenties notes, "The grad portfolio taught me lessons that I have carried into the work world. For example, the job I have right now came out of a temp position. It wasn't handed to me, and I could tell that it wasn't going to be. First, I had to figure out what I wanted. Then I had to size up the situation, document my work, prove my diligence. In the end, *I had to make a case* [emphasis Kaleb's] that I was someone this firm should bring on full time."

> "And I had a sense of how to go out about it ***because I had practiced this before*** [emphasis ours]." – Kaleb Lawson

Near and Far Transfer

In its simplest form, transfer is the ability to take something learned in one setting and use it in another. Cognitive psychologists generally distinguish between near transfer and far transfer. Near transfer occurs when the learner applies what is learned in a very similar context, as when a student who is taught a math technique on the board then practices the technique in a word problem. Far transfer is more challenging to achieve. It requires the learner to apply the learning in a very different or dissimilar context. Getting students to apply what they know about English grammar, spelling, and punctuation to a paper written in science class can be a problem of far transfer for students who have compartmentalized their learning to the degree they do not use what they learn in one class when it is appropriate to do so in another class.

4

Create opportunities to build strong identities

By helping students become critically aware of the forces and influences that shape their identity, assessment, at its best, helps students develop strong identities as learners

so that they are confident enough to expand their horizons and aspirations beyond their current local context. A range of assessment methods is required to enable students to become aware of their personal assets and to understand the possibilities for growth available to them.

In this vein, assessment should result in students gaining insights into their own learning that help them set and revise goals. To do this, assessment needs to inform students where they stand in relationship to a goal, and understand what they need to learn next and how they will learn it. Of course, their ability to use assessment information will be dependent on the affordances of the classroom and how teachers provide the necessary structures and support for students to reflect, set goals, and monitor their own learning and make adjustments to their learning strategies along the way. Strong learner identities build students' comfort with ambiguity and their confidence that they can continue to learn and make the best decisions for themselves as opportunities unfold.

5

Promote equity

If assessment is going to support equity, students must first have equitable opportunities to learn. In turn, assessment can support equitable opportunities to learn by providing information about where students are in their learning and what they need to do next to advance learning. A one-size-fits-all approach to both assessment and instruction will not support individual learners in our diverse classrooms. Teachers need to use the information from assessment in ways that lead to opportunities for all students to advance from where they are now to where they can go next, with appropriate support. Teachers also need to use the information to assist students in monitoring their progress and making decisions about actions they need to take to move their learning forward, so that students are continuously increasing their capacity for autonomy in learning.

To this end, assessment must be designed to (1) give students a sense of accomplishment; (2) challenge the upper reaches of students' understanding; (3) provide a window on each student's thinking and skills; (4) accommodate differences in the ways that students think about and display understanding; and (5) reflect the lived and cultural experiences and aspirations of varied groups. [11]

Element Five: Question Sample and Classroom Use

An example of this element comes from a combination first-and second-grade class. Students were given this problem to solve

Arthur and Kian together have _____baseball cards. Kian's father gives them _____more baseball cards to add to their collection.

How many baseball cards do they have altogether?

Choose from these numbers:
(39, 16) (724, 236) (13, 17)

Show your work here: (Space was included below for students' representations.)

The students selected the number combinations from the options provided to create a problem that was the "right size" for them to display their problem-solving understanding. This is a common practice in the classroom to accommodate the range of levels of mathematical understanding among students and to involve them in actively thinking about their own learning status. As the students engaged in problem solving, the teacher circulated to discuss with individuals why they had selected the specific number pairs. After observing their strategies and posing questions to give her insight into their problem-solving understanding, she provided feedback that they could use to move their own learning forward.

IN CONCLUSION

This paper focuses on a set of elements for designing assessments that promote the development of student autonomy as essential to every child in developing his or her full potential on the way to college, career, and civic readiness. We hope it also stimulates discussion that informs other issues of policy and practice, including the following:

- How do we prepare educators to understand and support autonomy as a transferable disposition or mindset for all students?
- How do we recognize and affirm growth in student autonomy through assessment for learning?
- In a system of assessments, what is the appropriate role for student choice and engagement or co-creation in the design of assessments? What does such a system imply for the changed nature of the teacher-learner relationship?
- Which elements of assessment design are more likely to lead to the development and growth of student autonomy? Which elements are not conducive to the development and growth of student autonomy?
- To what extent is the development of autonomy or agency in students dependent upon the development of that same mindset in the teachers who support them?
- How can we pursue equity through assessment or through the multiple perspectives of access, outcomes, processes, policies, identities, and relationships?
- How can assessment for learning help reveal each child's unique gifts, talents, and interests?
- What would it take to bring these elements to life in learning communities? What resources and supports would students and teachers need?

ENDNOTES

1. R. F. Ferguson, S. F. Phillips, J. F. S. Rowley, and J. W. Friedlander, *The Influence of Teaching: Beyond Standardized Test Scores: Engagement, Mindsets, and Agency* (Cambridge, MA: October 2015), 1, https://www.hks.harvard.edu/publications/influence-teaching-beyond-standardized-test-scores-engagement-mindsets-and-agency
2. Ibid.
3. National Research Council. (2012). *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century*. Committee on Defining Deeper Learning and 21st Century Skills, J.W. Pellegrino and M.L. Hilton, Editors. Board on Testing and Assessment and Board on Science Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
4. See, e.g., M. Boekaerts and E. Cascallar, "How Far Have We Moved Toward the Integration of Theory and Practice in Self-Regulation?," *Educational Psychology Review* 18 (2006): 199–201, https://pdfs.semanticscholar.org/6ad9/17db9fbf29df6fe50b6ff0c69f57b449b841.pdf; P. R. Pintrich, "A Conceptual Framework for Assessing Motivation and Self-Regulated Learning in College Students," *Educational Psychology Review* 16(4) (2004): 385–407; B. J. Zimmerman and D. H. Schunk, "Self-Regulated Learning and Performance," in B. J. Zimmerman and D. H. Schunk (eds.), *The Handbook of Self-Regulation of Learning and Performance* (New York: Routledge, 2011), 1–15.
5. D. J. Nicol and D. Macfarlane-Dick, "Formative Assessment and Self-Regulated Learning: A Model and Seven Principles of Good Feedback Practice," *Studies in Higher Education* 31(2) (2006): 199–218.
6. National Research Council. (2012). *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century*. Committee on Defining Deeper Learning and 21st Century Skills, J.W. Pellegrino and M.L. Hilton, Editors. Board on Testing and Assessment and Board on Science Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
7. National Equity Project, http://nationalequityproject.org/about/equity, accessed May 4, 2018.
8. L. Allal, "Regulation of Learning: Conceptual Orientations for Research and Practice in Education," in L. Allal and L. Mottier Lopez (eds.), *Regulation of Learning in School Settings and in Teacher Education* (Brussels: De Boeck, 2007), 7–23.
9. D. Conley and L. Darling-Hammond, *Creating Systems of Assessment for Deeper Learning* (Stanford, CA: Stanford Center for Opportunity Policy in Education, 2013), https://edpolicy.stanford.edu/sites/default/files/publications/creating-systems-assessment-deeper-learning_0.pdf.
10. WestEd, Student Agency in Assessment and Learning (SAAL), Peer Feedback project supporting student autonomy (February 2016).
11. National Research Council, *Measuring What Counts: A Conceptual Guide for Mathematics Assessment* (Washington, DC: The National Academies Press, 1993).

JOBS FOR THE FUTURE

88 Broad Street, 8th Floor, Boston, MA 02110
122 C Street, NW Suite 650, Washington, DC 20001
505 14th Street, Suite 340, Oakland, CA 94612

WWW.JFF.ORG