UDL Guidelines 3.0 Full Draft

February 29, 2024

Introduction

"I want this process to provoke us and to be provocateurs. This is our moment. This is our time to position UDL as a manifestation [of] how we create equitable experiences so that every child can thrive. We have to be willing to be bold." (Focus group participant)

The [UDL Guidelines](#) are meant to be dynamic and continuously developed based on new research and feedback from practitioners. Since the release of Version 1.0 in 2008, CAST has released three subsequent versions reflecting different structural and content changes.

In 2020, CAST launched our most recent effort to update the UDL Guidelines with a specific focus on addressing critical barriers rooted in biases and systems of oppression. While the Guidelines have become a valuable tool to help practitioners design for learner variability, we recognize that gaps and biases exist. Practitioners and researchers alike have called for a new version to make stronger connections to identity as part of variability and to address systemic bias.

The current update responds to this call and aims to fulfill the promise of the Guidelines as a resource to guide the design of learning environments and experiences that reduce barriers and more fully honor and value every learner. **With UDL Guidelines 3.0 we seek to put UDL in conversation with other asset-based pedagogies, making the intersections and complementary nature more explicit.**

From the start, we committed to a community-driven, research-based, inclusive, and transparent updating process. The field of UDL is robust and CAST *cannot* engage in this work alone. We created a balanced approach that prioritized and centered learning from both practitioners' and other community members' feedback. We also updated all of the research to ensure it is current and relevant. As part of this process, we have:

- Established an [Advisory Board](#), a [UDL Guidelines Collaborative](#), and a [Young Adult Advisory Board](#) to guide and inform our work
- Conducted more than 40 focus groups (181 participants including teachers, instructional coaches, professional development leaders, faculty members, researchers, etc.) to learn from their perspectives, lived experiences, and feedback
- Examined the current research base included on the [UDL Guidelines research pages](#) to understand the balance of different research fields, methodological approaches, epistemological approaches, and author positionalities
- Conducted literature reviews of equity-oriented research, including disability studies and critical pedagogy studies, to update and expand the research base

We have analyzed the feedback and themes uncovered by the literature reviews to inform the updating process. This document offers a full draft of proposed updates for UDL Guidelines 3.0. For each proposed update, we offer the following:

- A description of the the update itself
- A rationale that includes

- ○ Representative quotes and themes to center practitioners' and other community members' perspectives and
- ○ The research that substantiates the change

We are excited to share this full draft of UDL Guidelines 3.0 for public comment. Please share your reactions via this [Draft of Guidelines 3.0 feedback survey](#) by **April 15, 2024**.

The Updating Process: Data Collection, Analysis, and Drafting

The updating process has been driven by the following overarching questions:

- How might the UDL Guidelines be more fully developed to address critical barriers rooted in biases and systems of oppression and support the design of more just and equitable learning environments? What gaps and biases exist in the current version?
- What ideas do practitioners, researchers, and young people have for reimagining the UDL Guidelines as a tool for designing more equitable and just learning environments?
- What are the gaps and biases in the research base used to inform the current version of the UDL Guidelines?
  - ○ What kind of balance exists in terms of different research fields, methodological approaches, epistemological approaches, and author identities across the current research?
  - ○ What additional and more current research can be reviewed to expand the research base and support the updating process?

The updating process has included the following participants who generously shared their feedback, lived experiences, and expertise:

- [Advisory Board](#)
- [UDL Guidelines Collaborative](#)
- [Young Adult Advisory Board](#)
- Participants in 42 focus groups; a total of 181 consented participants from a variety of roles in the field of education including instructional coaches, general and special educators, professional development leaders, curriculum designers, and faculty members
- 6,000+ individuals who signed up for our Guidelines 3.0 newsletter to stay updated on our progress and learn about ways to share their feedback

The updating process includes the following three phases: listening and learning, reviewing the literature and drafting, and feedback and iteration.

Update Process Phase 1: Listening and Learning (July 2020-December 2022)

From the start of the updating process, we have listened to and learned from a diversity of practitioners and students throughout this effort. In 2021 we established the Advisory Board and UDL Guidelines Collaborative to support our work, and in 2023 we established the Young Adult Advisory Board to learn from the experiences of young people. From 2021-2023 we conducted 42 focus groups to learn from individuals' feedback. We also began the process of conducting literature reviews of equity-oriented research that connect to and extend the Guidelines.

Analysis of the feedback generated during this phase and the themes from the literature was ongoing. Over the two years, we communicated emerging questions and themes via presentations at the UDL-IRN Summit, the UDL Symposium, the UDL in Higher Education Digicon, and the American Educational Research Association Annual Meeting, as well as via CAST's newsletter.

Update Process Phase 2: Reviewing the Literature & Drafting (January 2023-December 2023)

While we continued to seek feedback from the field, Phase 2 focused more explicitly on reviewing the existing research used to inform the current version of the UDL Guidelines and drafting proposed updates for Guidelines 3.0.

In January 2023, we began the process of synthesizing the feedback and using emerging themes to inform the drafting process. Throughout 2023, we created first drafts for all nine UDL guidelines and associated checkpoints. Each first draft included:
- Current guideline and associated checkpoints
- Proposed updates to guideline/checkpoints
- Examples of individuals' feedback (themes/illustrative quotes) that inspired the updates
- Examples of research that inspired the updates

First drafts of proposed updates to all nine guidelines were completed by January 2024. We created a Summary of Proposed Updates for UDL Guidelines 3.0 to represent the overarching themes of proposed updates across the first drafts. It was shared with 6000+ people via our February 2024 Guidelines 3.0 newsletter and included a form for individuals to send us their feedback.

At this time, we also reviewed the research base on the UDL Guidelines research pages to understand the balance of different research fields, methodological approaches, epistemological approaches, and author identities. We updated the research base with more recent literature given that the last major update to the UDL Guidelines was more than 12 years ago. Further, we worked to expand the research base by conducting literature reviews and adding additional research to more fully develop specific guidelines/checkpoints with a justice-oriented, equity focus.

Update Process Phase 3: Feedback and Iteration (January 2023-present)

The "Feedback and Iteration Phase" overlapped with Phase 2. As we completed each first draft, we solicited three different rounds of feedback: 1) feedback from CAST Team members, 2) feedback from the Advisory Board, and 3) feedback from the Guidelines Collaborative. High-level themes from each draft were also discussed with the Young Adult Advisory Board.

Compiling and synthesizing feedback was ongoing throughout the process. We used major themes that emerged from the feedback and the reviews of the research to make iterations to the first drafts for all nine guidelines and to create **this Full Draft of Proposed Updates for Guidelines 3.0.** We have included a [Draft of Guidelines 3.0 feedback survey](#) so you can share your comments. We will continue to take comments on this Full Draft through **April 15, 2024**, circulating the draft through our Guidelines 3.0 newsletter, CAST social media, and CAST free webinars. Compiling and synthesizing of the feedback will be ongoing through the spring of 2024, and we will use the themes that emerged to develop the final version of UDL Guidelines 3.0 to be launched in July 2024.

Proposed Updates to Overarching Structure

Remove the "provide" language from all three principles and all nine guidelines to signal that the UDL Guidelines are a tool that can be used by learners as well as educators.

Description: Two main concerns surfaced across the research and focus groups:
- Many thought the Guidelines are too teacher- or adult-centric.
- The current UDL Guidelines could be viewed as a set of approaches that adult practitioners "do" for learners as opposed to supporting learners to explore and construct their own learning for themselves.

We are hopeful that the removal of this language sparks more flexibility and creativity in ways to apply the Guidelines. Depending on the learning goal, practitioners, learners, or practitioners and learners together might apply specific guidelines.

Rationale: Representative quotes from participants' feedback
- "It's all about who has the power. So is it the educator that is immediately perceived as 'you have the power or the autonomy or the ownership,' and then it comes back to kind of that deeper identity level. And if you're talking about co-design and breaking down those kinds of powers, then that word 'provide' has a very significant meaning because 'I am giving you this' ... 'I am providing you with this' ... On the other hand, we have certain responsibilities, and I don't wanna get away from that either."
- "Teachers are trying to create engaging activities to learn. Why are the teachers creating

the activities? Where are they coming from? You should be having them [the students] lead."

- "How do we help all of these university professors or community college professors or k-12 people realize that it's not about me dispensing knowledge? … Where is that in the guidelines now and where could that maybe be more explicit? … Is the word co-design anywhere in the guidelines? Maybe that ought to be somewhere."

Examples of supporting research

- Barringer, D. F., Olmstead, A., & Maldonado, A. (2020, January). Benefits of a student-led astronomy club: lessons to inform instructional design. *Proceedings of the Physics Education Research Conference.*
- Bixler, N. (2023, May 25). Why K-12 schools should choose student-led learning. *EdTech Tips*. https://hapara.com/blog/why-schools-should-choose-student-led-learning/.
- Breunig, M. (2017). Experientially learning and teaching in a student-directed classroom. *Journal of Experiential Education, 40*(3), 213-230.
- Callahan, R. M., Humphries, M., & Buontempo, J. (2021). Making meaning, doing math: high school English learners, student-led discussion, and math tracking. *International Multilingual Research Journal, 15*(1), 82-103.
- Kang, H., & Noh, S. (2020). The Effects of Science Teaching and Learning Using Student-led Instructional Strategies on Elementary School Students' Science Core Competencies. *Journal of Korean Elementary Science Education, 39*(2), 228-242.
- Morrison, C. D. (2014). From 'sage on the stage 'to 'guide on the side': A good start. *International Journal for the Scholarship of Teaching and Learning, 8*(1).
- Raufelder, D., & Kulakow, S. (2021). The role of the learning environment in adolescents' motivational development. *Motivation and Emotion, 45*(3), 299-311.
- Tucker, C.R. & Novak, K. (2022). *The Shift to Student-Led: Reimagining Classroom Workflows with UDL and Blended Learning.* IMPress Books

Remove the numbering of the Guidelines and associated checkpoints.

Description: The first two versions of the UDL Guidelines (versions 1.0 and 2.0) presented the UDL principles in the following order: Provide Multiple Means of Representation, Provide Multiple Means of Action and Expression, and Provide Multiple Means of Engagement. With UDL Guidelines version 2.1 in 2014, a shift was made to this order. Instead of beginning with the UDL principle "Provide Multiple Means of Representation," this version begins with "Provide Multiple Means of Engagement" to highlight the essential role that engagement plays in learning. However, the numbering of the guidelines and associated checkpoints did not change. With version 2.2 in 2008, two different representations of the UDL guidelines were offered: one representation with numbering (which remained out of sequence) and one representation without numbers. The representation using the unsequenced numbering has caused confusion among the UDL

community. To address this confusion and to anticipate future iterations of the continued evolution of the UDL guidelines, we have eliminated the numbering.

Given that this is a purely logistical update, we do not list supporting research.

Replace the term "checkpoints" with the term "prompts."

Description: The UDL Guidelines are not meant to be a "checklist"; they are a set of concrete suggestions that can be mixed and matched according to specific learning goals. Yet, the use of the term "checkpoints" only seems to reinforce the idea of the UDL Guidelines being a "checklist."

Given that this is a purely logistical update, we do not list supporting research.

Rationale: Representative quotes from participants' feedback
- "People see 'checkpoints.' They think 'checklists,' and so they look at it from a different lens."
- "I feel like we've spent a lot of time when we're bringing on novice educators … helping them see it's not a checklist, helping them see you don't have to do all 31 [checkpoints] … there's just so much work to get them to, like, not misunderstand what we're saying."
- "I am also concerned about a couple of things related to the entire guidelines (the three principles) … The use of the word 'checkpoint' but the statement that UDL guidelines are not a checklist. It makes a misunderstanding to educators. I recommend to think in a new word about it."
- "Do we need a "caution [sign]"? It's not a checklist."

Reframe the labeling of the horizontal rows ("access," "build," "internalize") to show the goal of working simultaneously to increase both access and learner agency.

Description: The current Guidelines are organized horizontally into three rows. The "access" row includes the guidelines that suggest ways to increase access to the learning goal by recruiting interest and by offering options for perception and physical action. The "build" row includes the guidelines that suggest ways to develop effort and persistence, language and symbols, and expression and communication. Finally, the "internalize" row includes the guidelines that suggest ways to develop learners' self-regulation, comprehension, and executive function. We received concern that the labeling of these rows suggested a linear approach and that the "internalize" row was especially problematic given its inward, individualistic focus and the implication of being of greater value over access.

In order to address these concerns, we've removed the labels for each row and instead used "access" and "agency" with a double arrow to symbolize how the guidelines/associated prompts can be used simultaneously to enhance access and learner agency.

Given that this is a purely logistical update, we do not list supporting research.

Rationale: Representative quotes from participants' feedback
- "How much of the Guidelines is too linear? What barriers are there in the linear formatting?"
- "Just tear off those 'access,' 'build,' 'internalize' tabs. Confusing."
- "I worry there is a value of internalize over access. As if to say, independence is the goal."

Restructure the ways that executive function is woven into the Guidelines to more accurately align with a neuroscience perspective.

Description: In the current Guidelines, the notion of executive functions is contained to a single guideline (the current Guideline 6: "Provide options for Executive Functions" under "Action and Expression"). However, feedback as well as neuroscience literature emphasized how elements of executive functions are actually woven into the guidelines/checkpoints across the entire bottom row of the UDL Guidelines graphic organizer. There was especially confusion with the overlap between "Provide options for Executive Functions" in Guideline 6 and "Provide options for Self-regulation" in Guideline 9. From a neuroscience perspective, all three networks work together to engage executive functions. To address this confusion and misalignment, we propose updating the current "Guideline 6: Provide options for Executive Functions" to "Options for Strategy Development," and elements of executive functions are now spread across the bottom row to more accurately reflect the interconnected nature.

Rationale: Representative quotes & themes from participants' feedback
- "Confusing for teachers to see executive function and then self-regulation in Engagement. A lot of the language is confusing; posing a barrier."
- "I'm grappling with how some educators might be confused by the differences between Exec. Functions (EF) and Self Regulation (SR). EF is a hot topic in the moment (at least in my higher ed. context). I totally get that the SR behaviors and the EF behaviors, as separated in the UDL framework, are parts of two different brain networks ... But ... how can the redesign of the guidelines help to clarify this?"

Examples of supporting research
- Amodio, D. M., & Cikara, M. (2021). The social neuroscience of prejudice. *Annual review of psychology*, *72*, 439-469.
- Goldberg, E. (2009). *The new executive brain: Frontal lobes in a complex world*. Oxford University Press.
- Miller, E. K., & Cohen, J. D. (2001). An integrative theory of prefrontal cortex function. *Annual review of neuroscience*, *24*(1), 167-202.
- Molenberghs, P., & Louis, W. R. (2018). Insights from fMRI studies into ingroup bias. *Frontiers in Psychology*, *9*, 404562.

Provide Multiple Means of Engagement

Current Version: Guideline 7: Provide options for recruiting interest

Proposed Update: Options for welcoming interests and identities

Description: Updated to more fully honor and sustain learners' varied, intersecting identities and the many strengths and assets they bring to the learning environment.

Rationale: Representative quotes from participants' feedback
- "Sometimes we treat students as if they have to earn the learning environment … you have to come a specific way … in a very compliant, buttoned up kind of way. I wonder if the Engagement Guidelines can be broadened to allow for more than one way of being…?"
- "When teachers are designing for students with different backgrounds, I don't see anything in the Guidelines to point [them] to consider the students' backgrounds. It's not explicitly pointed at. How do you address all of the variabilities that the learner brings?"
- "Look at funds of knowledge–find a way to incorporate the funds of knowledge of all of our students in the classroom."

Examples of supporting research
- Espinoza, M. L., Vossoughi, S., Rose, M., & Poza, L. E. (2020). Matters of participation: Notes on the study of dignity and learning. *Mind, Culture, and Activity*, *27*(4), 325-347.
- González, N., Moll, L. C., & Amanti, C. (Eds.). (2006). *Funds of knowledge: Theorizing practices in households, communities, and classrooms*. Routledge.
- Gutiérrez, K. D., & Rogoff, B. (2003). Cultural ways of learning: Individual traits or repertoires of practice. *Educational Researcher*, *32*(5), 19-25.
- Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*, *32*(3), 465-491.
- Lee, C. D. (2001). Is October Brown Chinese? A cultural modeling activity system for underachieving students. *American Educational Research Journal*, *38*(1), 97-141.
- Mitchell, L., Bateman, A., Kahuroa, R., Khoo, E., & Rameka, L. (2020). *Strengthening belonging and identity of refugee and immigrant children through early childhood education*. http://www.tlri.org.nz/tlri-research/research-completed/ece-sector/strengthening-belonging-and-identity-refugee-and.
- Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into Practice*, *31*(2), 132-141.
- Nasir, N. I. (2011). *Racialized identities: Race and achievement among African American youth*. Stanford University Press.
- Nasir, N. S., Rosebery, A. S., Warren, B., & Lee, C. D. (2014). Learning as a cultural process: Achieving equity through diversity. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 489–504). Cambridge University Press.

- Paris, D., & Alim, H. S. (2014). What are we seeking to sustain through culturally sustaining pedagogy? A loving critique forward. *Harvard Educational Review*, *84*(1), 85-100.
- Sammons, M., Ali, S., Noorzai, L., Glover, M., & Khoo, E. (2020). Fostering belonging through cultural connections: Perspectives from parents. *Early Childhood Folio*, *20*(1), 31–36. https://doi.org/10.18296/ecf.0078
- Waitoller, F. R., & King Thorius, K. A. (2016). Cross-pollinating culturally sustaining pedagogy and universal design for learning: Toward an inclusive pedagogy that accounts for dis/ability. *Harvard Educational Review*, *86*(3), 366-389.

Current Version: Checkpoint 7.1: Optimize individual choice and autonomy

No change is recommended for this language.

Current Version: Checkpoint 7.2: Optimize relevance, value, and authenticity

No change is recommended for this language.

Proposed Addition: Nurture joy and play

Description: Added to acknowledge the role of joy and play — for both youth and adult learners — in the learning process.

Rationale: Representative quotes from participants' feedback
- "Our society values worth on production, title. Joy and play is huge- should be part of the paradigm shift- it's not just about being productive."
- "Just put it [joy] in there. Bring the good stuff in."
- "We have a huge issue about teacher retention … I think it boils down to they've [educators] lost their agency, they've lost their satisfaction, they've lost their connection to kids that relights their fire. It's all about getting the job done, and they forget what the job is….Maybe the missing piece is our own heart to finding ourselves, establishing and rejuvenating ourselves?"

Examples of supporting research
- Brown, K. (2020). Nurturing Black Disabled Joy. In A. Wong (Ed.), *Disability visibility: First-person stories from the twenty-first century* (pp. 117–120). Vintage Books.
- Gay, R. (2022). *Inciting Joy: Essays*. Algonquin Books.
- Ginwright, S. A. (2022). *The four pivots: Reimagining justice, reimagining ourselves*. North Atlantic Books.
- Griffiths, M. (2012). Why joy in education is an issue for socially just policies. *Journal of Education Policy*, *27*(5), 655–670.
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- Lawson, T. K. (2023). Teaching homeplace: How teachers can cultivate Black Joy through culturally responsive practices in the classroom. *Theory Into Practice*, 1–10.

- Love, B. L. (2019). *We want to do more than survive: Abolitionist teaching and the pursuit of educational freedom.* Beacon Press.
- Muhammad, G., Martinez, L., Baylis, L., Aguilar, E., & Eakins, S. L. (2023). *Unearthing joy: A guide to culturally and historically responsive curriculum and instruction.* Scholastic Inc.
- Vlach, S. K., Lentz, T. S., & Muhammad, G. E. (2023). Activating joy through culturally and historically responsive read-alouds. *The Reading Teacher.*

Current Version: Checkpoint 7.3: Minimize threats and distractions

Proposed Update: Address biases, threats, and distractions

Description: Updated to explicitly address the ways in which bias causes harm in teaching and learning.

Rationale: Representative quotes & themes from participants' feedback
- Quotes:
  - "[The Guidelines could support us in] remaining aware of our own biases that come into our practice. Pushing against the ideas of echo chambers."
  - "Directly call out and talk about bias and about the marginalized so it's clear how to address it though the guidelines and checkpoints."
- Themes:
  - Need to make the impact of practitioner and learner biases more explicit.
  - How do we know what may be a threat or distraction unless we ask our students? Give many opportunities for learners to share barriers, threats, distractions to learning.
  - Sometimes teachers think they know what interests students. This can be based on biases and stereotypes. Stress the importance of asking students themselves!

Examples of supporting research
- Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology, 77*(6), 1121–1134.
- Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal, 32*(3), 465–491.
- Ross, L. J. (2019). Speaking up without tearing down. *Teaching Tolerance Magazine, 61, Spring.* https://www.tolerance.org/magazine/spring-2019/speaking-up-without-tearing-down
- Stoddard, S. V. (2022). The Benefits of Enlightenment: A Strategic Pedagogy for Strengthening Sense of Belonging in Chemistry Classrooms. *Education Sciences, 12*(7), 498.
- Tyng, C. M., Amin, H. U., Saad, M. N., & Malik, A. S. (2017). The influences of emotion on learning and memory. *Frontiers in Psychology, 8,* 1454.

- VanCleave, D. S. (2016). Contributions of Neuroscience to a New Empathy Epistemology: Implications for Developmental Training. *Advances in Social Work*, *17*(2). 369–389.
- Walton, G. M., & Cohen, G. L. (2007). A question of belonging: Race, social fit, and achievement. *Journal of Personality and Social Psychology*, *92*(1), 82–96.
- West, K., & Eaton, A. (2019) Prejudiced and unaware of it: Evidence for the Dunning-Kruger model in the domains of racism and sexism. *Personality and Individual Differences*, *146*, 111–119.
- Yosso, T.J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race, Ethnicity and Education*, *8*(1), 69–91.

Current Version: Guideline 8: Provide options for sustaining effort and persistence

No change is recommended for this language beyond removing provide which is a [proposed structural update](#).

Current Version: Checkpoint 8.1: Heighten salience of goals and objectives

Proposed Update: Elevate the meaning and purpose of goals

Description: Updated to ensure that goals feel authentic and meaningful to learners *themselves*. There was concern that the current wording felt too teacher-centric. This proposed update leaves space to consider the meaning and purpose of goals from both the educator and learner's perspective.

Rationale: Representative quotes from participants' feedback
- "Teachers are trying to create engaging activities to learn. Why are the teachers creating the activities? Where are they coming from? You should be having them [the students] lead."
- "How do we help all of these university professors or community college professors or k-12 people realize that it's not about me dispensing knowledge? … Where is that in the guidelines now and where could that maybe be more explicit? … Is the word co-design anywhere in the guidelines? Maybe that ought to be somewhere?"

Examples of supporting research
- Estrada, B., & Warren, S. (2014). Increasing the Writing Performance of Urban Seniors Placed At-Risk through Goal-Setting in a Culturally Responsive and Creativity-Centered Classroom. *Journal of Urban Learning, Teaching, and Research*, *10*, 50-63.
- Gonzales, M. (2021). *Systems thinking for supporting students with special needs and disabilities: A handbook for classroom teachers*. Springer Nature Singapore Pte Ltd.
- Jimerson, J. B., & Reames, E. (2015). Student-involved data use: Establishing the evidence base. *Journal of Educational Change*, *16*(3), 281-304.

- Nordengren, C. (2019). *Goal-setting practices that support a learning culture.* Phi Delta Kappan, *101*(1), 18-23.

Current Version: Checkpoint 8.2: Vary demands and resources to optimize challenge

Proposed Update: Optimize challenge and support

Description: Updated to address the concern that the current phrase "vary demands" might be interpreted as supporting the notion of lowering expectations for certain learners. Further, there was concern that "vary demands and resources" was just one way to "optimize challenge" and felt too limiting.

Rationale: Representative quotes & themes from participants' feedback
- Quote: "We think about the connection between equity and rigor. How do all students have access to rigor? Needs to be stated more explicitly."
- Theme: There is a danger with "vary demands." Couldnderstand this as it being okay to water down goals for students who educators believe are not capable.

Examples of supporting research
- Hammond, Z. (2014). *Culturally responsive teaching and the brain: Promoting authentic engagement and rigor among culturally and linguistically diverse students.* Corwin Press.
- Hehir, T. (2002). Eliminating ableism in education. *Harvard Educational Review, 72*(1), 1-32.
- Irvine, J.J. (1990). *Black Students and School Failure*: Policies, Practices, and Prescriptions. Praeger.
- Nasir, N. S., Scott, J., Trujillo, T., & Hernandez, L. (2016). The sociopolitical context of teaching. In D. Gitomer & C. Bell (Eds.), *Handbook of research on teaching* (pp. 349-390). American Educational Research Association.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* Harvard University Press.
- Vygotsky, L. S. (1981). The instrumental method in psychology. *The Concept of Activity in Soviet Psychology*, 134-143.

Current Version: Checkpoint 8.3: Foster collaboration and community

Proposed Update: Foster collaboration, interdependence, and collective learning

Description: Updated to emphasize the notions of interdependence and collective learning.

Rationale: Representative quotes & themes from participants' feedback
- Quote: "Add checkpoints about teamwork and collaborative learning."
- Themes:
  - Need to more fully emphasize interdependence and collective learning.
  - Do the current guidelines overemphasize independence? What about notions of support and interdependence?
  - Learner autonomy and learner agency can coexist with interdependence

Examples of supporting research

- Biraimah, K. L. (2016). Moving beyond a destructive past to a decolonised and inclusive future: The role of Ubuntu-style education in providing culturally relevant pedagogy for Namibia. *International Review of Education, 62*(1), 45-62.
- Brown, A. L., Metz, K. E., & Campione, J. C. (2013). Social interaction and individual understanding in a community of learners: The influence of Piaget and Vygotsky. In A. Tryphon & J. Vonèche (Eds.), *Piaget-Vygotsky: The social genesis of thought* (pp. 145-170). Psychology Press.
- Espinoza, M. L., & Vossoughi, S. (2014). Perceiving learning anew: Social interaction, dignity, and educational rights. *Harvard Educational Review, 84*(3), 285-313.
- Espinoza, M. L., Vossoughi, S., Rose, M., & Poza, L. E. (2020). Matters of participation: Notes on the study of dignity and learning. *Mind, Culture, and Activity, 27*(4), 325-347.
- Farnsworth, V., Kleanthous, I., & Wenger-Trayner, E. (2016). Communities of practice as a social theory of learning: A conversation with Etienne Wenger. *British Journal of Educational Studies, 64*(2), 139-160.
- Lave, J. & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation.* Cambridge: Cambridge University Press.
- Molkentin, M., & Healy. K. (2022). *Care During COVID: Photo Essay on Interdependence.* Disability Visibility Project. https://disabilityvisibilityproject.com/2022/02/08/care-during-covid-photo-essay-on-interdependence/
- Palinscar, A. S., & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and instruction, 1*(2), 117-175.
- Oviawe, J. O. (2016). How to rediscover the Ubuntu paradigm in education. *International Review of Education, 62*(1), 1-10.
- Piepzna-Samarasinha, L. L. (2018). *Care work: Dreaming disability justice* (p. 182). Arsenal Pulp Press.
- Van der Klift, E., & Kunc, N. (2017). Ability and opportunity in the rearview mirror. In C. Forlin, K. Scorie, & D. Sobsey (Eds.), *Working with families for inclusive education* (pp. 3-10). Emerald Group Publishing Limited.
- White, G. W., Lloyd Simpson, J., Gonda, C., Ravesloot, C., & Coble, Z. (2010). Moving from independence to interdependence: A conceptual model for better understanding community participation of centers for independent living consumers. *Journal of Disability Policy Studies, 20*(4), 233-240.

Proposed Addition: Foster belonging and community

Description: Added to emphasize the roles of belonging and building community in teaching and learning.

Rationale: Representative quotes & themes from participants' feedback

- Quotes:

- - "Think about [how] the language 'minimizing threats and distraction' can be re-worded to be more positive about explicitly communicating belongingness and inclusion."
    - "You are here. This is your space. I am not inviting you to be a guest in this space. This is for you. Maybe the idea of really identifying ways to feel welcomed and valued, and appreciated and loved? More the 'yes' language."
    - "Building that trusting rapport - [when] that's there, people don't feel threatened, don't clock out - when you have a community, you engage more, you feel safe. Empowering the learner, make sure they feel safe and they belong."
  - Themes:
    - The word "belonging" does not appear anywhere in the current Guidelines
    - A space is inclusive and equitable when it is a place where you are wanted and you want to be.

Examples of supporting research
- Bruneau, E. G., Cikara, M., & Saxe, R. (2015). Minding the gap: Narrative descriptions about mental states attenuate parochial empathy. *PLOS ONE, 10*(10), e0140838.
- Calabrese Barton, A., & Tan, E. (2020). Beyond equity as inclusion: A framework of "rightful presence" for guiding justice-oriented studies in teaching and learning. *Educational Researcher*, 49(6), 433-440.
- Connor, D. J., & Berman, D. (2019). (Be) Longing: a family's desire for authentic inclusion. *International Journal of Inclusive Education, 23*(9), 923-936.

Current Version: 8.4: Increase mastery-oriented feedback
Proposed Update: Offer action-oriented feedback

Description: Updated to reject using the word "mastery," given its connection to enslavement and racism. This update is also proposed to emphasize an asset-based, action-oriented approach.

Rationale: Representative themes from participants' feedback
- The word "mastery" is problematic given its connection to enslavement and racism.
- Support for removing the word "mastery."
- Emphasize the role of intentional, thoughtful, action-oriented feedback.

Examples of supporting research
- Andrew, S., & Kaur, H. (2020, July 7). Everyday words and phrases that have racist connotations. *CNN*. Retrieved from https://www.cnn.com/2020/07/06/us/racism-words-phrases-slavery-trnd/index.html
- Conger, K. (2021, April 13). 'Master,' 'slave' and the fight over offensive terms in computing. *New York Times.*
- Syrett, K. (2020, July 23). The language of racism: Why it's time to get rid of master bedroom, cake walk, grandfather clause. *Retrieved from https://www. wbur. org/hereandnow/2020/07/23/language-racism-enslavement* .

Current Version: Guideline 9: Provide options for self-regulation

Proposed Update: Options for emotional growth

Description: Updated to address the problematic nature of "self-regulation" and the connections to assimilation and compliance. There was a strong concern around this concept being vulnerable to bias. Further, as described above in the "Overarching Updates," there was confusion around the overlap with self-regulation (under the Engagement guidelines) and executive functions (under the Executive Functions guideline). Feedback highlighted the need to more clearly emphasize the overlapping nature of these concepts and that the current Guidelines treat these concepts as separate ideas.

Rationale: Representative quotes & themes from participants' feedback
- "Term can get weaponized to get a classroom all behaving the same way."
- "Who is defining what it means to be 'regulated'?"
- "Implying that students need to assimilate and be compliant."
- "The perception of regulation is so vulnerable to implicit bias."

Examples of supporting research
- Annamma, S., Morrison, D., & Jackson, D. (2014). Disproportionality fills in the gaps: Connections between achievement, discipline and special education in the school-to-prison pipeline. *Berkeley Review of Education*, *5*(1), 53-87.
- Bonanno, G. A., & Burton, C. L. (2013). Regulatory flexibility: An individual differences perspective on coping and emotion regulation. *Perspectives on Psychological Science, 8*(6), 591–612
- Cipriano, C., Naples, L. H., Eveleigh, A., Cook, A., Funaro, M., Cassidy, C., & Rappolt-Schlichtmann, G. (2023). A systematic review of student disability and race representation in universal school-based social and emotional learning interventions for elementary school students. *Review of Educational Research*, *93*(1), 73-102.
- Cipriano, C., Strambler, M.J., Naples, L.H., Ha, C., Kirk, M., Wood, M., Sehgal, K., Zieher, A.K., Eveleigh, A., McCarthy, M., & Funaro, M. (2023). The state of evidence for social and emotional learning: A contemporary meta-analysis of universal school-based SEL interventions. *Child Development*, *94*(5), 1181-1204.
- Croasdaile, S. (2023) *Building executive function and motivation in the middle grades: A Universal Design for Learning approach*. CAST Publishing.
- Greenaway, K. H., Kalokerinos, E. K., Hinton, S., & Hawkins, G. E. (2021). Emotion experience and expression goals shape emotion regulation strategy choice. *Emotion, 21*(7), 1452–1469.
- Losen, D., Hodson, C., Ee, J., & Martinez, T. (2014). Disturbing inequities: Exploring the relationship between racial disparities in special education identification and discipline. *Journal of Applied Research on Children*, *5*(2), 15.
- Milner, H., Cunningham, H., Delale-O'Connor, L., & Kestenbert, E. (2018). *"These kids are out of control": Why we must reimagine "classroom management" for equity*. Corwin Press.

- Noguera, P. A. (2003). Schools, prisons, and social implications of punishment: Rethinking disciplinary practices. *Theory into Practice, 42*(4),341–350.
- Sahi, R. S., He, Z., Silvers, J. A., & Eisenberger, N. I. (2023). One size does not fit all: Decomposing the implementation and differential benefits of social emotion regulation strategies. *Emotion, 23*(6), 1522–1535.
- Skiba, R., & White, A. (2022). Ever since Little Rock: The history of disciplinary disparities in America's schools. In Gage, N., Rapa, L. J., Whitford, D. K., & Katsiyannis, A (Eds.), *Disproportionality and Social Justice in Education* (pp. 3-33). Springer.
- Weathers, M. (2024). *Executive functions for every classroom, grades 3-12: Creating safe and predictable learning environments*. Corwin Press.
- Winn, M. T. (2018). *Justice on both sides: Transforming education through restorative justice*. Harvard Education Press.

Current Version: Checkpoint 9.1: Promote expectations and beliefs that optimize motivation

Proposed Update: Recognize expectations, beliefs, and motivations

Description: Updated to bring a stronger collective frame to this current checkpoint. The current checkpoint felt too teacher-centric, and the proposed update attempts to broaden to create space to recognize the expectations, beliefs, and motivations of teachers as well as learners themselves.

Rationale: Representative quotes & themes from participants' feedback
- Quotes:
  - "I wonder if this can be revised to include some collective thinking. How can we create classroom climates that optimizes or nurture trust, taking risk, and motivation for learning. What kind of skills, attitudes, predispositions, beliefs do students need to have to contribute to such a climate?"
  - "What are the beliefs and expectations that we want students to appropriate or make their own? How are beliefs and expectations the result of a collective negotiation, with critical reflexivity?"
- Theme: Learning is an ecosystem for individual and collective goals.

Examples of supporting research
- Annamma, S., Morrison, D., & Jackson, D. (2014). Disproportionality fills in the gaps: Connections between achievement, discipline and special education in the school-to-prison pipeline. *Berkeley Review of Education, 5*(1), 53-87.
- Cipriano, C., Naples, L. H., Eveleigh, A., Cook, A., Funaro, M., Cassidy, C., & Rappolt-Schlichtmann, G. (2023). A systematic review of student disability and race representation in universal school-based social and emotional learning interventions for elementary school students. *Review of Educational Research, 93*(1), 73-102.
- Cipriano, C., Strambler, M.J., Naples, L.H., Ha, C., Kirk, M., Wood, M., Sehgal, K., Zieher, A.K., Eveleigh, A., McCarthy, M., & Funaro, M. (2023). The state of evidence for social and

emotional learning: A contemporary meta-analysis of universal school-based SEL interventions. *Child Development*, *94*(5), 1181-1204.

- Lake, W., Boyd, W. B. E., & Boyd, W. (2018). Transforming student expectations through a real-time feedback process and the introduction of concepts of self-efficacy–surprising results of a university-wide experiment. *Journal of University Teaching & Learning Practice*, *15*(5), 5.
- Losen, D., Hodson, C., Ee, J., & Martinez, T. (2014). Disturbing inequities: Exploring the relationship between racial disparities in special education identification and discipline. *Journal of Applied Research on Children*, *5*(2), 15.
- Milner, H., Cunningham, H., Delale-O'Connor, L., & Kestenbert, E. (2018). *"These kids are out of control": Why we must reimagine "classroom management" for equity*. Corwin Press.
- Noguera, P. A. (2003). Schools, prisons, and social implications of punishment: Rethinking disciplinary practices. *Theory into Practice, 42*(4),
    - 341–350.
- Skiba, R., & White, A. (2022). Ever since Little Rock: The history of disciplinary disparities in America's schools. In Gage, N., Rapa, L. J., Whitford, D. K., & Katsiyannis, A (Eds.), *Disproportionality and Social Justice in Education* (pp. 3-33). Springer.
- Winn, M. T. (2018). *Justice on both sides: Transforming education through restorative justice.* Harvard Education Press.

Current Version: Checkpoint 9.2: Facilitate personal coping skills and strategies

Proposed Update: Develop awareness of self and others

Description: Updated to bring a stronger connection to community interactions. Also updated to address concern that the notion of "coping" could imply that learners need to "cope with" the barriers that they experience as opposed to teachers and systems taking responsibility for addressing them.

Rationale: Representative quotes & themes from participants' feedback
- "How [do] we support coping skills in relation to working with others from different abilities, cultural, linguistic, racial backgrounds?"
- "'Constructive interaction' or 'negotiation' rather than 'coping skills?'"

Examples of supporting research
- Annamma, S., Morrison, D., & Jackson, D. (2014). Disproportionality fills in the gaps: Connections between achievement, discipline and special education in the school-to-prison pipeline. *Berkeley Review of Education*, *5*(1), 53-87.
- Cipriano, C., Naples, L. H., Eveleigh, A., Cook, A., Funaro, M., Cassidy, C., & Rappolt-Schlichtmann, G. (2023). A systematic review of student disability and race representation in universal school-based social and emotional learning interventions for elementary school students. *Review of Educational Research*, *93*(1), 73-102.

- Cipriano, C., Strambler, M.J., Naples, L.H., Ha, C., Kirk, M., Wood, M., Sehgal, K., Zieher, A.K., Eveleigh, A., McCarthy, M., & Funaro, M. (2023). The state of evidence for social and emotional learning: A contemporary meta-analysis of universal school-based SEL interventions. *Child Development*, *94*(5), 1181-1204.
- Losen, D., Hodson, C., Ee, J., & Martinez, T. (2014). Disturbing inequities: Exploring the relationship between racial disparities in special education identification and discipline. *Journal of Applied Research on Children*, *5*(2), 15.
- Milner, H., Cunningham, H., Delale-O'Connor, L., & Kestenbert, E. (2018). *"These kids are out of control": Why we must reimagine "classroom management" for equity*. Corwin Press.
- Noguera, P. A. (2003). Schools, prisons, and social implications of punishment: Rethinking disciplinary practices. *Theory into Practice, 42*(4),
  - 341–350.
- Skiba, R., & White, A. (2022). Ever since Little Rock: The history of disciplinary disparities in America's schools. In Gage, N., Rapa, L. J., Whitford, D. K., & Katsiyannis, A (Eds.), *Disproportionality and Social Justice in Education* (pp. 3-33). Springer.
- Winn, M. T. (2018). *Justice on both sides: Transforming education through restorative justice*. Harvard Education Press.

Current Version: Checkpoint 9.3: Develop self-assessment and reflection

Proposed Update: Promote individual and collective reflection

Description: Updated to address feedback that the current checkpoint felt too teacher-centric. The proposed update attempts to broaden and create space to develop both individual and collective reflection. As described above, there was confusion around the overlap with self-regulation/self-reflection (under the Engagement guidelines) and executive function (under the executive function guidelines). Feedback highlighted the need to more clearly emphasize the overlapping nature of these concepts and that the current Guidelines treat these concepts as separate ideas.

Rationale: Representative quotes & themes from participants' feedback
- Quotes:
  - "Teachers are trying to create engaging activities to learn. Why are the teachers creating the activities? Where are they coming from? You should be having them [the students] lead."
  - "How do we help all of these university professors or community college professors or k-12 people realize that it's not about me dispensing knowledge?...Where is that in the guidelines now and where could that maybe be more explicit?...Is the word co-design anywhere in the guidelines? Maybe that ought to be somewhere?"
- Themes
  - Develop self awareness in relation to others.
  - What do we need to unlearn collectively and individually?

Examples of supporting research

- Annamma, S., Morrison, D., & Jackson, D. (2014). Disproportionality fills in the gaps: Connections between achievement, discipline and special education in the school-to-prison pipeline. *Berkeley Review of Education*, *5*(1), 53-87.
- Cipriano, C., & McCarthy, M. F. (2023). Towards an inclusive social and emotional learning. *Social and Emotional Learning: Research, Practice, and Policy*, 100008.
- Cipriano, C., Naples, L. H., Eveleigh, A., Cook, A., Funaro, M., Cassidy, C., & Rappolt-Schlichtmann, G. (2023). A systematic review of student disability and race representation in universal school-based social and emotional learning interventions for elementary school students. *Review of Educational Research*, *93*(1), 73-102.
- Cipriano, C., Strambler, M.J., Naples, L.H., Ha, C., Kirk, M., Wood, M., Sehgal, K., Zieher, A.K., Eveleigh, A., McCarthy, M., & Funaro, M. (2023). The state of evidence for social and emotional learning: A contemporary meta-analysis of universal school-based SEL interventions. *Child Development*, *94*(5), 1181-1204.
- Cipriano, C., Rappolt-Schlichtmann, G., & Brackett, M. A. (2020). Supporting school community wellness with social and emotional learning (SEL) during and after a pandemic. *Edna Bennett Pierce Prevention Research Center, Pennsylvania State University*.
- Losen, D., Hodson, C., Ee, J., & Martinez, T. (2014). Disturbing inequities: Exploring the relationship between racial disparities in special education identification and discipline. *Journal of Applied Research on Children*, *5*(2), 15.
- Milner, H., Cunningham, H., Delale-O'Connor, L., & Kestenbert, E. (2018). *"These kids are out of control": Why we must reimagine "classroom management" for equity*. Corwin Press.
- Noguera, P. A. (2003). Schools, prisons, and social implications of punishment: Rethinking disciplinary practices. *Theory into Practice*, *42*(4),
  - 341–350.
- Skiba, R., & White, A. (2022). Ever since Little Rock: The history of disciplinary disparities in America's schools. In Gage, N., Rapa, L. J., Whitford, D. K., & Katsiyannis, A (Eds.), *Disproportionality and Social Justice in Education* (pp. 3-33). Springer.
- Winn, M. T. (2018). *Justice on both sides: Transforming education through restorative justice*. Harvard Education Press.

Proposed Addition: Practice empathy

Description: Added to emphasize the role of empathy in designing engaging learning experiences and increasing awareness of self and others.

Rationale: Representative themes from participants' feedback
- Learners need to develop the skills and knowledge to create a safe space and classroom community for all cultures. Skills to communicate that all stories are valued.

Examples of supporting research
- Bialystok, L., & Kukar, P. (2018). Authenticity and empathy in education. *Theory and Research in Education*, *16*(1), 23-39.

- Swan, P. (2021). The lived experience of empathic engagement in elementary classrooms: Implications for pedagogy. *Teaching and Teacher Education, 102,* 103324.
- VanCleave, D. S. (2016). Contributions of neuroscience to a new empathy epistemology: Implications for developmental training. *Advances in Social Work, 17*(2), 369-389.
- Warren, C. A. (2014). Towards a pedagogy for the application of empathy in culturally diverse classrooms. *The Urban Review, 46,* 395-419.
- Yamniuk, S. (2017). The importance of including human rights education in primary and secondary schools: A focus on empathy and respect. *Globalisation, human rights education and reforms,* 145-157.

Provide Multiple Means of Representation

Current Version: Guideline 1: Provide options for perception

Description: While no language change is being proposed, this update recognizes that perception not only includes sensory perception, but also the perception of people, identity, and culture. Updated to expand the concept of perception to include identity and perspective.

Rationale: Representative quotes & themes from participants' feedback
- [Recounting a talk she recently attended that posed the question: Do your students see themselves represented in your curriculum?] "That question really resonated with me. And it wasn't something that I could turn to the Guidelines for. The Guidelines don't say, 'Hey, one simple thing that you could do is make sure that the images that you are using, the videos that you choose for class--that students can see themselves represented.' I didn't have one video or one image that was not a white, female, attractive teacher … I think it's too implied. And even for the implication, you've got to be someone who is interested in making those connections."
- "When we look at representation, we always think audio, this, that, and the other. The basics. I don't think like that. I think about it [representation] deeper, but how do I get my colleagues to go deeper with representation?"

Examples of supporting research
- Anderson, J. (2019). Hooked on Classics. *Ed. Magazine.* Harvard Graduate School of Education. https://www.gse.harvard.edu/news/ed/19/08/hooked-classics
- Annamma, S. A., Jackson, D. D., & Morrison, D. (2017). Conceptualizing color-evasiveness: Using dis/ability critical race theory to expand a color-blind racial ideology in education and society. *Race Ethnicity and Education, 20*(2), 147-162.
- Mendoza, E., Paguyo, C., & Gutiérrez, K. (2016). Understanding the Intersection of Race and Dis/ability. In Conner, D. J., Ferri, B. A., & Annamma, S. A. (Eds.), *DisCrit: Disability studies and critical race theory in education* (pp. 71-86). Teachers College Press.
- Minor, C. (2020). *We got this: Equity, access, and the quest to be who our students need us to be.* Heinemann.

- Santa Clara County Office of Education. (2023). *My Name My Identity Campaign*. Retrieved from https://www.mynamemyidentity.org/campaign/about
- Style, E. (1996). Curriculum as window and mirror. *Social Science Record*, *33*(2), 21-28.

Current Version: Checkpoint 1.1: Offer ways of customizing the display of information

Proposed Update: Support opportunities to customize the display of information

Description: Updated to address concerns that the current language may guide teacher-centric designs of learning environments. This update incorporates language to reinforce learner agency. The full description of this prompt will also be updated to offer more details in terms of the importance of customizing text formats along with the display of information.

Rationale: Representative themes from participants' feedback
- "Offer ways" feels especially teacher-centered.
- The idea of customizing text is not fully described in the full text of the Guidelines.

Examples of supporting research
- Azzarello, C. B., Miller, D. B., Sawyer, B. D., & Lewis, J. E. (2023). Format Readability Enhancing In Basic Mathematical Operations. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, *67*(1), 2248–2251. https://doi.org/10.1177/21695067231199682
- Barringer, D. F., Olmstead, A., & Maldonado, A. (2020, January). Benefits of a student-led astronomy club: lessons to inform instructional design. *Proceedings of the Physics Education Research Conference*.
- Bixler, N. (2023, May 25). Why K-12 schools should choose student-led learning. *EdTech Tips*. https://hapara.com/blog/why-schools-should-choose-student-led-learning
- Breunig, M. (2017). Experientially learning and teaching in a student-directed classroom. *Journal of Experiential Education*, *40*(3), 213-230.
- Callahan, R. M., Humphries, M., & Buontempo, J. (2021). Making meaning, doing math: high school English learners, student-led discussion, and math tracking. *International Multilingual Research Journal*, *15*(1), 82-103.
- Kang, H., & Noh, S. (2020). The Effects of Science Teaching and Learning Using Student-led Instructional Strategies on Elementary School Students' Science Core Competencies. *Journal of Korean Elementary Science Education*, *39*(2), 228-242.
- Oderkerk, C. A. T., & Beier, S. (2022). Fonts of wider letter shapes improve letter recognition in parafovea and periphery. *Ergonomics*, *65*(5), 753–761. https://doi.org/10.1080/00140139.2021.1991001
- Morrison, C. D. (2014). From 'sage on the stage 'to 'guide on the side': A good start. *International Journal for the Scholarship of Teaching and Learning*, *8*(1).
- Raufelder, D., & Kulakow, S. (2021). The role of the learning environment in adolescents' motivational development. *Motivation and Emotion*, *45*(3), 299-311.

- Sheppard, S. M., Nobles, S. L., Palma, A., Kajfez, S., Jordan, M., Crowley, K., & Beier, S. (2023). One Font Doesn't Fit All: The Influence of Digital Text Personalization on Comprehension in Child and Adolescent Readers. *Education Sciences*, *13*(9), 864.
- Wallace, S., Bylinskii, Z., Dobres, J., Kerr, B., Berlow, S., Treitman, R., Kumawat, N., Arpin, K., Miller, D. B., Huang, J., & Sawyer, B. D. (2022). Towards Individuated Reading Experiences: Different Fonts Increase Reading Speed for Different Individuals. *ACM Transactions on Computer-Human Interaction*, *29*(4), 1-56.
- Wallace, S., Dobres, J., Bylinskii, Z., & Sawyer, B. (2022). Space for Readability: Effects on Reading Speed from Individuated Character and Word Spacing. *Journal of Vision*, *22*(14), 3349. https://doi.org/10.1167/jov.22.14.3349

Current Version: Checkpoint 1.2: Offer alternatives for auditory information

Proposed Update: Combine checkpoints 1.2 and 1.3 and create a new prompt. Support multiple ways to perceive information. See 1.3 for description and rationale.

Current Version: Checkpoint 1.3: Offer alternatives for visual information

Proposed Update: Combine checkpoints 1.2 and 1.3 and create a new prompt. Support multiple ways to perceive information

Description: Updated to address concern with the use of the term "alternatives." "Alternatives" suggests that learners have to choose one way rather than recognizing that learners can benefit from applying multiple ways. In addition, "alternatives" suggests that there is a best, right, or "normal" way. This proposed update combines the current 1.2 and 1.3 to prompt educators to support multiple ways to perceive information. This change recognizes the bias inherent to considering alternatives for specific — dominant in certain contexts — modalities.

Rationale: Representative themes from participants' feedback
- Need to address bias within the guidelines that one way (dominant view) is the "best" way
- Examine use of the word "alternative."
- The full text rationale suggests that auditory info is the "best way." This language is problematic because it encourages people to think about what is used by the most people. Need to think carefully about the language so we are not perpetuating othering.

Examples of supporting research
- Conklin, K., Alotaibi, S., Pellicer-Sánchez, A., & Vilkaitė-Lozdienė, L. (2020). What eye-tracking tells us about reading-only and reading-while-listening in a first and second language. *Second Language Research*, *36*(3), 257-276.
- Singh, A., & Alexander, P. A. (2022). Audiobooks, print, and comprehension: What we know and what we need to know. *Educational Psychology Review*, *34*(2), 677-715.
- Solomon, A. (2021, April 6). Devoted to the Deaf, Did Alexander Graham Bell Do More Harm Than Good? *The New York Times*.

https://www.nytimes.com/2021/04/06/books/review/the-invention-of-miracles-katie-booth.html

- Woodall, B. (2010). Simultaneous listening and reading in ESL: Helping second language learners read (and enjoy reading) more efficiently. *TESOL Journal, 1*(2), 186-205.

Proposed Addition: Authentically represent a diversity of perspectives and identities

Description: Added to recognize how identities, people, and cultures are represented in learning environments, materials, and instructional methods. To ignore the "who" in learning perpetuates the idea that a dominant culture is "universal" and marginalizes nondominant cultures and identities. In addition, the proposed new guideline prompts educators to consider the authenticity of how people, cultures, and identities are being represented. Stereotypical or narcissistic representations would be harmful. Authentic representations recognize that perspectives and identities are complex and intersectional.

Rationale: Representative themes from participants' feedback
- The "who" is absent from present guidelines yet is a critical component of how one is "represented" in learning. By not including the "who," we perpetuate the idea that the dominant culture is universal and nondominant cultures are supplemental or unimportant
- In addition to the discussion of learners seeing themselves in the materials presented, we talked about thoughtfully including those individuals who are NOT in the space (e.g., students with the most significant disabilities).
- Teachers and learners need to be prompted to become more aware of perception biases and to challenge negative characterizations of people and cultures.

Examples of supporting research
- Muhammad, G. (2020). *Cultivating genius: An equity framework for culturally and historically responsive literacy*. Scholastic.

Current Version: Guideline 2: Provide options for language and symbols
No change is recommended for this language beyond removing provide which is a [proposed structural update](#).

Current Version: Checkpoint 2.1: Clarify vocabulary and symbols
No change is recommended for this language.

Current Version: Checkpoint 2.2: Clarify syntax and structure
Proposed Update: Clarify language structures

Description: Updated to support use and application. Use of the word "syntax" may present a barrier for educators and learners, because the term may be unfamiliar or confusing.

Given that this is a purely logistical update, we do not list supporting research.

Rationale: Representative quotes & themes from participants' feedback
- Quote: "How many people here can actually define syntax?"
- Theme: Structure and syntax is redundant.

Current Version: Checkpoint 2.3: Support decoding of text, mathematical notation, and symbols

No change is recommended for this language.

Current Version: Checkpoint 2.4: Promote understanding across languages

Proposed Update: Cultivate understanding and respect across languages and dialects

Description: Updated to expand beyond promoting understanding across languages to also include cultivating respect. In addition, there was a call to consider dialects as part of respect across languages. For this proposed update, as well as other proposed updates across Guidelines 3.0, we draw from a current research project in which CAST researchers are collaborating with schools who are applying the Sobrato Early Academic Language (SEAL) approach to support multilingual learners. We are exploring how the UDL Guidelines and the SEAL approach can intersect to best support the strengths and needs of multilingual learners. Findings from this study are being woven into this proposed updated prompt as well as other guidelines/prompts.

Rationale: Representative quotes & themes from participants' feedback
- Quote: "Promoting [verb used in the current checkpoint] holds power. Doesn't feel equalizing in any way."
- Themes:
  - How do we begin to shift deficit thinking around multilingual learners?
  - How does UDL intersect with other approaches to supporting multilingual learners?

Examples of supporting research
- Cioè-Peña, M. (2022). TrUDL, a path to full inclusion: The intersectional possibilities of translanguaging and universal design for learning. *TESOL Quarterly*, *56*(2), 799-812.
- Creese, A., & Blackledge, A. (2015). Translanguaging and identity in educational settings. *Annual Review of Applied Linguistics*, *35*, 20-35.
- De Costa, P. I. (2020). Linguistic racism: Its negative effects and why we need to contest it. *International Journal of Bilingual Education and Bilingualism*, *23*(7), 833-837.
- García, O., Flores, N., Seltzer, K., Wei, L., Otheguy, R., & Rosa, J. (2021). Rejecting abyssal thinking in the language and education of racialized bilinguals: A manifesto. *Critical Inquiry in Language Studies*, *18*(3), 203-228.
- Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice (3rd Edition)*. Teachers College Press.

- González-Howard, M., & Suárez, E. (2021). Retiring the term English language learners: Moving toward linguistic justice through asset-oriented framing. *Journal of Research in Science Teaching, 58*(5), 749–752.
- Hurwitz, A., & Olsen, L. (2018). The Sobrato Early Academic Language Model.
- Leung, C., & Valdés, G. (2019). Translanguaging and the transdisciplinary framework for language teaching and learning in a multilingual world. *The Modern Language Journal, 103*(2), 348-370.
- Ramírez, P. C. (2022). Reframing dual language education in the US. *International Journal of Bilingual Education and Bilingualism,* 1-5.
- Rosa, J., & Flores, N. (2017). Unsettling race and language: Toward a raciolinguistic perspective. *Language in Society, 46*(5), 621–647.
- Rosebery, A. S., Ogonowski, M., DiSchino, M., & Warren, B. (2010). "The coat traps all your body heat": Heterogeneity as fundamental to learning. *Journal of the Learning Sciences, 19*(3), 322–357.
- Ticheloven, A., Blom, E., Leseman, P., & McMonagle, S. (2021). Translanguaging challenges in multilingual classrooms: scholar, teacher and student perspectives. *International Journal of Multilingualism, 18*(3), 491-514.
- Wei, L., & Lin, A. M. (2019). Translanguaging classroom discourse: Pushing limits, breaking boundaries. *Classroom Discourse, 10*(3-4), 209-215.

Current Version: Checkpoint 2.5: Illustrate through multiple media

Proposed update: Remove this checkpoint

Description: This checkpoint was redundant with the current checkpoints 1.2 and 1.3 and with the proposed prompt: Support multiple ways to perceive information.

Given that this is a purely logistical update, we do not list supporting research.

Rationale: Representative themes from participants' feedback
- Theme: This is covered in other checkpoints under options for perception.
- The new proposed prompt "Support multiple ways to perceive information" encompasses this current checkpoint.

Proposed Addition: Address biases in the use of language and symbols

Description: Added to consider how bias in the use of language and symbols creates barriers for learners to fully access and operate with agency within learning environments. This proposed new prompt recognizes the harm inflicted by discriminatory language and symbols and supports educators and learners in addressing and removing those barriers.

Rationale: Representative quotes & themes from participants' feedback
- "Do we need a checkpoint that prompts learners to check if or how their language is inclusive? Are we examining stereotypes within language?"

- "Where does the idea of raising awareness about othering language/discriminatory language fit?"
- "Directly call out and talk about bias and about the marginalized so it's clear how to address it though the guidelines and checkpoints."

Examples of supporting research
- Brown, L. X. Z. (2013). *How "differently abled" marginalizes disabled people.* https://www.autistichoya.com/2013/08/differently-abled.html
- Brown. L.X.Z. (2014). (Updated). *Violence in Language: Circling Back to Linguistic Ableism.* https://www.autistichoya.com/2014/02/violence-linguistic-ableism.html
- Mendoza, E., Paguyo, C., & Gutiérrez, K. (2016). Understanding the Intersection of Race and Dis/ability. In Conner, D. J., Ferri, B. A., & Annamma, S. A. (Eds.), *DisCrit: Disability studies and critical race theory in education* (pp. 71-86). Teachers College Press.

Current Version: Guideline 3: Provide options for comprehension

Proposed Update: Options for building knowledge

Description: Updated to address the concern that the current terminology, "comprehension," was too limited and might guide educators and learners to focus narrowly on comprehending text. There was a consistent call to consider multiple approaches to building knowledge, making meaning, and ways of knowing, which include the different ways people arrive at a sense of knowledge of the world. As it relates to executive functioning, this update focuses this guideline on attending to information and building usable knowledge through multiple ways.

Rationale: Representative quotes & themes from participant feedback
- Quotes:
  - "I want to make sure we capture this notion of 'multiple ways of knowing.' Really thinking about heritage and culture in terms of what students bring to the classroom and teachers bring to the school and leaders bring to their desks and all of that. There's a lot about creating space for different ways of knowing that aren't western ways of knowing, quite frankly. And that could be captured in a revision to UDL."
  - "Maybe including that idea about … culturally relevant or culturally diverse ways of constructing and taking in meaning. Because if you always use the same things … you are serving a particular kind of student that does that well. But we know we have very diverse students and that may not be the optimal way for all of those students to learn. So a different way of presenting that information may not be the abstract verse, which is very Western European and individuated in its presentation of material. And on the other side of that continuum would be a more collectivist or integrated way of presenting material, which would be things like 'let's start with a story,' 'let's start with what the practical results are or how this

has manifested in a way that's meaningful to you' rather than here are the three points of this particular lecture or idea."

- Themes:
    - Comprehension seems to follow reading comprehension. The language in the guidelines seems to be limited to interrogating a piece of text.
    - Ways people make sense and make meaning must also be represented. The connection between the valuing of different knowledge and the way you make new knowledge. Guidelines funnel you down a very Western, white meaning-making mode.

Examples of supporting research

- Bartlett C., Marshall M., Marshall A. (2012). Two-eyed seeing and other lessons learned within a co-learning journey of bringing together indigenous and mainstream knowledges and ways of knowing. *Journal of Environmental Studies and Sciences, 2*(4), 331–340.
- Blaisdell, B. (2016). Schools as racial spaces: Understanding and resisting structural racism. *International Journal of Qualitative Studies in Education, 29*(2), 248-272.
- Breunig, M. (2019). Beings who are becoming: Enhancing social justice literacy. *Journal of Experiential Education, 42*(1), 7-21.
- Grenell, A., & Carlson, S. M. (2021). Individual differences in executive function and learning: The role of knowledge type and conflict with prior knowledge. *Journal of experimental child psychology, 206*, 105079.
- Gutiérrez, K. D., & Rogoff, B. (2003). Cultural ways of learning: Individual traits or repertoires of practice. *Educational Researcher, 32*(5), 19–25.
- Hammond, Z. (2014). *Culturally responsive teaching and the brain: Promoting authentic engagement and rigor among culturally and linguistically diverse students.* Corwin Press.
- Kasun, G. S. (2015). "The Only Mexican in the Room": Sobrevivencia as a Way of Knowing for Mexican Transnational Students and Families. *Anthropology & Education Quarterly, 46*(3), 277–294.
- Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal, 32*(3), 465-491.
- Levac, L., McMurtry, L., Stienstra, D., Baikie, G., Hanson, C., & Mucina, D. (2018). Learning across Indigenous and Western knowledge systems and intersectionality: Reconciling social science research approaches. *University of Guelph.*
- Meltzer, L. (2018). *Executive function in education, second edition: From theory to practice.* Guilford Publications.
- Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into Practice, 31*(2), 132-141.
- Paris, D., & Alim, H. S. (2014). What are we seeking to sustain through culturally sustaining pedagogy? A loving critique forward. *Harvard Educational Review, 84*(1), 85-100.
- Peltier, C. (2018). An Application of Two-Eyed Seeing: Indigenous Research Methods With Participatory Action Research. *International Journal of Qualitative Methods, 17*(1).

- Simpson, L. B. (2017). *As we have always done: Indigenous freedom through radical resistance.* University of Minnesota Press.
- Smith, L.T., Tuck, E., & Yang, K.W. (Eds.). (2018). *Indigenous and decolonizing studies in education: Mapping the long view.* Routledge.
- Varghese, T. (2009). Teaching mathematics with a holistic approach. *International Journal of Inclusive Education, 13*(1), 13-22.
- Waitoller, F. R., & King Thorius, K. A. (2016). Cross-pollinating culturally sustaining pedagogy and universal design for learning: Toward an inclusive pedagogy that accounts for dis/ability. *Harvard Educational Review, 86*(3), 366-389.

Current Version: Checkpoint 3.1: Activate or supply background knowledge

Proposed Update: Connect prior knowledge to new learning

Description: Updated to address the concern that the current language was teacher-centric and could prompt educators to apply a more deficit-based approach instead of an asset-based approach that invites learners to make connections to their prior knowledge and lived experiences.

Rationale: Representative quotes & themes from participants' feedback
- Quotes:
  - "Teachers are trying to create engaging activities to learn. Why are the teachers creating the activities? Where are they coming from? You should be having them [the students] lead."
  - "How do we help all of these university professors or community college professors or k-12 people realize that it's not about me dispensing knowledge?...Where is that in the guidelines now and where could that maybe be more explicit?...Is the word co-design anywhere in the guidelines? Maybe that ought to be somewhere?"
- Themes
  - These are teacher moves... where do the students fit in?
  - "Activate or supply" feels like teacher-centric language, things teachers do. Sometimes we need to get out of the way! Let students make the connections themselves.
  - Checkpoint 3.1 could be expanded to support teachers to examine their own and the identities of their students to connect background knowledge to the lived experiences of the students

Examples of supporting research
- Barringer, D. F., Olmstead, A., & Maldonado, A. (2020, January). Benefits of a student-led astronomy club: lessons to inform instructional design. In Proceedings of the Physics Education Research Conference (PERC (pp. 32-37).
- Bixler, N. (2023, May 25). Why K-12 schools should choose student-led learning. EdTech Tips.https://hapara.com/blog/why-schools-should-choose-student-led-learning/#:~:text=

To%20start%2C%20student%2Dled%20learning,know%2C%20learners%20are%20more%20engaged.

- Breunig, M. (2017). Experientially learning and teaching in a student-directed classroom. *Journal of Experiential Education, 40*(3), 213-230.
- Callahan, R. M., Humphries, M., & Buontempo, J. (2021). Making meaning, doing math: high school English learners, student-led discussion, and math tracking. *International Multilingual Research Journal, 15*(1), 82-103.
- Gutiérrez, K. D., & Rogoff, B. (2003). Cultural ways of learning: Individual traits or repertoires of practice. *Educational Researcher, 32*(5), 19–25.
- González, N., Moll, L. C., & Amanti, C. (Eds.). (2006). *Funds of knowledge: Theorizing practices in households, communities, and classrooms*. Routledge.
- Kang, H., & Noh, S. (2020). The effects of science teaching and learning using student-led instructional strategies on elementary school students' science core competencies. *Journal of Korean Elementary Science Education, 39*(2), 228-242.
- Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal, 32*(3), 465–491.
- Lee, C. D. (2001). Is October Brown Chinese? A cultural modeling activity system for underachieving students. *American Educational Research Journal, 38*(1), 97–141.
- Morrison, C. D. (2014). From 'sage on the stage 'to 'guide on the side': A good start.
- Nasir, N. I. S., Rosebery, A. S., Warren, B., & Lee, C. D. (2006). Learning as a cultural process: Achieving equity through diversity. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 489–504). Cambridge University Press.
- Paris, D., & Alim, H. S. (Eds.). (2017). *Culturally sustaining pedagogies: Teaching and learning for justice in a changing world*. Teachers College Press.
- Raufelder, D., & Kulakow, S. (2021). The role of the learning environment in adolescents' motivational development. *Motivation and Emotion, 45*(3), 299-311.
- Tucker, C.R. & Novak, K. (2022). *The shift to student-led: Reimagining classroom workflows with UDL and blended learning*. IMPress Books.
- Waitoller, F. R., & King Thorius, K. A. (2016). Cross-pollinating culturally sustaining pedagogy and universal design for learning: Toward an inclusive pedagogy that accounts for dis/ability. *Harvard Educational Review, 86*(3), 366-389.

Current Version: Checkpoint 3.2: Highlight patterns, critical features, big ideas, and relationships

Proposed Update: Highlight and explore patterns, critical features, big ideas, and relationships

Description: Updated to address the concern that the current language, "highlight" is teacher-centric and does not directly prompt the design of learning experiences that create space for students to explore and discover patterns and relationships.

Rationale: Representative quotes & themes from participants' feedback
- "Teachers are trying to create engaging activities to learn. Why are the teachers creating

the activities? Where are they coming from? You should be having them [the students] lead."
- "How do we help all of these university professors or community college professors or k-12 people realize that it's not about me dispensing knowledge?...Where is that in the guidelines now and where could that maybe be more explicit?...Is the word co-design anywhere in the guidelines? Maybe that ought to be somewhere?"
- Theme: Need to add more action to this checkpoint. Not only highlight but explore, make meaning of, wrestle with

Examples of supporting research

- Barringer, D. F., Olmstead, A., & Maldonado, A. (2020, January). Benefits of a student-led astronomy club: lessons to inform instructional design. In Proceedings of the Physics Education Research Conference (PERC (pp. 32-37).
- Bixler, N. (2023, May 25). Why K-12 schools should choose student-led learning. EdTech Tips.https://hapara.com/blog/why-schools-should-choose-student-led-learning/#:~:text=To%20start%2C%20student%2Dled%20learning,know%2C%20learners%20are%20more%20engaged.
- Breunig, M. (2017). Experientially learning and teaching in a student-directed classroom. *Journal of Experiential Education, 40*(3), 213-230.
- Callahan, R. M., Humphries, M., & Buontempo, J. (2021). Making meaning, doing math: high school English learners, student-led discussion, and math tracking. *International Multilingual Research Journal, 15*(1), 82-103.
- Kang, H., & Noh, S. (2020). The effects of science teaching and learning using student-led instructional strategies on elementary school students' science core competencies. *Journal of Korean Elementary Science Education, 39*(2), 228-242.
- Morrison, C. D. (2014). From 'sage on the stage 'to 'guide on the side': A good start.
- Raufelder, D., & Kulakow, S. (2021). The role of the learning environment in adolescents' motivational development. *Motivation and Emotion, 45*(3), 299-311.
- Tucker, C.R. & Novak, K. (2022). *The shift to student-led: Reimagining classroom workflows with UDL and blended learning.* IMPress Books

Current Version: Checkpoint 3.3: Guide information processing and visualization

Proposed Update: Cultivate multiple ways of knowing and meaning-making

Description: Updated to include more learner-centered language and expand this prompt to include a more global approach to meaning-making and ways of developing knowledge.

Rationale: Representative quotes & themes from participants' feedback
- Quotes:
  - "I want to make sure we capture this notion of 'multiple ways of knowing.' Really thinking about heritage and culture in terms of what students bring to the classroom and teachers bring to the school and leaders bring to their desks and all of that. There's a lot about creating space for different ways of knowing that aren't

western ways of knowing, quite frankly. And that could be captured in a revision to UDL."
- ○ "Maybe including that idea about … culturally relevant or culturally diverse ways of constructing and taking in meaning. Because if you always use the same things … you are serving a particular kind of student that does that well. But we know we have very diverse students and that may not be the optimal way for all of those students to learn. So a different way of presenting that information may not be the abstract verse, which is very Western European and individuated in its presentation of material. And on the other side of that continuum would be a more collectivist or integrated way of presenting material, which would be things like 'let's start with a story,' 'let's start with what the practical results are or how this has manifested in a way that's meaningful to you' rather than here are the three points of this particular lecture or idea."
- Themes
  - ○ "Information processing" is too narrow and prioritizes Western approaches to knowledge
  - ○ Ways people make sense and make meaning must also be represented. The connection between the valuing of different knowledge and the way you make new knowledge. Guidelines funnel you down a very Western, white meaning-making mode.

Examples of supporting research

- Bartlett C., Marshall M., Marshall A. (2012). Two-eyed seeing and other lessons learned within a co-learning journey of bringing together indigenous and mainstream knowledges and ways of knowing. *Journal of Environmental Studies and Sciences, 2*(4), 331–340.
- Blaisdell, B. (2016). Schools as racial spaces: Understanding and resisting structural racism. *International Journal of Qualitative Studies in Education, 29*(2), 248-272.
- Breunig, M. (2019). Beings who are becoming: Enhancing social justice literacy. *Journal of Experiential Education, 42*(1), 7-21.
- Hammond, Z. (2014). *Culturally responsive teaching and the brain: Promoting authentic engagement and rigor among culturally and linguistically diverse students.* Corwin Press.
- Kasun, G. S. (2015). "The Only Mexican in the Room": Sobrevivencia as a Way of Knowing for Mexican Transnational Students and Families. *Anthropology & Education Quarterly, 46*(3), 277–294.
- Gutiérrez, K. D., & Rogoff, B. (2003). Cultural ways of learning: Individual traits or repertoires of practice. *Educational Researcher, 32*(5), 19–25.
- Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal, 32*(3), 465-491.
- Levac, L., McMurtry, L., Stienstra, D., Baikie, G., Hanson, C., & Mucina, D. (2018). Learning across Indigenous and Western knowledge systems and intersectionality: Reconciling social science research approaches. *University of Guelph.*

- Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into Practice, 31*(2), 132-141.
- Nasir, N. S., Rosebery, A. S., Warren, B., & Lee, C. D. (2014). Learning as a cultural process: Achieving equity through diversity. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 489–504). Cambridge University Press.
- Peltier, C. (2018). An Application of Two-Eyed Seeing: Indigenous Research Methods With Participatory Action Research. *International Journal of Qualitative Methods, 17*(1).
- Paris, D., & Alim, H. S. (2014). What are we seeking to sustain through culturally sustaining pedagogy? A loving critique forward. *Harvard Educational Review, 84*(1), 85-100.
- Simpson, L. B. (2017). *As we have always done: Indigenous freedom through radical resistance.* University of Minnesota Press.
- Smith, L.T., Tuck, E., & Yang, K.W. (Eds.). (2018). *Indigenous and decolonizing studies in education: Mapping the long view.* Routledge.
- Varghese, T. (2009). Teaching mathematics with a holistic approach. *International Journal of Inclusive Education, 13*(1), 13-22.
- Waitoller, F. R., & King Thorius, K. A. (2016). Cross-pollinating culturally sustaining pedagogy and universal design for learning: Toward an inclusive pedagogy that accounts for dis/ability. *Harvard Educational Review, 86*(3), 366-389.

Current Version: Checkpoint 3.4: Maximize transfer and generalization

No change is recommended for this language.

Provide Multiple Means of Action and Expression

Current Version: Guideline 4: Provide options for physical action

Proposed Update: Options for interaction

Description: Updated to address the limited nature of "physical action." There was concern that "physical action" is too individualistic and does not take into account interaction with the environment and with other individuals. This guideline was updated to replace "physical action" with "interaction."

Rationale: Representative quotes & themes from participants' feedback
- Concerns and confusion around what "physical action" includes or means.
- This guideline could account for interactions with content, the environment, members of the community.

Examples of supporting research
- Davis, N. R., Vossoughi, S., & Smith, J. F. (2020). Learning from below: A micro-ethnographic account of children's self-determination as sociopolitical and intellectual action. *Learning, Culture and Social Interaction, 24*, 100373.

- hooks, b. (1994). Teaching to transgress. Routledge.
- Mendoza, E., Paguyo, C., & Gutiérrez, K. (2016). Understanding the Intersection of Race and Dis/ability. In Conner, D. J., Ferri, B. A., & Annamma, S. A. (Eds.), *DisCrit: Disability studies and critical race theory in education* (pp. 71-86). Teachers College Press.

Current Version: Checkpoint 4.1: Vary the methods for response and navigation

Proposed Update: Vary the methods for response, navigation, and movement

Description: Updated to include the multiple ways that learners physically embody the learning process by adding the notion of "movement."

Rationale: Representative themes from participants' feedback
- Emphasize idea of movement:
  - How do we account for cultural differences associated with movement?; How do we account and value different ways to move in space and be with others?
  - Very individualistic; how do we value ways of collective expression?
  - Pushing against norms of learning being "quiet" or "neck-up."
  - Honor the multiplicity of ways that learners physically embody learning (quiet, singing, walking, standing up, etc.) .
- This guideline should consider the question: How do we account and value different ways to move in space and be with others?

Examples of supporting research
- Cazden, C., Cope, B., Fairclough, N., Gee, J., Kalantzis, M., Kress, G., Luke, A., Luke, C., Michaels, S., & Nakata, M. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1), 60-92.
- Davis, N. R., Vossoughi, S., & Smith, J. F. (2020). Learning from below: A micro-ethnographic account of children's self-determination as sociopolitical and intellectual action. *Learning, Culture and Social Interaction, 24*, 100373.
- Gutiérrez, K. D. (2008). Developing a sociocritical literacy in the third space. *Reading Research Quarterly, 43*(2), 148-164.
- hooks, b. (1994). *Teaching to transgress*. Routledge.
- Ochs, E., & Capps, L. (2009). *Living narrative: Creating lives in everyday storytelling*. Harvard University Press.
- Paris, D., & Alim, H. S. (2014). What are we seeking to sustain through culturally sustaining pedagogy? A loving critique forward. *Harvard Educational Review, 84*(1), 85–100.

Current Version: Checkpoint 4.2: Optimize access to tools and assistive technologies

No change is recommended for this language.

Current Version: Guideline 5: Provide options for expression and communication

No change is recommended for this language beyond removing provide which is a [proposed structural update](#).

Current Version: Checkpoint 5.1: Use multiple media for communication

No change is recommended for this language.

Current Version: Checkpoint 5.2: Use multiple tools for construction and composition

Proposed Update: Use multiple tools for construction, composition, and innovation

Description: Updated to include creative thinking and innovation in support of developing learner agency.

Rationale: Representative quotes & themes from participants' feedback
- Quote: "[Give learners] time to explore and develop creatively and use tools the way they want to."
- Themes:
    - The notion of creativity, innovation, exploration aren't in the Guidelines.
    - It would be great to see words like exploration, creativity, experimenting in the Guidelines.

Examples of supporting research
- Leadbeater, C. (2017), "Student Agency" section of Education 2030 - Conceptual learning framework: Background papers, OECD. Retrieved from http://www.oecd.org/education/2030-project/contact/Conceptual_learning_framework_Conceptual_papers.pdf.
- Shadiev, R., Yi, S., Dang, C., & Sintawati, W. (2022). Facilitating students' creativity, innovation, and entrepreneurship in a telecollaborative project. *Frontiers in Psychology, 13*, 887620.

Current Version: Checkpoint 5.3: Build fluencies with graduated levels of support for practice and performance

Proposed Update: Build fluencies with graduated support for practice

Description: Updated to emphasize the importance of "process over product" and the need to center formative assessment as a valuable part of the learning process. The notion of "graduated levels" sparked concern as this could reinforce a culture of low expectations for learners from historically marginalized groups. This new prompt suggests "graduated support" as opposed to "graduated levels" and emphasizes practice.

Rationale: Representative quotes & themes from participants' feedback

- Quotes:
  - "Formative assessment isn't as called out as it could be."
  - "We think about the connection between equity and rigor. How do all students have access to rigor? Needs to be stated more explicitly."
- Themes:
  - More fully emphasize formative assessment and process as opposed to the end product.
  - "Graduated levels" can imply a watering-down of expectations for some learners.

Examples of supporting research

- Gartner, A., & Lipsky, D. K. (1987). Beyond special education: Toward a quality system for all students. *Harvard Educational Review*, *57*(4), 367-396.
- Geven, S., Wiborg, Ø. N., Fish, R. E., & van de Werfhorst, H. G. (2021). How teachers form educational expectations for students: A comparative factorial survey experiment in three institutional contexts. *Social Science Research*, *100*, 102599.
- Hammond, Z. (2014). *Culturally responsive teaching and the brain: Promoting authentic engagement and rigor among culturally and linguistically diverse students.* Corwin Press.
- Hehir, T. (2002). Eliminating ableism in education. *Harvard Educational Review*, *72*(1), 1-32.
- Kliewer, C., Biklen, D., & Petersen, A. (2015). At the end of intellectual disability. *Harvard Educational Review*, *85*(1), 1-28.
- Kliewer, C., & Fitzgerald, L. M. (2001). Disability, Schooling, and the Artifacts of Colonialism. *Teachers College Record*, *103*(3), 450-70.
- Lee, J. C. (2022). Towards an antiracist classroom formative assessment framework. *Educational Assessment*, *27*(2), 179-186.
- Peterson, R. (2010). The persistence of low expectations in special education law viewed through the lens of therapeutic jurisprudence. *International Journal of Law and Psychiatry*, *33*(5), 375-397.
- Piazza, S. V. (2012). Searching for culturally responsive formative reading assessments: Retellings, comprehension questions, and student interviews. *Language and Literacy, 14*(3), 133-149.
- Timmermans, A. C., & Rubie-Davies, C. M. (2018). Do teachers differ in the level of expectations or in the extent to which they differentiate in expectations? Relations between teacher-level expectations, teacher background and beliefs, and subsequent student performance. *Educational Research and Evaluation*, *24*(3-5), 241-263.
- Thompson, J., Hagenah, S., Kang, H., Stroupe, D., Braaten, M., Colley, C., & Windschitl, M. (2016). Rigor and responsiveness in classroom activity. *Teachers College Record*, *118*(5), 1-58.
- Waitoller, F. R., & King Thorius, K. A. (2016). Cross-pollinating culturally sustaining pedagogy and universal design for learning: Toward an inclusive pedagogy that accounts for dis/ability. *Harvard Educational Review*, *86*(3), 366-389.
- Wang, Y., Engler, K. S., & Oetting, T. L. (2014). Expectations lead to performance: The transformative power of high expectations in preschool. *Odyssey: New Directions in Deaf*

Education, 15, 36-39.

Proposed Addition: Address biases related to modes of expression and communication

Description: Added to address individual and systemic biases that devalue some forms of expression and communication and prioritize others.

Rationale: Representative quotes from participants' feedback
- "Are we favoring one way of students demonstrating understanding over others?"
- "[Emphasize that] one modality is not better than the other."
- "Holistically, I noticed that … the multiple means of expression helps teachers understand to be really focused on their goal and know what you're assessing. And there's multiple ways to express your knowledge. But it doesn't interrogate or address the bias that, at least in the US, seems to happen around the written word. So in the US, the written word is held higher. And so we get … questions like, 'Well, they [students] got to write, what are they going to write?' You know, So we get that through questions when we're presenting UDL. So are there ways that the guidelines could push on that before that question even comes out?"
- "Understanding you are bringing your experiences to the table as a teacher. Have to examine what are the things you are bringing to the table that might get in the way."
- "Directly call out and talk about bias and about the marginalized so it's clear how to address it though the guidelines and checkpoints."
- "Is there a way that we can normalize multiple ways of communicating, normalize all different kinds of use of technology so that it's not trying to value the average or value the normal…? Rather, let's value variability and say everybody can use whatever they want, let's push the limits, let's normalize all different things."
- "I'd love us to be able to really validate that, you know, if a student is deciding to engage with a recording rather than a live class, that it's not them being lazy. It can actually be a really valid learning technique for them that allows for them to pace the learning in a way that suits them. And we shouldn't just discount it and think that if a student isn't at a live class and they're watching a recording, that they're not learning, because that's not what our research has just shown. They're making informed decisions and choosing those options because it's best for them."
- "I'd love to have some sort of prompt within those guidelines to make people reconsider some of those assumptions that they might bring in about those multiple means of those spaces. So if that would be possible, that would be great because then I could point colleagues to that point and say, 'See, this is a valid learning option, and providing that multiple means of action and expression is a really valid thing.' So let's do that."
- "Explicitly call it out … honor student voice and students' ways of showing understanding."

Examples of supporting research

- Annamma, S. A., Connor, D., & Ferri, B. (2013). Dis/ability critical race studies (DisCrit): Theorizing at the intersections of race and dis/ability. *Race, Ethnicity and Education*, *16*(1), 1-31.
- Apple, M. W. (2018). *Ideology and curriculum*. Routledge.
- Delpit, L. (2006). *Other people's children: Cultural conflict in the classroom*. The New Press.
- Jackson, R.G., Thorius, K.A.K., & Kyser, T.S. (2016). Systemic approaches to eliminating disproportionality in special education. *Equity by Design*. The Great Lakes Equity Center (GLEC).
- Ladson-Billings, G. (2006). From the achievement gap to the education debt: Understanding achievement in U.S. schools. *Educational Researcher*, *35*(7), 3–12.
- *Significant Disproportionality in Special Education: Current Trends and Actions for Impact*. (2020). National Center for Learning Disabilities. https://ncld.org/wp-content/uploads/2023/07/2020-NCLD-Disproportionality_Trends-and-Actions-for-Impact_FINAL-1.pdf
- Ochs, E., & Capps, L. (2009). *Living narrative: Creating lives in everyday storytelling*. Harvard University Press.
- Okun, T. (2021). White supremacy culture. https://www.whitesupremacyculture.info/
- Oluo, I. (2019). *So you want to talk about race*. Seal Press.
- Wilkerson, I. (2020). *Caste: The origins of our discontents*. Random House.

Current Version: Guideline 6: Provide options for executive functions

Proposed Update: Options for strategy development

Description: Updated to more accurately describe executive functions as spanning each of the three neural networks aligned to the three principles. The concept of executive function expands beyond one guideline under Multiple Means of Action and Expression and includes practices that also fall under former Guideline 9, "Provide options for self-regulation," and Guideline 3, "Provide Options for comprehension." Thus, the update focuses this guideline on the aspects of executive function that fall under this principle.

Rationale: Representative quotes & themes from participants' feedback
- Quotes:
    - "How do we convey the message that although the thing you're doing might be part of action & expression, it's also very much a part of engagement."
    - "It [Action and Expression Guidelines] could be more explicit in talking about implicit bias and how the checkpoints address that in goals setting, decision making, and power dynamics."
- Theme: Wish there was a way visually or with language to expand on how the guidelines are interconnected and play on one another. Ex. self-regulation & executive function, physical action & communication/expression.

Examples of supporting research

- Cartwright, K. B., Barber, A. T., Zumbrunn, S. K., & Duke, N. K. (2023). Self-regulation and executive function in language arts learning. In D. Lapp & D. Fisher (Eds.), *Handbook of Research on Teaching the English Language Arts* (pp. 312-332). Routledge.

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- Chen, J., Zhou, X., Wu, X., Gao, Z., & Ye, S. (2023). Effects of exergaming on executive functions of children: a systematic review and meta-analysis from 2010 to 2023. *Archives of Public Health*, *81*(1), 182.

- Faith, L. C., & Prowse, V. (2024). How a socially shared approach may rescue the teaching of learning regulation. *Teacher Development*, 1-18.

- Gunzenhauser, C., & Nückles, M. (2021). Training executive functions to improve academic achievement: Tackling avenues to far transfer. *Frontiers in Psychology*, *12*, 624008.

- Khng, K. H. (2024). Cognitive Inhibition in the Classroom. In *Applying the Science of Learning to Education: An Insight into the Mechanisms that Shape Learning* (pp. 243-266). Singapore: Springer Nature Singapore.

- Kangas, M., & Siklander, S. P. A. (2023). Playful Frontiers: Shaping the future of education for playfulness and wellbeing. In *Frontiers in education* (Vol. 8, p. 1345428). Frontiers.

Current Version: Checkpoint 6.1: Guide appropriate goal-setting

Proposed Update: Set meaningful goals

Description: Updated to be more learner-centered and align with actions and characteristics of learner agency. There was also widespread concern around the use of the word "appropriate" and how this word is vulnerable to bias.

Rationale: Representative quotes & themes from participants' feedback

- Quote: "More student centered language when thinking about managing resources or 'guide' appropriate goal setting."
- Theme: The word appropriate can be weaponized to reinforce assimilation and is vulnerable to bias.

Examples of supporting research

- Barringer, D. F., Olmstead, A., & Maldonado, A. (2020, January). Benefits of a student-led astronomy club: lessons to inform instructional design. *Proceedings of the Physics Education Research Conference*.

- Bixler, N. (2023, May 25). Why K-12 schools should choose student-led learning. *EdTech Tips*. https://hapara.com/blog/why-schools-should-choose-student-led-learning

- Breunig, M. (2017). Experientially learning and teaching in a student-directed classroom. *Journal of Experiential Education*, *40*(3), 213-230.

- Callahan, R. M., Humphries, M., & Buontempo, J. (2021). Making meaning, doing math: high school English learners, student-led discussion, and math tracking. *International Multilingual Research Journal*, *15*(1), 82-103.

- Kang, H., & Noh, S. (2020). The Effects of Science Teaching and Learning Using Student-led Instructional Strategies on Elementary School Students' Science Core Competencies. *Journal of Korean Elementary Science Education, 39*(2), 228-242.
- Morrison, C. D. (2014). From 'sage on the stage 'to 'guide on the side': A good start. *International Journal for the Scholarship of Teaching and Learning, 8*(1).
- Muhammad, G. (2020). *Cultivating genius: An equity framework for culturally and historically responsive literacy*. Scholastic.
- Raufelder, D., & Kulakow, S. (2021). The role of the learning environment in adolescents' motivational development. *Motivation and Emotion, 45*(3), 299-311.
- Tucker, C.R. & Novak, K. (2022). *The Shift to Student-Led: Reimagining Classroom Workflows with UDL and Blended Learning*. IMPress Books.

Current Version: Checkpoint 6.2: Support planning and strategy development

Proposed Update: Plan and anticipate challenges

Description: In this proposed update, "strategy development" has moved to the guideline level. Thus, keeping this current checkpoint would be redundant. The proposed update focuses on planning and anticipating challenges.

Given that this is a purely logistical update, we do not list representative quotes & themes or supporting research.

Current Version: Checkpoint 6.3: Facilitate managing information and resources

Proposed Update: Organize information and resources

Description: Updated to align with actions that are more learner-centered.

Rationale: Representative quotes & themes from participants' feedback
- "It's all about who has the power. So is it the educator that is immediately perceived as 'you have the power or the autonomy or the ownership,' and then it comes back to kind of that deeper identity level. And if you're talking about co-design and breaking down those kinds of powers, then that word 'provide' has a very significant meaning because 'I am giving you this' ... 'I am providing you with this' ... On the other hand, we have certain responsibilities, and I don't wanna get away from that either."
- "Teachers are trying to create engaging activities to learn. Why are the teachers creating the activities? Where are they coming from? You should be having them [the students] lead."
- "How do we help all of these university professors or community college professors or k-12 people realize that it's not about me dispensing knowledge?...Where is that in the guidelines now and where could that maybe be more explicit?...Is the word co-design anywhere in the guidelines? Maybe that ought to be somewhere?"

Examples of supporting research

- Barringer, D. F., Olmstead, A., & Maldonado, A. (2020, January). Benefits of a student-led astronomy club: lessons to inform instructional design. *Proceedings of the Physics Education Research Conference.*
- Bixler, N. (2023, May 25). Why K-12 schools should choose student-led learning. *EdTech Tips.* https://hapara.com/blog/why-schools-should-choose-student-led-learning
- Breunig, M. (2017). Experientially learning and teaching in a student-directed classroom. *Journal of Experiential Education, 40*(3), 213-230.
- Callahan, R. M., Humphries, M., & Buontempo, J. (2021). Making meaning, doing math: high school English learners, student-led discussion, and math tracking. *International Multilingual Research Journal, 15*(1), 82-103.
- Kang, H., & Noh, S. (2020). The Effects of Science Teaching and Learning Using Student-led Instructional Strategies on Elementary School Students' Science Core Competencies. *Journal of Korean Elementary Science Education, 39*(2), 228-242.
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- Raufelder, D., & Kulakow, S. (2021). The role of the learning environment in adolescents' motivational development. *Motivation and Emotion, 45*(3), 299-311.
- Tucker, C.R. & Novak, K. (2022). *The Shift to Student-Led: Reimagining Classroom Workflows with UDL and Blended Learning.* IMPress Books.

Current Version: Checkpoint 6.4: Enhance capacity for monitoring progress
No change is recommended for this language.

The Goal of UDL: Expert Learning

Current Version: Goal: Expert learners who are…purposeful and motivated, resourceful and knowledgeable, and strategic and goal driven.
Proposed Update: Goal: Individual and collective learning that is…purposeful, motivated, and reflective; authentic, resourceful, and knowledgeable; strategic, creative, and liberatory.

Description: Feedback from focus groups, the Advisory Board, and the Guidelines Collaborative, as well as the review of the literature, emphasized concern that the term "expert" implies ideas of exclusivity and a finite ending to the learning process. They also assert that the conceptualization of "expert learning" devalues the importance of collectively generating knowledge and fails to recognize the brilliance inherent in every learner. To address these concerns, we have removed the term "expert," and instead focus on individual and collective learning. We have kept many of the same characteristics, but added in the new characteristics of "reflective," "authentic," "creative," and "liberatory" to more fully align with the characteristics of learner agency and the expanded themes across the update.

Rationale: Representative quotes & themes from participants' feedback

- Participants express concern for what the term "expert" implies.
    - "I've always been a little bothered by the word expert, because too many times, I think teacher education programs teach teachers to be the expert in front of the room, and we know–you know, we keep hearing about dumping information into this open receptacle of the student, and how we are not the expert. Yet, we are teaching kids to be an expert learner."
    - "I feel like it's [the word "expert"] almost having people get the end result. To be competitive, like, you need to be the best. You need to get this expert thing. And it's not that."
    - "I know when I think about expert learners, my brain automatically goes to the CAST language and I can't disconnect that. I know, though, when I talk to other people who don't have that information already, sometimes that is viewed as an exclusive word."
    - "For me, expert implies the other, which is lack of expertise. It's very hierarchical: so there are experts and people who aren't experts. Even though I'm trying to get my students to understand that an expert learner means you're expert at learning, it doesn't mean you know more than someone else … But still there is that gloss on the word expert. There's experts, and then the rest of us."
- Participants express concern that the conceptualization of "expert learning" does not emphasize the importance of collectively generating knowledge.
    - "We want students to be learning and building together–sharing their stories."
    - *"One of the things that my students talk about at the end [of a unit] … we talk about what they've learned, and a lot of it is because of one another. It starts to develop this more collectivist space. They talk about their own confidence, their own stretching, their own growth. And it really is because of the community, you know? Part of it is deeply embedded in the idea that they hold one another up. That they are learning how to communicate, provide feedback, trust one another … A lot of it is about who they are in a community and how feeling value in that community helped them to grow."*
    - "When we are in the classroom we are still social beings. We need to share and learn together."
- Participants express concern that the notion of "expert learning" fails to recognize the brilliance inherent in every learner.
    - "I've struggled with the term expert learning for quite some time. We talk a lot about in our professional development models and modules that the goal of UDL is expert learning. My disconnect from it is that I believe we all come to the table as experts in our own lived experiences already. And, I don't feel like I am in the position to make you an expert on yourself. I kind of feel like you already are and you have that innate ability."
    - "I have a disconnect from it [expert learning]. And in a lot of our professional

learning modules, the goal of UDL is expert learning. But I really feel like we are all experts already and in ourselves and in our lived experiences. And, at least in my mind, I'm grappling with that and where do I go from there."
- ○ "In terms of family engagement, we don't highlight the 'expert' because I always try to tell all of my [parents] that they are the experts already … you come in as an expert."

Examples of supporting research

- Brown, A. L., Metz, K. E., & Campione, J. C. (2013). Social interaction and individual understanding in a community of learners: The influence of Piaget and Vygotsky. In A. Tryphon & J. Vonèche (Eds.), *Piaget- Vygotsky: The social genesis of thought* (pp. 145-170). Psychology Press.

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- Espinoza, M. L., Vossoughi, S., Rose, M., & Poza, L. E. (2020). Matters of participation: Notes on the study of dignity and learning. *Mind, Culture, and Activity, 27*(4), 325–347.
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- Hammond, Z. (2014). *Culturally responsive teaching and the brain: Promoting authentic engagement and rigor among culturally and linguistically diverse students.* Corwin Press.
- Kilgore, D. W. (1999). Understanding learning in social movements: A theory of collective learning. *International Journal of Lifelong Education, 18*(3), 191-202.
- Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal, 32*(3), 465–491.
- Lave, J. & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. Cambridge: Cambridge University Press.
- Nasir, N. I. (2011). *Racialized identities: Race and achievement among African American youth.* Stanford University Press.
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- Palinscar, A. S., & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction, 1*(2), 117-175.
- Paris, D., & Alim, H. S. (Eds.). (2017). *Culturally sustaining pedagogies: Teaching and learning for justice in a changing world.* Teachers College Press.
- Waitoller, F. R., & King Thorius, K. A. (2016). Cross-pollinating culturally sustaining pedagogy and universal design for learning: Toward an inclusive pedagogy that accounts for dis/ability. *Harvard Educational Review, 86*(3), 366-389.