UNIVERSAL DESIGN FOR LEARNING AND INCLUSION TOOLKIT

DEVELOPED IN COLLABORATION WITH ELIOT-PEARSON CHILDREN'S SCHOOL

PREPARED BY KAITLYN IRWIN, OT/S

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I. BACKGROUND

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Inclusion and Early Childhood Education

Early childhood education is one of the natural learning environments for many children. In 2018, 68 percent of 4-year-olds and 84 percent of 5-year-olds in the United States attended early childhood education programs, including preschool and kindergarten (National Center for Education Statistics, 2020). Involvement in early childhood education has been shown to decrease involvement in special education, decrease grade retention, and increase high school graduation rates (McCoy et al., 2017).

Despite the importance of early childhood education, many children with disabilities do not access this educational experience to the same degree as their peers, often experiencing barriers. For children and youth with [dis]abilities ages 5-17, aspects of the weather, physical, cognitive, and social demands of activities, and sensory aspects of the environment have been identified as environmental barriers in accessing school for this population (Coster et al., 2013). At the preschool and daycare level, when compared to "typically-developing" children, young children with disabilities and developmental delays have been found to be less involved in preschool and daycare activities and their parents perceive their educational environments as not being as supportive of their needs (Benjamin et al., 2017).

Inclusion at the preschool level can have a variety of impacts. Inclusive preschools have been found to have significant academic and social improvements for both children with disabilities and those who are "typically-developing" (Warren et al., 2016; Lieber et al., 2008). High-quality inclusion at the preschool level has also been found to benefit families and school communities (Warren et al., 2016).

Aspects of the environment also play an important role in early childhood education's promotion of inclusion. For instance, Souto-Manning et al. (2019) highlight the need for balanced representation of students of all identities in classroom materials in order to develop a sense of belongingness without placing an emphasis on one particular group. They also highlight the "transformative potential" that children's literature can have for promoting inclusion, equity, and cultural and ethnic relevance for all children of all identities, as literature can allow children to understand different perspectives through stories that may be real or make-believe (Souto-Manning et al., 2019, p. 68). Dual-language books have also been identified by Naqvi et al. (2012) as a way to incorporate cultural and linguistic responsiveness into the classroom. However, only 35% of the study's observed sessions were supplemented with "culturally and linguistically responsive teaching" to support the children who were in the language minority (Naqvi et al., 2012, p. 522). It is therefore critical to intentionally approach literature and the presentation of classroom materials and literature when considering inclusion in the classroom in order to support children of all identities.

Universal Design for Learning

Universal design is a concept emerging from architectural engineering that physical spaces should be constructed to accommodate all individuals, rather than retroactively adapting them to meet physical needs of certain individuals (Murawski & Scott, 2019). The principles of universal design are listed and defined in Table 1 below.

Table 1.
Universal Design Principles

Principle of Universal Design	Meaning
"Equitable Use"	The item or space is useful and can be advertised to individuals who have all different abilities.
"Flexibility in Use"	The item or space can allow for differences in abilities and people's "preferences."
"Simple and Intuitive Use"	The product or space can be easily utilized despite variations in cognitive level, prior interaction, language knowledge, or prior knowledge.
"Perceptible Information"	The product or space can be easily utilized regardless of environmental sensory input or the individual's sensory experiences.
"Tolerance for Error"	The product or space reduces potential safety risks and potential accidental movements or actions.
"Low Physical Effort"	The way in which the product or space is designed allows for use with a minimal amount of fatigue.
"Size and Space for Approach and Use"	The product or space can be easily accessed and used by individuals of different abilities and characteristics, particularly with regards to size, mobility status, and posture.

(Ruffino et al., 2006, p. 27)

Building off of universal design, ***universal design for learning (UDL)*** is a framework that looks at providing access to the curriculum for all children. UDL emerged from the Center of Applied Special Technology, which remains at the forefront of UDL education and as a primary resource for this framework.

There are six professional standards for early childhood education presented by the National Association for the Education of Young Children (NAEYC), which include:

- "Child Development and Learning in Context,"
- "Family-Teacher Partnerships and Community Connections,"
- "Child Observation, Documentation, and Assessment,"
- "Developmentally, Culturally, and Linguistically Appropriate Teaching Practices,"
- "Knowledge, Application, and Integration of Academic Content in the Early Childhood Curriculum," and
- "Professionalism as an Early Childhood Educator" (National Association for the Education of Young Children [NAECY], 2020, p. 3-4).

Within the third standard of "Developmentally, Culturally, and Linguistically Appropriate Teaching Practices" is the framework of universal design for learning.

UDL assumes and anticipates the variability and diversity of learners and acknowledges differences through "alternatives, options, and adaptations" (Clark et al., 2019). This is in contrast to the traditional "'One-size-fits-all'" approach of education (Fritzgerald, 2020, p.47).

The goal of UDL is to create *expert learners* who are (1) "Purposeful & Motivated," (2) "Resourceful & Knowledgeable," and (3) "Strategic & Goal-Directed" (CAST, 2022ac). According to Lohmann et al. (2018), expert learners are "aware of [their]…own learning needs and…seek out ways to ensure those needs are met" (p. 2).

Universal design for learning considers disability from the perspective of the ***social model of disability***, where the disabling features are found in the environment, rather than in the person, with the environment and the curriculum needing to be fixed to address these "curricular 'disabilities'" (Hall et al., 2012). This differs from the traditional approach to disability, which is the ***medical model of disability***, which places the disabling features to be "fixed" as being within the individual (Durham University Centre for Academic Development, 2021).

The three main principles of universal design for learning are *multiple means of engagement*, *multiple means of representation*, and *multiple means of action and expression* (CAST, 2022ac). These are depicted in Figure 1.

(1) ***Multiple means of engagement*** is the "why" of learning, which refers to the provision of different options to motivate children to initiate and continue learning (CAST, 2022ac). Engagement involves options that are meaningful to students (Murawski & Scott, 2019). It asks the key question of whether students "'buy into it'" (Murawski & Scott, 2019, p. 229).

(2) ***Multiple means of representation*** is the "what" of learning which refers to the provision of different options of what is presented to children to learn (CAST, 2022ac). It asks the key question of whether a child *understands* the information presented (Murawski & Scott, 2019).

(3) ***Multiple means of action and expression*** is the "how" of learning, which refers to the provision of different options for children to demonstrate what they have learned (CAST, 2022ac). It asks the critical question of whether a child can *do* what is being asked of them (Murawski & Scott, 2019).

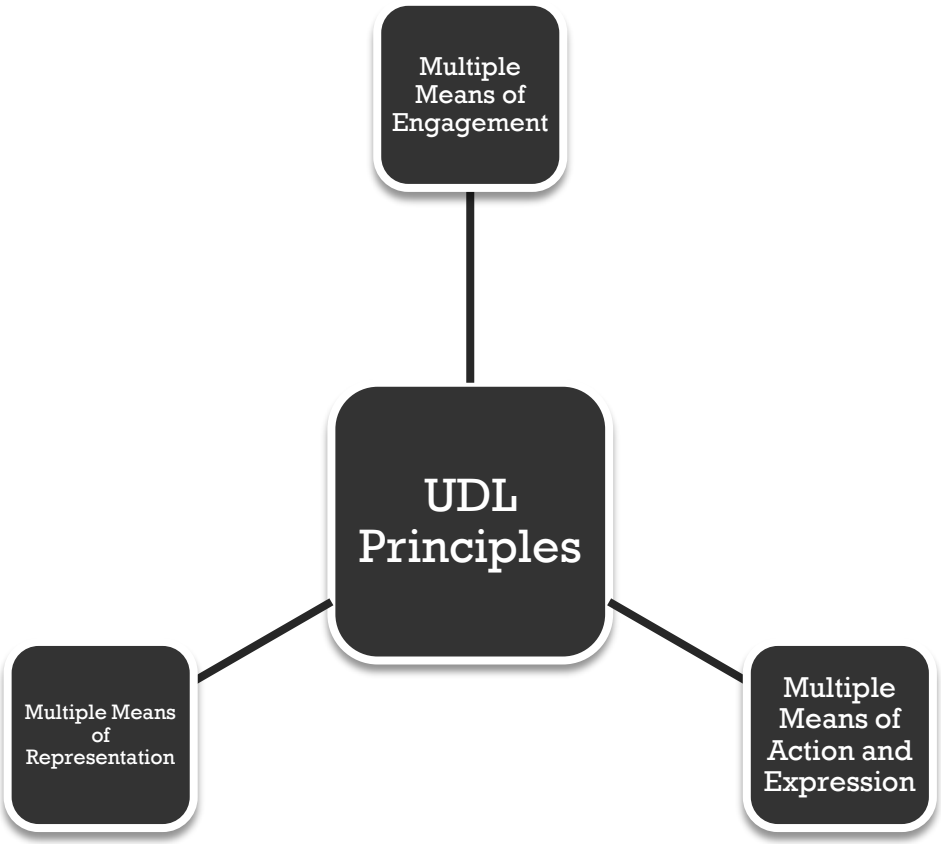

Figure 1: Universal Design for Learning Principles. Pictured are four squares, with a square labeled "UDL Principles" in the middle connected to squares labeled "Multiple Means of Engagement," "Multiple Means of Representation," and "Multiple Means of Action and Expression" (CAST, 2022ac).

According to Hall et al. (2012), "The aim of UDL is to maintain those desirable difficulties while reducing or eliminating 'undesirable difficulties;' barriers to learning that arise and that are irrelevant to the goals of learning" (Hall et al., 2012). Through the provision of "cognitive curb cuts," barriers in the classroom are reduced, thereby increasing student learning and success (Clark et al., 2019). In the provision of "alternatives, options, and adaptations" in the classroom, UDL supports children in being able to customize their learning using a flexible curriculum (Clark et al., 2019, p. 162; Fritzgerald, 2020).

While UDL provides options for learners to choose based on their preferences and strengths, this does not equate to eliminating challenge in their learning. Rather, Fritzgerald (2020) notes that children in antiracist and UDL-designed classrooms engage in "Supported struggle" where "learners are aware of the supports that are available to

them and that they know how to use them" to complete a given activity, therefore providing an appropriate level of challenge where children are still able to succeed with the appropriate supports (p. 20).

Principles of universal design for learning benefit not only individuals with [dis]abilities, but also the range of learners present in the classroom, including addressing racism as a barrier (Fritzgerald, 2020). Universal design for learning is "'essential for some, good for all'" (Ontario, 2004, as cited in Meyer et al., 2014).

Universal design for learning has been an emerging area within early childhood education. Conn-Powers et al. (2006) applied the concept of UDL and its principles to early childhood education. Conn-Powers and colleagues identify the importance of an inclusive physical, social-emotional, and teaching environment to ensure equitable access to educational activities for all children. They also note the importance of health and safety aspects of programming for all children, regardless of their particular "health status", "assessment and program evaluation" that addresses all needs, and involvement for all families in the education process (Conn-Powers et al., 2006, pp. 5-6).

The use of universal design and UDL supports all children, regardless of their needs, through their physical, social, and instructional environments (Dixon, 2008). It is also critical for local autonomy and independence, which are important in a child's development (Stockall et al., 2012). One key concept for UDL is the idea that the teacher begins "with accessible physical and instructional environments, rather than creating a curriculum and then adapting to it," therefore making the curriculum design proactive rather than reactive (Barton & Smith, 2015, p. 72; Parette & Blum, 2014). In its aim to provide access to the curriculum for all learners through a proactive approach, UDL is therefore an important guiding approach for inclusive programming.

For additional information on the UDL framework, including a chart of the principles, guidelines, and checkpoints, visit http://udlguidelines.cast.org.

Universal Design for Learning vs. Differentiated Instruction

Universal design for learning is a proactive approach that provides multiple options to increase access and participation in the classroom, rather than retroactively adapting the curriculum to meet the needs of specific children (Parette & Blum, 2014). While differentiated instruction is still critical for some learners, UDL is designed specifically to address variability within the curriculum, which, in turn, will reduce the number of accommodations needed for individual children. This, in turn, reduces the pressure placed on teachers by minimizing the individual accommodations needed.

Existing Tools

There are a few pre-existing tools that discuss universal design for learning or inclusion in the classroom. These include the *Early Childhood Environment Rating Scale®*, Third Edition (ECERS-3), the *Inclusive Classroom Profile* (ICP™), Research Edition.

1) *Early Childhood Environment Rating Scale®*: Third Edition (ECERS-3)

The Early Childhood Environment Rating Scale®: Third Edition (ECERS-3) is a classroom-wide tool designed for classrooms with ages 3-5 (Harms et al., 2015). It consists of 35 items focusing on the following subscales:

- "Space and Furnishings,"
- "Personal Care Routines,"
- "Language and Literacy,"
- "Learning Activities,"
- "Interaction," and
- "Program Structure" (Harms et al., 2015).

Items are provided with scores of 1 ("Inadequate") to 7 ("Excellent"), with individual "indicators" being scored with specific details pertaining to the program (Harms et al., 2015).

2) School-Age Care Environment Rating Scale: Updated Edition

The School-Age Care Environment Rating Scale: Updated Edition (SACERS) is designed for use in after-school care environment for elementary school children (Harms et al., 2014). It consists of 47 items within the following subscales:

- "Space and Furnishings,"
- "Health and Safety,"
- "Activities,"
- "Interactions,"
- "Program Structure,"
- "Staff Development," and
- "Special Needs Supplementary Items" (Harms et al., 2014).

Items are scored similarly to the ECERS-3 from scores of 1 ("Inadequate") to 7 ("Excellent") (Harms et al., 2014).

3) *Inclusive Classroom Profile* (ICP™): Research Edition

The Inclusive Classroom Profile (ICP™): Research Edition, is an observation-based tool that addresses inclusion in the classroom (Soukakou, 2016). The ICP consists of 12 items, namely:

- "Adaptations of Space, Materials, and Equipment,"
- "Adult Involvement in Peer Interactions,"
- "Adults' Guidance of Children's Free-Choice Activities and Play,"
- "Conflict Resolution,"
- "Membership,"
- "Relationships Between Adults and Children,"
- "Support for Communication,"
- "Adaptations of Group Activities,"
- "Transitions Between Activities,"
- "Feedback,"
- "Family-Professional Partnerships," and
- "Monitoring Children's Learning" (Soukakou, 2016).

These items are supplemented by interview questions that are asked primarily of the head teacher in the classroom (Soukakou, 2016).

II. TOOL INSTRUCTIONS

IN THIS SECTION:

- Tool Creation
- Administration
- Scoring
- Strategies and Action Plan

Tool Creation

The Universal Design for Learning and Inclusion Tool (UDLI Tool) was developed in Spring of 2022 for Eliot-Pearson Children's School (EPCS) in Medford, Massachusetts as part of a doctoral project completed by Kaitlyn Irwin of the Tufts University Department of Occupational Therapy. This tool is specifically designed for classroom evaluation in a preschool through first grade setting, with ages 4 through 7 and was a joint effort by Kaitlyn Irwin and the members of the EPCS community.

This tool was informed by observations in the older two classrooms of EPCS, prior knowledge and experiences, and through informal discussions and provision of site-engaged feedback with classroom teachers, EPCS Fellows, administration, other stakeholders present at the site (e.g., occupational therapists), and faculty mentor. A special acknowledgement is given to site mentors and administration Dr. Hanna Gebretensae, Lynne May Lim, and Marisa Spitz, as well as to faculty mentor Dr. Gary Bedell.

This tool was also informed by the Universal Design for Learning guidelines from the Center for Applied Special Technology (CAST), as well as by various relevant tools and materials for this age group, including:

- *Inclusive Classroom Profile* (Soukakou, 2016)
- *Early Childhood Environment Rating Scale: Third Edition* (ECERS-3) (Harms et al., 2015)
- *School-Age Care Environment Rating Scale: Updated Edition* (SACERS) (Harms et al., 2014)
- *Universal Design for Learning: A Checklist for Early Childhood Learning Environments* (Mistrett, 2017)

This tool also considered occupational therapy's ***Person-Environment-Occupation Model***, which views participation as the intersection of the characteristics of a person, their physical and social environment, and the activity, or occupation (Law et al., 1996). This UDLI tool considers the characteristics of these three areas throughout the available questions.

Administration

This tool should be administered by an individual or by a classroom team. There are 72 items, pertaining to both universal design for learning and inclusion. There is space for additional notes and observations to be recorded, particularly pertaining to what is already being done in each item.

The scoring involved with this tool should be supplemented with observations of the classroom experience, what is already being done in this area, and what challenges you may have.

Scoring

Each item will be provided a score of "Most of the time," "Some of the time," "Not often/Never," or "N/A" (Not Applicable). The space provided below each question is for classroom teachers/teams to document what they are doing in this area, examples, and any observations or reflections. At the end of each section, the number of "Most of the time", "Some of the time", and "Not Often/Never" responses can be added together for a total.

Strategies and Action Plan

Following the series of questions is a list of potential strategies. With the focus of UDLI in mind, individuals using this tool can select strategies to implement in their classrooms within the four areas of "Environment and Materials," "Choice Time," "Academic Time,", "Transitions," and "General Strategies," as well as "General Inclusion Strategies." There are also spaces for additional strategies to be added. At the end of the tool, there are two versions of an "Action Plan," as well as a lesson planning document, where teachers can describe what they are going to do to implement UDLI in the classroom to increase accountability and follow-through.

III. UDLI TOOL

IN THIS SECTION:

- Directions
- Tool
- Alternate Use Guide

Universal Design for Learning and Inclusion Tool

By Kaitlyn Irwin, OT/s

Directions: Reflecting on the classroom experience over the last two weeks, categorize each item as "Most of the time," "Some of the time," "Not often/Never," or "N/A". Use the spaces below each question to record what you are doing in each area, children's performance and contributions to the classroom, examples, and observations or reflections. Consider both plans and actual experiences, reflecting upon children's impact on and interaction with classroom plans and design. These reflections will then be used to acknowledge what is already being done and what additional planning may be needed to incorporate UDLI concepts into your classroom. Use these areas to *guide* your planning, rather than governing it (Meyer et al., 2014).

The following areas were chosen as a focus for the development of this tool:

1) Choice Time
2) Morning Meeting/Focus Groups/Exploration Groups/Academic Time
3) Transitions
4) Other/Classroom Design

However, this tool can be applied to other areas of the classroom and times of the day that you feel are most pertinent for your classroom.

This tool may be modified as needed to best fit a school's needs.

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Section I- Multiple Means of Engagement

Guideline 1: "Recruiting Interest" (CAST, 2022ac)

☑*Checkpoint 1: "Optimize individual choice and autonomy"* (CAST, 2022ac)

1. Are children involved in designing classroom activities? (CAST, 2022v)

O Most of the time O Some of the time O Not often/Never O N/A

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2. Are children provided with options for alternative seating to increase regulation, attention, and body organization? For example, can children use seat cushions or modifications, bean bag chairs, or other alternative seating options? (Goalbook Toolkit, 2022a)

O Most of the time O Some of the time O Not often/Never O N/A

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3. Are children's interests demonstrated in the classroom environment (e.g., on classroom signage/displays, in activities) and also referenced by classroom teachers? (Harms et al., 2015).

O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 2: "Optimize relevance, value, and authenticity"* (CAST, 2022ac)

4. Does my classroom offer a variety of activities throughout the day that are relevant to the children in my classroom (e.g., culturally aware, socially applicable, applicable to different identities)? (CAST, 2022w)

O Most of the time O Some of the time O Not often/Never O N/A

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5. Does my classroom offer a variety of activities throughout the day that are appropriate for the range in development of ability levels of the children in my classroom? (CAST, 2022w)

O Most of the time O Some of the time O Not often/Never O N/A

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6. Are children given opportunities to tell their own stories (e.g., sharing their experiences, create their own books, performances, and puppet shows, participating in class discussions)? (Goalbook Toolkit, 2022k)

O Most of the time O Some of the time O Not often/Never O N/A

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7. Is classroom's signage representative of multiple identities (e.g., individuals of different races, ethnicities, genders, [dis]ability status, sexual orientation, religions) and reflect the identities of the children in your classroom? (Fritzgerald, 2020)

O Most of the time O Some of the time O Not often/Never O N/A

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8. Does my classroom signage and materials include images of students, their families, and their communities (e.g., "About Me" books showing pictures of students' families, wall of community members)? (Gauvreau et al., 2021)

O Most of the time O Some of the time O Not often/Never O N/A

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☑ *Checkpoint 3: "Minimize threats and distractions"* (CAST, 2022ac)

9. Do teachers provide cues to potential changes in routines and other parts of the school day (e.g., auditory and visual alerts) and are there predictable routines in the day? (CAST, 2022q)

O Most of the time O Some of the time O Not often/Never O N/A

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10. Do teachers provide self-regulation tools (e.g., fidgets, weighted lap pads, bean bags) to support children in developing self-regulation skills and increase attention? (Goalbook Toolkit, 2022e; Goalbook Toolkit, 2022i)

O Most of the Time O Some of the time O Not often/Never O N/A

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11. If the answer to #10 is "Most/Some of the time", are the self-regulation tools providing fulfilling their purpose (e.g., does it seem to calm them when you want them to, increase attention to activity, alert them when you want them to?)

O Most of the time O Some of the time O Not often/Never O N/A

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12. Do teachers involve sensory-rich transitions between activities (e.g., use of stomping, deep breathing, heavy work)? (Goalbook Toolkit, 2022h; see Appendices for additional information on heavy work)

O Most of the time O Some of the time O Not often/Never O N/A

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13. Does my classroom define expectations and review them throughout the year, so that students develop trust and feel safe to learn in the classroom? (Fritzgerald, 2020)

O Most of the time O Some of the time O Not often/Never O N/A

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Guideline 2: Sustaining Effort and Persistence (CAST, 2022ac)

☑ *Checkpoint 1: "Heighten salience of goals and objectives"* (CAST, 2022ac)

14. Do teachers provide reminders to children to increase awareness of goals of activities and the "why" of what they are doing? (CAST, 2022l)

O Most of the time O Some of the time O Not often/Never O N/A

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15. Are the goals of activities made clear in multiple ways in the classroom environment (e.g., via words, visuals) and referenced by teachers to make it meaningful? (CAST, 2022l; Brillante & Nemeth, 2018)

O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 2: "Vary demands and resources to optimize challenge"* (CAST, 2022ac)

16. Do my activities include a range of demands or levels of difficulty to provide the "just right" challenge for each learner to increase motivation and learning (e.g., easy, medium, and difficult activities) so that students can engage in "Supported struggle"? (CAST, 2022af; Relay Graduate School of Education Library, 2022d; Fritzgerald, 2020, p. 20).

O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 3: "Foster collaboration and community"* (CAST, 2022ac)

17. Does my classroom have flexible groups to increase collaboration among peers and allow for greater opportunity for different roles (e.g., groups composed of different children throughout the day and/or different roles in each group in comparison to consistent groups made of the same people with children maintaining consistent roles)? (CAST, 2022i)

O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 4: "Increase mastery-oriented feedback"* (CAST, 2022ac)

18. Does teachers' feedback to students highlight effort, persistence, and improvement rather than the outcome (e.g., focusing on the process and the student's involvement rather than the product) to increase self-efficacy? (CAST, 2022o)
O Most of the time O Some of the time O Not often/Never O N/A

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19. Is specific feedback focused on children's process (including verbal, visual, and progress tracking) provided before, during, and after a student completes a task and in a timely manner (e.g., so that the child can closely connect the feedback to their behavior/performance/effort; detailed feedback rather than "Good job!")? (CAST, 2022o)
O Most of the time O Some of the time O Not often/Never O N/A

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Guideline 3: Self-Regulation (CAST, 2022ac)

☑*Checkpoint 1: "Promote expectations and beliefs that optimize motivation"* (CAST, 2022ac)

20. Do teachers provide prompts and reminders regarding length of time children stay "on task" despite potential distractors to increase motivation? (CAST, 2022y)
O Most of the time O Some of the time O Not often/Never O N/A

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21. In order to increase motivation, does my classroom allow for children's self-reflection on their own self-regulation (e.g., manage emotions, reduce activity level, focus on activities)? (CAST, 2022y)

O Most of the time O Some of the time O Not often/Never O N/A

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☑ *Checkpoint 2: "Facilitate personal coping skills and strategies"* (CAST, 2022ac)

22. Do teachers support the classroom unit in developing coping and self-regulation skills (e.g., discussing regulation as a class, practicing coping skills together)? (CAST, 2022h)

O Most of the time O Some of the time O Not often/Never O N/A

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23. Do teachers encourage all students to utilize regulation spaces to increase their self-regulation skills?

O Most of the time O Some of the time O Not often/Never O N/A

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☑ *Checkpoint 3: "Develop self-assessment and reflection"* (CAST, 2022ac)

24. Do teachers provide children with charts and other means of monitoring their progress in their behaviors and engage them in using them? (CAST, 2022e)

O Most of the time O Some of the time O Not often/Never O N/A

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25. Does my classroom use activities that allow for feedback to support children's monitoring of progress with their own behaviors? (CAST, 2022e)

O Most of the time O Some of the time O Not often/Never O N/A

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Total "Most of the time": _____/25
Total "Some of the time": _____/25
Total "Not Often/Never": _____/25

Section II- Multiple Means of Representation

Guideline 1: Perception (CAST, 2022ac)

1. Do teachers provide multiple forms of the same material (e.g., visual, auditory, tactile, kinesthetic) during academic time, providing instructions, transitions, choice time, and other pertinent times of the day when conveying a message? (CAST, 2022x)

O Most of the time O Some of the time O Not often/Never O N/A

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2. Does my classroom environment have signage with both words and pictures regarding classroom routines, schedules, roles, rules, and expectations and are these areas verbally reviewed or referenced by teachers to make them meaningful (Brillante & Nemeth, 2018)?

O Most of the time O Some of the time O Not often/Never O N/A

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3. Are materials labeled with both images and words/print to increase children's understanding of what an item is and what to do with it? (Harms et al., 2015; Brillante and Nemeth, 2018)

O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 1: "Offer ways of customizing the display of information"* (CAST, 2022ac)

4. In digital materials, can children customize the font, color, volume, and other features to access the material used? (CAST, 2022t)

O Most of the time O Some of the time O Not often/ Never O N/A

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☑*Checkpoint 2: "Offer alternatives for auditory information"* (CAST, 2022ac)

5. Do teachers utilize some words in sign language with verbal language to expand representation of auditory information presented? (Goalbook Toolkit, 2022d)

O Most of the time O Some of the time O Not often/Never O N/A

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6. Do teachers use visual (e.g., emojis, symbols, pictures), tactile, and kinesthetic (e.g., movement) alternatives to emphasize auditory information? (CAST, 2022r)

O Most of the time O Some of the time O Not often/Never O N/A

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☑ *Checkpoint 3: "Offer alternatives for visual information"* (CAST, 2022ac)

7. Does my classroom have a "Listening Station" where students can access audiobooks? (Goalbook Toolkit, 2022g)

O Most of the time O Some of the time O Not Often/ Never O N/A

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8. Do teachers provide physical objects/manipulatives in addition to visual information presented? (CAST, 2022s)

O Most of the time O Some of the time O Not often/Never O N/A

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9. Do teachers provide verbal descriptions of any visual information presented? (CAST, 2022s)

O Most of the time O Some of the time O Not often/Never O N/A

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Guideline 2: Language and Symbols (CAST, 2022ac)

☑ *Checkpoint 1: "Clarify vocabulary and symbols"* (CAST, 2022ac)

10. Do teachers pre-teach vocabulary and mathematical symbols while connecting it to children's prior learning and understanding (e.g., elaborate on meaning of a word in manner that the children can comprehend) (CAST, 2022d; Harms et al., 2015).
O Most of the time O Some of the time O Not often/Never O N/A

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☑ *Checkpoint 2: "Clarify syntax and structure"* (CAST, 2022ac)

11. Do teachers explain how mathematical and grammatical concepts are structured (e.g., with addition and sentence construction) to support student understanding and explain big ideas in ways that students will understand? (CAST, 2022c)
O Most of the time O Some of the time O Not Often/Never O N/A

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☑*Checkpoint 3: "Support decoding of text, mathematical notation, and symbols"* (CAST, 2022ac)

12. Does my classroom provide exposure to the meaning of different symbols and support children from different regional languages (e.g., explicitly instructing children in academic grammar and vocabulary)? (CAST, 2022aa)

O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 4: "Promote understanding across languages"* (CAST, 2022ac)

13. Does my classroom acknowledge, normalize, and involve children's home languages in addition to English (e.g., present information in home languages, support children with visuals to increase their understanding of vocabulary, include electronic translators)? (CAST, 2022z)

O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 5: "Illustrate through multiple media"* (CAST, 2022ac)

14. Do teachers provide alternative representations of symbols (e.g., mathematics, literacy), such as through dance/movement, diagrams, photographs, manipulatives (e.g., models, base 10 blocks), videos, and technology? (CAST, 2022n)

O Most of the time O Some of the time O Not often/Never O N/A

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Guideline 3: Comprehension (CAST, 2022ac)

☑*Checkpoint 1: "Activate or supply background knowledge"* (CAST, 2022ac)

15. Do teachers make explicit connections to background knowledge and other areas of the curriculum during instruction and discussion (e.g., use of KWL charts, connections to children's prior knowledge and experiences) to increase children's connections to and relationships with the materials presented? (CAST, 2022a)

O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 2: "Highlight patterns, critical features, big ideas, and relationships"* (CAST, 2022ac)

16. Do teachers draw attention to prior knowledge and skills to manage new challenges (e.g., reference times when children have handled similar difficulties, identify existing knowledge that can support children in problem-solving)? (CAST, 2022m)

O Most of the time O Some of the time O Not often/Never O N/A

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17. Do teachers cue children regarding main characteristics of information and materials that are the most critical for their learning (e.g., identify pertinent information and ignore irrelevant information)? (CAST, 2022m)

O Most of the time O Some of the time O Not often/Never O N/A

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☑ *Checkpoint 3: "Guide information processing and visualization"* (CAST, 2022ac)

18. Do teachers "chunk" information presented to allow for increased processing (e.g., breaking down information into smaller pieces for children to better understand)? (CAST, 2022k)

O Most of the time O Some of the time O Not often/Never O N/A

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19. Do teachers provide explicit steps for sequences in activities (e.g., verbal, visual, and physical demonstration of step-by-step instructions to support children in developing sequencing skills)? (CAST, 2022k)

O Most of the time O Some of the time O Not often/ Never O N/A

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☑*Checkpoint 4: "Maximize transfer and generalization"* (CAST, 2022ac)

20. Do my activities allow children to apply prior skills, knowledge, and experiences to new activities? (CAST, 2022p)

O Most of the time O Some of the time O Not often/Never O N/A

Total "Most of the time": _____/20
Total "Some of the time": _____/20
Total "Not Often/Never": _____/20

Section III- Multiple Means of Action and Expression

Guideline 1: Physical Action (CAST, 2022ac)

☑*Checkpoint 1: "Vary the methods for response and navigation"* (CAST, 2022ac)

1. Do my goals allow for variations in how children demonstrate their knowledge, such as through verbal communication, pointing, drawing, writing, and acting, as well as the speed in which they respond? (Murawski & Scott, 2019; CAST, 2022ag)

O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 2: "Optimize access to tools and assistive technologies"* (CAST, 2022ac)

2. Do teachers provide scaffolds to students in using different assistive technologies (e.g., low tech such as modifying materials vs. higher tech of iPads and other similar technology)? (CAST, 2022u)

O Most of the time O Some of the time O Not often/Never O N/A

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Guideline 2: Expression & Communication (CAST, 2022ac)

☑*Checkpoint 1: "Use multiple media for communication"* (CAST, 2022ac)

3. Are children given options to compose their work and demonstrate their learning through writing, drawing, dance, art, use of manipulatives (e.g., blocks, models), and other means? (CAST, 2022ad)

O Most of the time O Some of the time O Not often/Never O N/A

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4. Are children given different options to respond (e.g., verbal, physical/gestural, adult-produced images, and child-produced images)? (Murawski & Scott, 2019)
O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 2: "Use multiple tools for construction and composition"* (CAST, 2022ac)

5. Are children provided with options to complete given activities (e.g., sentence strips/sentence starters, story webs/outlines, recording)? (CAST, 2022ae)
O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 3: "Build fluencies with graduated levels of support for practice and performance"* (CAST, 2022ac)

6. Are children provided with opportunities to work with multiple teachers/grownups in the classroom to model different ways of motivating and giving feedback to children? (CAST, 2022b)
O Most of the time O Some of the time O Not often/Never O N/A

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7. Do teachers provide models of different approaches to reach the same goal/objective (e.g., demonstrating different ways in which children can complete a given activity)? (CAST, 2022b)

O Most of the time O Some of the time O Not often/Never O N/A

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Guideline 3: Executive Functions (CAST, 2022ac)

☑ *Checkpoint 1: "Guide appropriate goal-setting"* (CAST, 2022ac)

8. Do teachers discuss goal-setting with the classroom and explicitly support children in reaching realistic goals? (e.g., working toward a class goal, individual goals in academic areas) (CAST, 2022j)

O Most of the time O Some of the time O Not often/Never O N/A

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☑ *Checkpoint 2: "Support planning and strategy development"* (CAST, 2022ac)

9. Do teachers support children in developing planning-related skills and in implementing strategies to reach identified goals (e.g., discuss strategies with children, provide resources for students to organize their work and reach goals) (CAST, 2022ab)

O Most of the time O Some of the time O Not often/Never O N/A

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10. Do teachers provide checklists to support children in sequencing activities? (e.g., providing step-by-step visual and written instructions to help children break down activities into smaller steps and the order in which they take place) (CAST, 2022ab)

O Most of the time O Some of the time O Not often/Never O N/A

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☑ *Checkpoint 3: "Facilitate managing information and resources"* (CAST, 2022ac)

11. Do classroom activities involve templates, checklists, and other organizers to support children's working memory? (CAST, 2022g)

O Most of the time O Some of the time O Not often/Never O N/A

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☑*Checkpoint 4: "Enhance capacity for monitoring progress"* (CAST, 2022ac)

12. Do teachers ask students questions to prompt self-reflection on progress? (CAST, 2022f)

O Most of the time O Some of the time O Not often/Never O N/A

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13. Do teachers provide different means of self-assessment (e.g., role-playing, use of videos, peer feedback)? (CAST, 2022f)

O Most of the time O Some of the time O Not often/Never O N/A

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Total "Most of the time": _____/13
Total "Some of the time": _____/13
Total "Not Often/Never": _____/13

Section IV- General Inclusion Principles

Directions: In this section, specifically consider what inclusion looks like in your classroom. Consider different identities and their intersections, including race, ethnicity, sexual orientation, gender, family structures, language, disability status, socioeconomic status, and religion.

1. Do my classroom discussions, both planned and through emergent curriculum (e.g., using what children are interested in and bring up to guide activities and curriculum),

incorporate different identities (e.g., race, ethnicity, culture, language, gender, sexual orientation, disability status, religion, family structures), how they may intersect, and the importance of similarities and differences between different individuals? (Harms et al., 2015)

O Most of the time O Some of the time O Not often/Never O N/A

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2. Does the classroom's reading materials reflect individuals of different backgrounds and identities (e.g., race, ethnicity, culture and language, gender, sexual orientation, disability status, religion, family structures)?

O Most of the time O Some of the time O Not often/Never O N/A

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3. Do teachers' interactions with children respect different backgrounds and are identities and different identities and backgrounds celebrated within the classroom? (e.g., do students have the chance to learn about and celebrate one another's identities and backgrounds) (Harms et al., 2014)

O Most of the time O Some of the time O Not often/Never O N/A

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4. Does my classroom provide anti-bias materials and encourage children to interact with different materials, regardless of identity (e.g., provide materials showing children

and adults of all genders in different roles and activities than what may be considered "traditional", encouraging children to interact with all toys and materials in the classroom regardless of identity)? (Harms et al., 2014)

O Most of the time O Some of the time O Not often/Never O N/A

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5. Do classroom activities include discussion of differences (e.g., through a book, use of different characters during role play) and promote student sense of belonging? (Soukakou, 2016)

O Most of the time O Some of the time O Not often/Never O N/A

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6. Do children have the same opportunity to assume the role of "helper of the day" in the classroom? (Soukakou, 2016, p. 26)

O Most of the time O Some of the time O Not often/Never O N/A

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7. Are teachers aware of and respond to children's body language and other nonverbal cues to make sure that all children are included in activities? (Harms et al., 2015)

O Most of the time O Some of the time O Not often/Never O N/A

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8. Do adults and children use inclusive language when referring to children and others (e.g., use of gender-neutral terminology ('they', 'you all' rather than 'he/she' or 'you guys' when referring to a group and not sure of individuals' pronouns), "grownups" rather than "parents" when referring to the classroom unit's families, language acknowledging disability status such as a wheelchair user, an individual with a disability, etc.)?

O Most of the time O Some of the time O Not often/Never O N/A

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9. Are there furniture and open spaces in the environment available in the classroom that allow for gross motor movement throughout the day? (e.g., open spaces with no obstacles, furniture that kids can move on and off of) (Harms et al., 2015)

O Most of the time O Some of the time O Not often/Never O N/A

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10. Are spaces accessible to all individuals with physical disabilities and/or mobility challenges (e.g., ramps and handrails, clear spaces for individuals to maneuver mobility devices such as walkers or wheelchairs)? (Harms et al., 2015)

O Most of the time O Some of the time O Not often/Never O N/A

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11. Does the classroom have a quiet, secluded space(s) with dim or adjustable lighting for children who become overstimulated (e.g., lights that can be turned out or dimmed, shades that can be adjusted) and are all children encouraged to use these spaces throughout the day? (Goalbook Toolkit, 2022c; Harms et al., 2015)

O Most of the time O Some of the time O Not often/Never O N/A

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12. Does the classroom have areas where children who are sensory-seeking can go to gain additional sensory input (e.g., gross motor movement, deep pressure input)?

O Most of the time O Some of the time O Not often/Never O N/A

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13. Is classroom-wide gross motor, proprioceptive movement (e.g., yoga, animal walks, wall push-ups, and/or other "heavy work" activities) incorporated into the classroom routine to increase body organization and attention? See Appendix for additional information on "heavy work."

O Most of the time O Some of the time O Not often/Never O N/A

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14. Are there opportunities for children to borrow books to bring home so that they can have equal literacy opportunities regardless of socioeconomic status? (Brillante & Nemeth, 2018)

O Most of the time O Some of the time O Not often/Never O N/A

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Total “Most of the time”: _____/14
Total “Some of the time”: _____/14
Total “Not often/Never”: _____/14

Alternate Use Guide

Directions: This tool can also be divided into different times of the year to focus on different areas. A recommended list of questions for each part of the school year is provided below if you wish to use this method. Engage in reflection throughout the year to increase potential impact of strategies implemented.

Planning for the School Year (August)

Multiple Means of Engagement: Questions 7, 15
Multiple Means of Representation: Questions 2, 3, 4, 7
Multiple Means of Action and Expression: Questions 1, 11
General Inclusion Principles: Questions 2, 9, 10, 11, 12, 14

One Month-Six Weeks after the Start of School (September/October)

Multiple Means of Engagement: Questions 1, 2, 3, 5, 8, 9, 10, 17, 20, 23
Multiple Means of Representation: Questions 1, 5, 6, 8, 9, 12, 13, 15, 16
Multiple Means of Action and Expression: Questions 3, 4
General Inclusion Principles: Questions 1, 4, 5, 8

Midpoint (December-January)

➔Review progress on principles above and plan for potential modification and/or implementation.
Multiple Means of Engagement: Questions 4, 6, 11, 12, 13, 14, 16, 21, 22
Multiple Means of Representation: Questions 10, 11, 14, 17, 18, 19
Multiple Means of Action and Expression: Questions 2, 5, 6, 7
General Inclusion Principles: Questions 6, 7, 13

End of the Year (May/June)

➔Review progress on principles above and plan for next year based on reflection on experiences.
Multiple Means of Engagement: Questions 18, 19, 24, 25
Multiple Means of Representation: Questions 20
Multiple Means of Action and Expression: Questions 8, 9, 10, 12, 13
General Inclusion Principles: Question 3

IV. STRATEGIES AND ACTION PLAN

IN THIS SECTION:

- Means of Engagement
  1) Environment and Materials
  2) Choice Time
  3) Transitions
  4) Academic
  5) General Strategies
- Means of Representation
  1) Environment and Materials
  2) Choice Time
  3) Transitions
  4) Academic
  5) General Strategies
- Means of Action and Expression
  1) Environment and Materials
  2) Choice time
  3) Transitions
  4) Academic
  5) General Strategies
- General Inclusion Strategies
- Action Plan Version A
- Action Plan Version B

Strategies

Directions: Use these strategies to guide your consideration of UDL and inclusion in the classroom, with a focus on (1) environment and materials, (2) choice time, (3) transitions, (4) academic time, and (5) general strategies. These strategies may be applicable to younger classrooms, as well as to other contexts (e.g., the home). Consider what you are currently doing (*supports*) and use these to leverage potential challenges (*barriers*) to turn them into supports. Add any additional strategies that your team brainstorms to support UDLI in the classroom!

Note: Some strategies may expand upon examples mentioned in the Universal Design for Learning and Inclusion Tool. They may also repeat across sections due to their relevance across different times of the day and components of the classroom.

Means of Engagement

Means of engagement is the "why" of learning. It considers what motivates children to initiate and continue learning, as well as their ability to regulate themselves to continue learning (CAST, 2022; Murawski & Scott, 2019).

Environment and Materials

Flexible/Alternative seating- offering the members of the classroom options for different types of seating that are appropriate for learning being done. For example, use of movable seats or Backjack chairs where available or use of seat cushions, Dyna discs or Therabands around chair bases for children who want to choose a wooden seat option with more movement opportunities built in (Mistrett, 2017).
Display children's interests in the classroom on signage and reference them often (Harms et al., 2015).
Create signage in the classroom that is representative of multiple identities (e.g., individuals of different races, ethnicities, genders, disability statuses, sexual orientations, and religions). Reference the signage regularly to make it meaningful to the children (Brillante & Nemeth, 2018).

Display the goals of activities in the classroom environment, such as through words and visuals, and reference them regularly to make them meaningful (CAST, 2022l; Brillante & Nemeth, 2018).
Create regulation spaces and encourage all students to use them to increase their self-regulation skills.
Provide a range of books involving individuals of different identities and backgrounds, including race, ethnicity, language, culture, religion, gender, sexual orientation, [dis]ability status, and religion.
Give students varying levels of activities to choose from (easy, medium, and difficult) (Relay Graduate School of Education Library, 2022d).
Provide access to a range of activities that are socially and culturally relevant to the children in the classroom (CAST, 2022w).
Provide a range of activities that meet the range of developmental needs of the children in the classroom (e.g., for different stages of fine motor development, social-emotional development, academic knowledge) (CAST, 2022w).
Provide books with topics and characters that children recognize (e.g., characters from shows that they watch) (Relay Graduate School of Education Library, 2022c).
Provide children with the option to use self-regulation tools, such as fidgets, weighted lap pads, or bean bags (Goalbook Toolkit, 2022e; Goalbook Toolkit, 2022i).
Provide children with charts and other means of monitoring their behaviors. Support children in using them to increase their independence in reflecting on their own behaviors and incorporate activities that provide feedback in this area (CAST, 2022e).
Ensure that audiobooks provided include diverse speakers to increase students' sense of belonging and inclusion (Fritzgerald, 2020).

Choice Time

Allow children to select activities offered during choice time.
Give children choice in what activities they want to choose and flexibility in moving between them when possible.
Have children participate in a poll to vote on activities to engage in (Relay Graduate School of Education Library, 2022c).
Group children with similar interest areas (Relay Graduate School of Education Library, 2022d).
Relate mathematical concepts to ways that they are used in children's day-to-day experiences (e.g., use of blocks to talk about shapes, counting of materials) (Harms et al., 2015).
Provide children with options to work individually or in a group (Brillante & Nemeth, 2018).

Transitions

Sensory-rich transitions- selecting alerting or calming activities for transitions between activities to increase regulation (Goalbook Toolkit, 2022h).

Provide children with feedback regarding how they transition between activities (CAST, 2022o). Make the feedback specific to how they are transitioning and provide it often (Relay Graduate School of Education Library, 2022d).
Involve children in a collaborative discussion regarding transitions to incorporate their feedback and perspectives on how they feel transitions are going (Kruse, n.d.).

Academic Time

Windows and Mirrors- "a literary strategy that can increase the cultural, social, and personal relevance of a text. In practice, students identify similarities (mirrors) and differences (windows to others' experiences) between themselves and authors, characters, speakers, or situations in a text" (Goalbook Toolkit, 2022l).
Incorporate different levels of challenge into activities that can be scaffolded by the child to appropriately challenge and engage the child (CAST, 2022af).
Use "*brain breaks*" throughout instruction to increase children's attention (Goalbook Toolkit, 2022b).
Shorten or break up instruction to increase children's attention to the activities. For example, young children typically can attend to an activity for 10-15 minutes (Murawski & Scott, 2019).
Provide a variety of challenge levels (easy, medium, difficult) and scaffolding to allow each child to be appropriately challenged, and have choice in this challenge, to increase engagement and interest (Murawski & Scott, 2019; Relay Graduate School of Education Library, 2022d).
Involve children in a classroom "vote" or "poll" to choose what they want to learn About (Relay Graduate School of Education Library, 2022c).

Provide regular reminders to children as to why they are learning a particular topic or do things in a certain way to increase buy-in (CAST, 2022l).
Ask students about the goals of their activities, asking questions such as "What is our goal today? What are you working on today? What do you want to accomplish today?" (Relay Graduate School of Education Library, 2022d).
Provide children with feedback that focuses on their progress instead of the outcome (Relay Graduate School of Education Library, 2022d).
Focus feedback on providing tangible information regarding the child's own work rather than comparing to others' work (Relay Graduate School of Education Library, 2022d).
Involve children in designing classroom activities to increase motivation and engagement (CAST, 2022v).
Provide feedback that focuses on the student's effort, persistence, and improvement rather than the outcome or product (CAST, 2022o).
Connect math topics to areas of interest for the children. For example, use graphs or charts to depict what children ate for breakfast or connect counting to subject that children are learning about (Harms et al., 2015).
When children complete activities before others, provide them with active choices for "small-group work, collaborative grouping, technological options, as well as collaborating with a co-teacher," to reduce independent work that may not be as motivating (Murawski & Scott, 2019, p. 201).

General Strategies

Utilize emergent curriculum and ask for children's feedback about topics that interest them. As you get to know your students, incorporate these interests into the curriculum to increase motivation and buy-in.
Use a song as a writing, drawing, or story prompt (Murawski & Scott, 2019).
Make connections between home and school to increase engagement (Murawski & Scott, 2019).
Have children participate in class-wide proprioceptive/heavy work movement to increase attention and regulation during seated activities.
Use inclusive terminology when talking to children and adults, including "you all" instead of "guys" or other gendered terminology, as well as "grownups" instead of "parents" or "mom and dad".
Alert children regarding additional opportunities to complete activities later in the week.
Notify children of any changes in routines or schedules via visual and auditory cues to ensure that children feel safe in their learning environment and reduce any potential negative experiences (CAST, 2022q).
Connect learning to topics and characters that children recognize (e.g., characters from shows that they watch) (Relay Graduate School of Education Library, 2022c).
Allow all children to have equal opportunities to participate in class discussions by keeping track of "airtime" (Relay Graduate School of Education Library, 2022c).
"Recasting"- "When recasting, you restate the correct language form instead of making a direct correction" (Relay Graduate School of Education Library, 2022d). For instance, if a child says "I go to the store yesterday," you would say "You went to the store yesterday? Did you buy anything?"
Instruct children in the use of the "*6-Second Pause*" for self-regulation- "supports emotional regulation by creating a moment in which the student can force his brain to put emotions 'on hold' and then engage his 'thinking brain' so that he is able to

choose a constructive response to his emotions. During a 6-second pause, the student engages the analytical part of his brain for at least 6 seconds (the minimum amount of time needed to create an emotional interruption) by participating in higher-order thinking. He can do this by recalling 6 math facts, naming 6 friends or thinking of 6 favorite foods" (Goalbook Toolkit, 2022j).
Problem-based learning- "an instructional method in which students identify a problem and use their knowledge and skills to design and implement a solution to the problem (Hovey & Ferguson, 2014; Scogin et al., 2017)" (Lohmann et al., 2018). When using problem-based learning, make the problem relevant and authentic to the children, building upon their own experiences and their areas of interest.
Structure the class in a way that allows children to tell their own stories, such as through sharing their own experiences, participating in class discussions, and creating their own books, performances, and puppet shows (Goalbook Toolkit, 2022k).
Support children in using self-regulation tools and ensure that they are fulfilling their purpose (e.g., it calms them when you want it to, increases attention to activity, alerts them when you want it to) (Goalbook Toolkit, 2022e; Goalbook Toolkit, 2022i).
Have flexible groups across activities to increase collaboration among the children and allow children to take on different roles, rather than children staying in the same groups in the same roles throughout the day (CAST, 2022i).
Provide detailed and specific feedback before, during, and after the completion of a task, and in a timely manner (CAST, 2022o).
Support children in reflecting on their own self-regulation by using appropriate scaffolding (CAST, 2022y). Model and discuss emotion management, how to reduce activity levels, and how to increase focus on tasks.
Provide children with prompts and reminders about the amount of time they stay on task in spite of potential distractors in the environment to increase their regulation (CAST, 2022y).
Practice and discuss coping skills as a classroom unit and scaffold appropriately for individual children's use (CAST, 2022h).

Connect mathematical concepts to other aspects of children's daily experiences, such as counting during handwashing routines, counting the number of children in school, or connecting knowledge of the time to the children's schedules (Harms et al., 2015).
Provide children with options to participate in an activity independently, in a small group, or in a large group (Harms et al., 2014).
Create a list of expectations for "behaviors and speech" and review these throughout the year to ensure that children feel safe to learn in the classroom environment (Fritzgerald, 2020, p. 40).
Focus feedback so that children understand "where they are on the road to their goal and what they need to do to get there" (Fritzgerald, 2020, p. 123).

Means of Representation

Means of representation is the "what" of learning. It considers how children are able to access the material being presented to them (CAST, 2022; Murawski & Scott, 2019).

Environment and Materials

Label activities with pictures and words depicting how to interact with a given activity or materials (e.g., science exploration) to encourage independent participation (Brillante & Nemeth, 2018; Relay Graduate School of Education Library, 2022b).
Have a quiet "concentration corner" where children can go to read or focus on a task (Murawski & Scott, 2019, p. 101).
Have a *"word wall"* for vocabulary words, including visual representations (Murawski & Scott, 2019).

Label photos and images with word descriptions (Relay Graduate School of Education Library, 2022b).
Present signage with both words and pictures to depict classroom routines, schedules, roles, rules, guidelines, and expectations. Review these verbally or reference them to make them meaningful and to increase understanding and generalization (Brillante & Nemeth, 2018).
Provide a digital clock alongside an analog clock to support children in understanding routines and telling time (Murawski & Scott, 2019).
Offer audiobooks or audio texts in addition to visual books in a "Listening Station" (Goalbook Toolkit, 2022g).
Provide a sensory bin while reading a story for children to interact with manipulatives while listening to a story (Murawski & Scott, 2019).
Use a timer with both visual and auditory signals to support children in staying on task during transitions (The Owl Teacher, 2022).
Provide physical objects/manipulatives in addition to visual information presented (CAST, 2022s).
Provide digital resources that allow children to modify the size, color, font, volume, and other features (CAST, 2022t).
Provide children with and verbally review visual social stories to support children in social participation (Gauvreau et al., 2019).

Choice Time

Incorporate multisensory presentation of learning materials (visual, auditory, kinesthetic, tactile) (CAST, 2022x).
Provide verbal descriptions of any visual information presented (CAST, 2022s).

Transitions

Use music for transitions and use the same playlist and/or song at the same times of the day (Murawski & Scott, 2019). For example, if we know that a certain music is calming at one time of the day, we can use this during transitions.
Provide multisensory alerts to transitions occurring to increase children's perception and awareness of the transition (e.g., visual, auditory, gestural) (CAST, 2022).
Provide directions while simultaneously using auditory information and visual displays and/or physical objects to express meaning (Murawski & Scott, 2019).
Use a video explanation and/or visual supports of each step for the order in which children should carry out a transition or series of tasks (Murawski & Scott, 2019).
Practice transitions with the class and discuss what worked well and what is a challenge following each practice (Kruse, n.d.).

Academic Time

Incorporate multisensory presentation of learning materials (visual, auditory, kinesthetic, tactile) (CAST, 2022x).
Use *"kinesthetic letters"* by encouraging children to match the sounds of letters to physical movement, as well as through writing letters in salt, play doh, or writing it in the air, or by making the letter with their bodies (Goalbook Toolkit, 2022f).
When introducing new vocabulary words, include visuals or physical items that demonstrate the meaning of the word.
Utilize American Sign Language along with English while spelling (Murawski & Scott, 2019; Goalbook Toolkit, 2022d).
Think-alouds- "When using the think-aloud strategy, a teacher verbally explains how she is thinking about the learning material (Ness & Kenny, 2016)" (Gauvreau et al., 2019, p. 9). Think-aloud strategies may include "(a) visualizing the text, (b) asking questions, (c) connecting new content to current knowledge, (d) making predictions, (e) paraphrasing the text, and (f) determining the main idea" (Morgan & York, 2009, as cited in Gauvreau et al., 2019, p. 9).
Provide verbal descriptions of any visual information presented (CAST, 2022s).
Pre-teach vocabulary and mathematical symbols while connecting to children's prior learning and understanding (CAST, 2022d).
Explain how mathematical and grammatical concepts are structured (such as with addition and sentence construction) (CAST, 2022c).

Provide alternative representations of mathematics and literacy symbols through dance/movement, diagrams, photographs, manipulatives (e.g., models, base 10 blocks), videos, and technology (CAST, 2022n).
"Chunk" information presented to allow for increased processing by breaking down information into smaller pieces of information to increase children's understanding (CAST, 2022k).

General Strategies

Use music or auditory signals to capture children's attention.
Combine call-and-responses with a dance or movement (Murawski & Scott, 2019).
Explain unfamiliar or novel vocabulary and connect to children's prior experiences and knowledge (Murawski & Scott, 2019).
When showing videos, use closed captioning as an alternative for auditory information presented (Relay Graduate School of Education Library, 2022b).
Model activities as a teacher or have another student model the steps. During modeling, verbally describe the steps of the activity (Gauvreau et al., 2019).
Make students active participants when reading with them. Connect the sounds of the words and their visual symbols through explicit connections to support all children, including children with dyslexia and dual language learners (Alexander & D'Atuono, 2022).
Act out verbs when reading with children to increase comprehension and understanding of vocabulary (Alexander & D'Atuono, 2022).

Use visual alternatives to auditory information (e.g., emojis, symbols, and pictures), as well as tactile and kinesthetic (e.g., movement) (CAST, 2022r).
Provide verbal descriptions of any visual information presented (CAST, 2022s).
Expose children to the meaning of different symbols to increase understanding regardless of prior experiences and knowledge (CAST, 2022aa).
Acknowledge, normalize, and involve children's home languages in the classroom in addition to English, such as by presenting information in home languages where possible, supporting children with visuals to increase their understanding of vocabulary, and having access to electronic translators so that children can look up words as needed (CAST, 2022z).
Make explicit connections to children's background knowledge and other areas of the curriculum during instruction and discussion (CAST, 2022a). Use verbal references, promote recall by showing previous projects/subject areas, and use KWL charts as appropriate.
Provide children with necessary background information to support their learning (CAST, 2022a).
Identify children's prior knowledge and skills that can support them in managing new challenges, such as by highlighting times when they have handled similar difficulties and their solutions during those times, and identifying existing knowledge that can support children in problem-solving current challenges and questions (CAST, 2022m).
Provide multisensory cues to children regarding the main characteristics of information and materials that are the most relevant for their learning. Provide scaffolding to support children in identifying critical information and ignoring irrelevant information (CAST, 2022m).
Provide children with explicit step-by-step instructions for sequences in activities, including verbal, visual and physical demonstrations of the steps in an activity to support them in developing sequencing skills (CAST, 2022k).
Provide children with opportunities to apply prior skills, knowledge, and experiences to new activities (CAST, 2022p).

Explain new vocabulary in a way that children can understand and connect to their prior knowledge (Harms et al., 2015; CAST, 2022c).
Incorporate the arts into lessons and activities as a "learning strategy" where students can engage in multimedia such as spoken word, theatre, videos, music, or sound (Glass, 2010, as cited in Hall et al., 2012, p. 107-108).
Present discussions of what is expected socially through various means, such as written expectations, use of social stories, and acting out situations (Murawski & Scott, 2019; Soukakou, 2016). Support children in expanding these skills to other areas and situations.
Provide families with a variety of ways to learn about their children as options instead of typical parent-teacher conferences, including use of videos, progress recorded in audio format, and use of Google Docs sharing (Fritzgerald, 2020).

Means of Action and Expression

Means of action and expression is the "how" of learning. It considers the way in which children are able to demonstrate what they have learned (CAST, 2022; Murawski & Scott, 2019).

Environment and Materials

Allow children to have access to a variety of different materials at choice time.
Provide children with access to multiple types of activities (e.g., construction toys, art, books/writing, science/nature) during choice time.
Provide children with the choice of using a Picture Exchange Communication System (PECS) where children can select a relevant image depicting an activity or item to communicate what they want (Brillante & Nemeth, 2018).

Provide step-by-step visual and written sequences of what is expected of children during transitions and other activities (CAST, 2022ab).
Provide children with different options and materials to produce their work (CAST, 2022ad).
Provide students with templates, checklists, and other organizers to support their working memory (CAST, 2022g).
Give students sentence starters/frames to support children learning grammar (Relay Graduate School of Education Library, 2022a).
Provide children with options to use puzzle pieces for word construction (Alexander & D'Atuono, 2022).
Create options to support children in completing given activities, such as sentence strips/sentence starters, story webs/outlines, and recordings (CAST, 2022ae).
Present children with templates, checklists, and other organizers to support their working memory (CAST, 2022g).
Provide children with step-by-step visual and written checklists and instructions to break down activities into smaller steps and support them in understanding the order in which they occur (CAST, 2022ab).

Choice Time

Use timer for allowing access to preferred activities.
Engage children in discussions around planning and strategy development during

choice time activities (CAST, 2022ab).
Model different approaches of reaching the same goals/objectives, such as through demonstrating different ways in which children can complete a given activity (CAST, 2022b).
Provide materials that have multiple ways in which children can use them (Brillante & Nemeth, 2018).

Transitions

Discuss goal-setting with the class with regards to transitions and encourage students to make their own goals in this area. These can include class wide goals or individual goals (CAST, 2022j).

Academic Time

Review your goals for each lesson. Ensure that goals reflect different ways of being able to demonstrate knowledge (Murawski & Scott, 2019). For example: “By the end of this lesson, the child will be able to demonstrate understanding of the formation of the letter ‘K’” rather than “By the end of this lesson, the child will write the letter ‘K’ on triple-lined paper.”

Involve children in *"total physical response"* by having them connect movement with an idea to support their learning, such as when learning letters (Murawski & Scott, 2019, p. 29)
Give children the option to use dance and movement to demonstrate their understanding of a story (Murawski & Scott, 2019).
Use dance and movement to teach about different cultures (Murawski & Scott, 2019).
Provide all children with access to different learning options so that they can choose, rather than choosing options for them (Murawski & Scott, 2019).
Rotate the teachers with whom children work during academic times so that students can have a variety of models and can receive feedback in different ways (CAST, 2022b).
Model different approaches of reaching the same goals/objectives, such as through demonstrating different ways in which children can complete a given activity (CAST, 2022b).

General Strategies

Engage children in discussions of their strengths and how they can use these to demonstrate what they have learned (Murawski & Scott, 2019).
Provide children with a variety of ways to which they can respond, including verbal, pointing, nodding, gesturing, acting out, adult-produced responses (e.g., pictures) and child-produced responses (e.g., drawings) (Murawski & Scott, 2019).

Ask the children questions that prompt self-reflection (CAST, 2022f).
Design goals to allow for variations in how children demonstrate their knowledge, such as through verbal communication, pointing, drawing, writing and acting, and encourage children to demonstrate their knowledge as they prefer to (Murawski & Scott, 2019).
Support children with scaffolding in using different assistive technologies (e.g., low tech such as modifying materials vs. higher tech of iPads and other similar technology) (CAST, 2022u).
Provide children with options to compose their work and demonstrate their knowledge, such as through writing, drawing, dance, art, use of manipulatives (e.g., blocks, models), and other means (CAST, 2022ad).
Present children with opportunities to work with multiple teachers/grownups in the classroom to model different ways of motivating children and providing feedback (CAST, 2022b).
Engage children in discussions of goal-setting and explicitly support them in working toward realistic goals, which may include class goals or individual goals (CAST, 2022j).
Support children in developing planning-related skills and in implementing strategies to reach selected goals (CAST, 2022ab).
Present children with a variety of means of self-assessment, such as through role playing, use of videos, and peer feedback (CAST, 2022f).
Incorporate the arts into lessons and activities as a “learning strategy” where students can show their learning through multimedia such as spoken word, theatre, videos, music, or sound (Glass, 2010, as cited in Hall et al., 2012, p. 107-108).
Provide children with options to draw, write, or construct their understanding of classroom and schoolwide expectations (Murawski & Scott, 2019).
Allow children to have choices in how they want to engage in circle time/morning meeting, such as by counting the days in the calendar verbally, through tapping, or through clapping (Gauvreau et al., 2021).

General Inclusion Strategies

Utilize “grownups” language instead of “mom and dad” or “parents” to be inclusive of all children and family backgrounds.
Be considerate of different pronouns and gender identities. Use “you all” and “everyone” language over “boys and girls”, “you guys,” or gendering children.
Encourage children’s use of different toys and activities beyond typical gender stereotypes (Harms et al., 2014).
Provide books and other materials depicting children and adults participating in activities and roles beyond the traditional gender stereotypes (Harms et al., 2014).
Incorporate toys from different cultures.
Engage children in regular discussions regarding identities and their intersections. If these discussions arise naturally within the classroom, encourage them and use them to build upon children’s understanding.
Have children participate in class-wide heavy work/proprioceptive movement activities to increase regulation. This can include yoga, animal walks, and wall push-ups to increase body organization and attention. See the Additional Resources for additional information and resources on heavy work.
Provide reading materials that reflect individuals of different backgrounds and ethnicities (e.g., race, ethnicity, culture and language, gender, sexual orientation, [dis]ability status, religion, family structures).

Reflect on your interactions with children to ensure they respect and celebrate different backgrounds and identities. Provide students with opportunities to explore their own identities and learn about those of their peers.
Provide children with predictable routines and a visual schedule to support them in knowing what comes next in their day (Murawski & Scott, 2019).
Set up the classroom to ensure that there is furniture and open spaces in the classroom that allow for gross motor movement throughout the day (Harms et al., 2015).
Construct a quiet, secluded space, ideally with dim or adjustable lighting, for children who become overstimulated (e.g., lights that can be turned out, dimmed, or covered, or shades that can be adjusted). Encourage all children to use these spaces throughout the day to increase regulation (Goalbook Toolkit, 2022c; Harms et al., 2015).
Dedicate an area of the classroom for sensory-seeking children to go to for additional sensory input, including gross motor movement and deep pressure input.
Present children with opportunities to borrow books to bring home to provide equal literacy opportunities at home regardless of socioeconomic status and personal resources (Brillante & Nemeth, 2018).
Ensure that spaces are physically accessible for all children and adults with physical disabilities. For example, ensure that there are ramps and handrails and adequate space without obstacles for wheelchairs and walkers to pass through the classroom (Harms et al., 2015).
Engage children in discussion of value of similarities and differences between individuals (Harms et al., 2015; Harms et al., 2014).
Notice and use children's body language and nonverbal cues to guide activities and interactions with children to increase inclusion in the classroom (Harms et al., 2015).
Provide opportunities to increase children's cultural knowledge, such as through reading materials, incorporation of musicians from different cultures, and celebration

and discussion of different holidays from different religions and cultures (Harms et al., 2014).
Read books on differences or present characters in role play to create an environment where all children feel as though they belong (Soukakou, 2016).
Ensure that all children have the same opportunity to assume different roles throughout the day, including those of being the “helper of the day” (Soukakou, 2016, p. 26).

Action Plan: Version A

Directions: Based on your answers to the questions and strategies above, what is your team/individual plan to implement UDL and inclusion-based strategies? Reference this action plan throughout the year to track progress.

Means of Engagement:

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Means of Representation:

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Means of Action and Expression:

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General Inclusion Strategies:

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Action Plan: Version B

Directions: What are 3 areas or situations you want to work on in the classroom related to universal design for learning and inclusion? What UDLI concepts can you connect to these? An example of morning/community meeting is provided. What are 3 specific goals you have to implement UDLI and when will you do them? Reference this action plan throughout the year to track progress.

Area to Focus On	**Related UDLI Ideas**
Morning/Community Meeting	• *Present information visually, with gestures, and with words.* • *Involve student choice.* • *Allow for variety of response methods (e.g., verbal, nonverbal, picture selection, dance).* • *Review the schedule for the day with both pictures and words. Let children know if there are any changes.* • *Allow children to choose their seats.*

Goal 1: By the end of _____, I want to implement:

_____

_____.

Goal 2: By the end of _____, I want to implement:

_____

_____.

Goal 3: By the end of _____, I want to implement:

_____

_____.

Lesson Planning Template

Directions: Use this lesson planning template to guide an activity or lesson while considering universal design for learning and inclusion. Use the above strategies and your observations to guide you in completing the template.

Environment and Materials:

Guiding Questions: How should I set up the environment for this activity, considering both the physical and social environments? (Mistrett, 2017). What materials do I need? How can I offer students multiple options within my environment and materials to engage their interest and ones that they can access? (CAST, 2022ac)

Multiple Means of Engagement:

Guiding Questions: How can I motivate children to learn? How can I capture and maintain their attention? Do I provide options for children to support them in regulating their individual learning? How can I integrate feedback toward children's mastery? (Murawski & Scott, 2019; Meyer et al., 2014)

Multiple Means of Representation:

Guiding Questions: How can I present the information so that children can understand what is being presented and connect it to their own knowledge? (Murawski & Scott, 2019; Meyer et al., 2014) How can I plan for information to be presented in multiple ways at the same time? (Murawski & Scott, 2019)

Multiple Means of Action and Expression:

Guiding Questions: How can children express what they have learned? Do I provide multiple options for response and creation? Does this lesson support all children in "acting strategically? (Murawski & Scott, 2019, p. 112; Meyer et al., 2014) Are children able to respond in multiple ways in the classroom? (Murawski & Scott, 2019)

Additional Considerations:

Guiding Questions: How can I increase inclusion in this lesson? How do I make sure that my students feel welcomed, and that their identities are respected? How can I honor them in my classroom? (Fritzgerald, 2020)

V. ADDITIONAL RESOURCES

IN THIS SECTION:

- References
- Additional Resources
- Contact

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Additional Resources

Online Resources

Name of Resource	Description	Link
"*Goalbook Toolkit*"	Provides individual strategies for each principle and corresponding guidelines.	https://goalbookapp.com/toolkit/v/strategies
"*CAST UDL Guidelines*"	Main website for UDL. Includes UDL guidelines graphic and additional resources.	https://udlguidelines.cast.org/
"*Universal Design for Learning Strategy Database*"	Breaks down UDL concepts, principles, guidelines, and checklists and provides corresponding strategies.	https://relay.libguides.com/udl-strategy-database/home
"*Heavy Work Information*"	Document that can be downloaded from "OT Toolbox" that describes heavy work and proprioceptive input and provides strategies.	https://www.theottoolbox.com/heavy-work-activities/
"*CAST UDL Exchange*"	Free website that allows you to make and access UDL lesson plans and other materials.	http://udlexchange.cast.org/home
"*UDL Progression Rubric*"	Self-assessment based on the CAST UDL Guidelines dividing individual's performance of each principle, guideline, and checkpoint into "Emerging," "Proficient," and "Progressing Toward Expert Practice."	https://tinyurl.com/3puvtvxc
"*Step-by-step planner: UDL lesson design*"	Free lesson planning guide and reflection from Understood for All, Inc. that was created in accordance with UDL guidelines.	https://tinyurl.com/5n74y888

Podcasts/Videos

Name of Podcast/Video	Link
"The End of Average?! Disrupting the green of education!"- Shelley Moore	https://www.youtube.com/watch?v=Krec84KwbHE&t=2s
UDL in 15 Minutes- Laura Taylor Episode	https://theudlapproach.com/podcasts/episode-4-laura-taylor/
UDL in 15 Minutes- Karlene Warns Episode	https://theudlapproach.com/podcasts/episode-17-karlene-warns/
Antiracism and Universal Design for Learning with Andratesha Fritzgerald	https://open.spotify.com/episode/3HqBOqvjbdbUjhCd3MPPE4?si=Slt6c1T8QLS1VAMLl8SKOQ&nd=1
Universal Design for Learning- Perplexagogy (First 25-30 minutes)	https://open.spotify.com/show/17FmSh6shjt6qzUS5ygaXr

Books and Articles

Title	Year	Author
What Really Works for Universal Design for Learning	2019	W. W. Murawski and K. L. Scott (Editors)
Antiracism and Universal Design for Learning	2020	Andratesha Fritzgerald
Universal Design for Learning in the Early Childhood Classroom: Teaching Children of all Languages, Cultures, and Abilities, Birth—8 Years	2018	Pamela Brillante and Karen Nemeth

Additional Resources

Do you have questions, thoughts, or feedback on this resource? Please contact Kaitlyn Irwin OTD, OTR/L at kaitlyn.irwin@tufts.edu or kaitlyn.irwin03@gmail.com. Thank you!