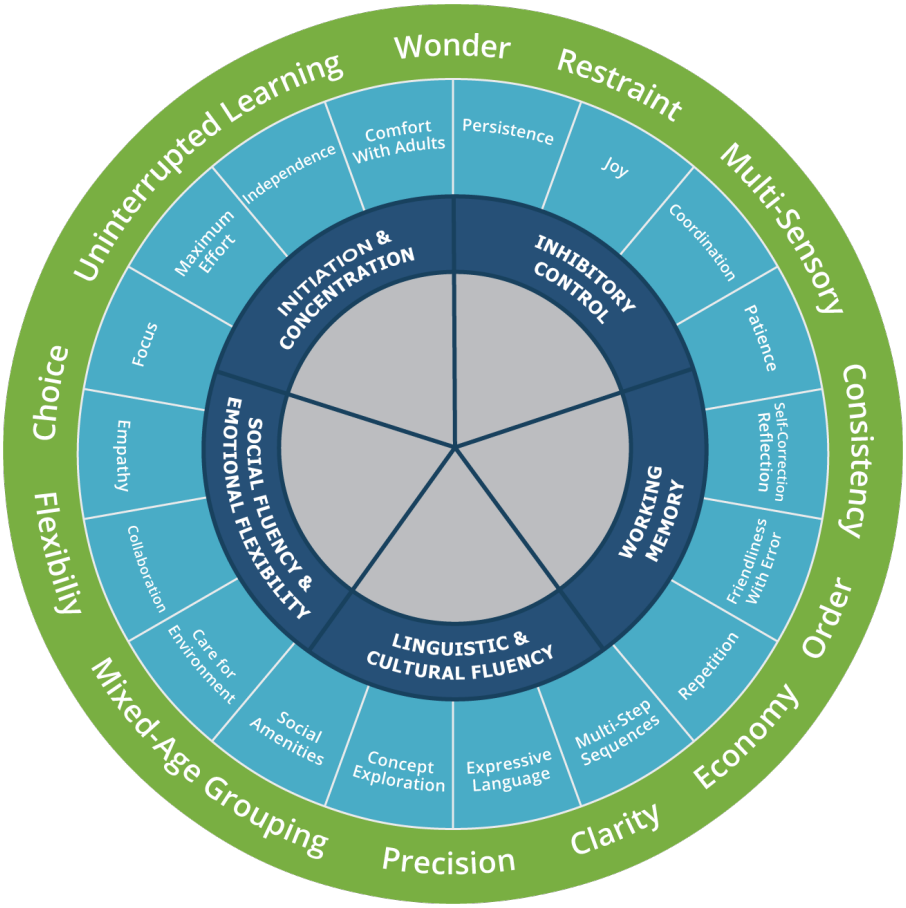
The Developmental Environment Rating Scale

TECHNICAL GUIDE



Contents

Introduction

*The Developmental Environment Rating Sc*ale (DERS) is a classroom observation tool that measures environmental and behavioral qualities proven to support executive functions, linguistic and cultural fluency, and social-emotional development. Inspired by the specificity and coherence of Montessori learning environments, and developed over three years of school-based research, the DERS provides a detailed, concrete, and dynamic view of what is happening inside classrooms for children between the ages of three and twelve.

The DERS is administered by a trained observer, using an iPad tablet, and consists of 60 research-based environmental attributes, as well as observable child and adult behaviors, aligned with five broad domains of human development:

- Initiation & concentration
- Inhibitory control
- Working memory
- Linguistic and cultural fluency
- Social fluency and emotional flexibility.

EXECUTIVE FUNCTIONS

The first three domains reflect aspects of executive functioning that have been identified in research, such as self-regulation, planning, and organization (See Bibliography for a complete list of references used to inform the development of the instrument). The fourth and fifth domains reflect oral language skills and social and emotional development (themselves influenced by executive functioning). Each item on the DERS is aligned with one or more of the five domains, and the instrument is scored based on the assessor's observation of the items' presence, magnitude, and the frequency within which they are observed.

Why DERS: Measuring What Matters

Research on human development is increasingly clear on the skills that matter most for wellbeing and life-long success. The DERS is built around these skills: mapping backwards from outcomes related to executive functions, social-emotional development, and deep literacy, the DERS offers a highly nuanced and concrete focus on the environments that nurture these skills.

All five DERS domains have distinct as well as overlapping characteristics. Executive functions (EFs), for instance, which are often described as "the air traffic controller of the brain" (Center on the Developing Child at Harvard University, 2011), include such capacities as attention, inhibition, shift, and working memory. EFs enable us to control our actions, intentions, and emotions. It is not surprising, therefore, that EFs correlate with academic, social, and emotional outcomes. Working memory – or the ability to hold information in mind while using it – is key to, among other things, learning to read and performing mathematical calculations. Likewise, impulse control and cognitive flexibility are necessary for both competent social interaction and emotional regulation. Executive functioning, in other words, turns out to be a good proxy for a variety of indicators of both academic success and wellbeing (Diamond, 2013). This is one reason we are seeing an uptick in efforts to describe and measure EFs in school and beyond (Blair, Zelazo, & Greenberg, 2005).

The DERS is part of that trend in that it prompts practitioners, parents, and policymakers to measure what matters most for human flourishing. It aims to move EFs to the center of considerations of classroom quality in ways that are concrete, detailed, and subject to reflection and improvement.

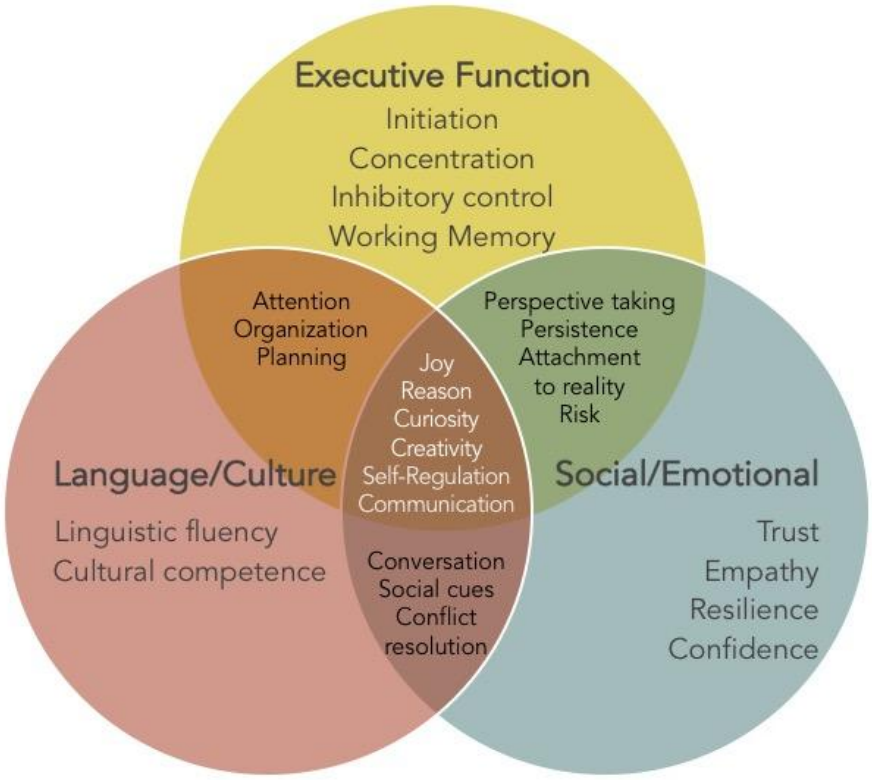


Figure 1: Wide-Scope Developmental Outcomes

Figure 1 illustrates how key aspects of human development – those addressed by the DERS – interact and, often, overlap. We identify these dimensions as "wide-scope developmental outcomes" because they represent an expansive vision of the consequences of education, one that includes but extends well beyond what typically falls under the umbrella of "student achievement."

Consistent with an expanding literature that argues for re-framing what meaningful learning entails and how schools should organize themselves to achieve such learning (Engel, 2015; Galinsky, 2010; Golinkoff & Hirsh-Pasek, 2016; Heckman, 2012), the DERS is grounded in a transparent set of propositions related to what constitutes outcomes that matter. Additionally, while the DERS does not assess those outcomes, it does assume that they are describable and measurable as discrete sets of skills and understandings. Perhaps most important, the DERS assumes that those same skills and understandings are inextricably connected.

Executive Functions

Executive functioning is a strong predictor of a range of outcomes in childhood, adolescence, and adulthood, including academic performance, educational attainment, health status, and even marital satisfaction (Blair & Razza, 2007; Mischel, Shoda, & Peake, 1988, 1990; Moffitt et al., 2011). While assessed with items intended to reflect specific domains, the three components of executive functioning addressed explicitly by the DERS are strongly correlated in children and act together as a cluster of skills (Muller & Kerns, 2015; Miyake, Friedman, Emerson, Witziki, & Howerter, 2000; Peterson & Posner, 2012).

Environments that foster the development of EFs have several features in common. First, they allow for free movement, choice, and opportunities for self-directed exploration, and trial and error-correction (Diamond, 2000, 2007, 2012; 2013; Diamond & Lee, 2011; Dweck, 1999; Glenberg, Witt, & Metcalfe, 2013; Iyengar & Lepper, 1999; Noice & Noice, Patall, Cooper, & Wynn, 2010; 2006; Schwartz & Black, 1999). Second, they are orderly and free of clutter. Visual stimulation is carefully curated, with careful attention to the quality as well as quantity of items in the space. This visual and spatial clarity enables attention, focus, and calm (Barrett, Davies, Zhang, & Barrett, 2015; Fisher, Godwin, & Seltman, 2014; Keupp, Behne, Racoszy, 2013; Wachs & Gruen, 1982).

Consistent with what has come to be known as the "Goldilocks effect" (Kidd, Paindatosi, & Aslin, 2012), children who are able to choose between a variety of activities (or "stimuli", as Kidd and colleagues describe), reliably select to engage in information that is appropriately pitched to their developmental needs. As a result of engaging in "just right" activities – that is, neither to simple nor too complex – environments that offer lots of opportunity for choice, combined with uninterrupted engagement and friendliness with error are likely to be places where initiation, focus, repetition, persistence, and enjoyment are observed consistently among children (Alfieri et al, 2001; Blair & Razza, 2007; Diamond & Lee, 2011; Hidi & Renninger, 2006; Simon, 2001).

Adults in developmental environments are most often observed enabling exploration, engagement, and friendliness with error. That is, they encourage attention, persistence, and flexibility by inviting, rather than commanding, engagement, then by actively protecting that engagement through moves such as refraining from interruption, excessive error correction,

or unnecessary direction (Diamond & Lee, 2011; Lillard, 2012; Ling, Wong, & Diamond, 2016; Raven, 1994). At the same time, adults support the development of working memory through meticulous attention to the clarity of their speech, the precision of their movements and the general consistency and predictability of their behavior (Tomasello, 2003a, 2003b, 2003c). As a result, children in developmental classrooms also demonstrate the capacity to re-focus their attention, inhibit behavior, and withhold gratification (Eisenberg, et al., 2004; Klein & Seligman, 1976; Lillard, 2012; Mischel, Shoda, & Rodriguez, 1989).

Linguistic and Cultural Fluency

Communication is a foundational capacity. Language is our principal cognitive tool, enabling us to both acquire and share knowledge, as well as to build and sustain relationships. As such, the ability to communicate through both oral and written language involves much more than phonemic awareness and vocabulary development. Rather, the development of language and thought go hand in hand. Language is also an emotional phenomenon, inspired by the desire for connection and enhanced by the doors to discovery it opens. (Diamond, 2014a, 2014b; Dulay & Burt, 1977)

Linguistic fluency, in other words, is tied to cultural understanding (Smith, 1966; Tomasello, 2003b, Tomasello, Kruger, & Ratner, 1993). We "read" situations, facial expressions, and cultural norms. This means that becoming fluent requires lots of opportunities to observe, experiment, and listen, as well as to name, interpret, and participate in conversation. Moreover, how we engage children in language is just as important as what we say to them. Learning environments that are truly "language rich" build from a foundation of order, calm, and beauty. They are filled with carefully selected items for children to name, manipulate, and consider. Adults use language intentionally, speaking with and not at children, enunciating words with care, and, generally, focusing more on the quality rather than the quantity of spoken interaction.

Social Fluency and Emotional Flexibility

Because communication is, foremost, a social activity, language and social development, which are both grounded in culture, are key partners. Likewise, EFs strongly correlate with emotional regulation and social competence. Social-emotional development flourishes in environments that allow for spontaneous interaction among peers as well as between children and adults (Bailey, Burchinal, & McWilliam, 1993; Booren, Downer, & Vitiello, 2012; Grant, 1993). The mimetic nature of social development (Hogan & Tudge, 1999; Tomasello, 2003a, 2003b) makes mixed-age grouping and intentional adult modeling central to the process of both social and linguistic fluency – indeed, these processes are indivisible (Bruner, 1983; Kuhl, 2007; Vygotsky, 1978).

Environments that nurture emotional flexibility are safe places, signaled by an overall climate of tranquility and beauty (Armstrong & Detweiller-Bedell, 2008; Blair, 2010). Similar to the "Goldilocks" principle of support for language and EF development, adult behavior supporting emotional flexibility is often characterized by a "just right" balance of warmth, connection, and clear boundaries (De Woolf & van Ijzendoorn, 1997).

It follows, therefore, that the types of learning environments most likely to nurture developmental outcomes would be designed to address human development both explicitly and holistically. That is, we should be able to trace a direct link between what happens inside developmental classrooms and what children can do/know/understand as a result. Mapping backward from outcomes that matter most to human flourishing, the DERS aims to align inputs and outcomes of developmental education.

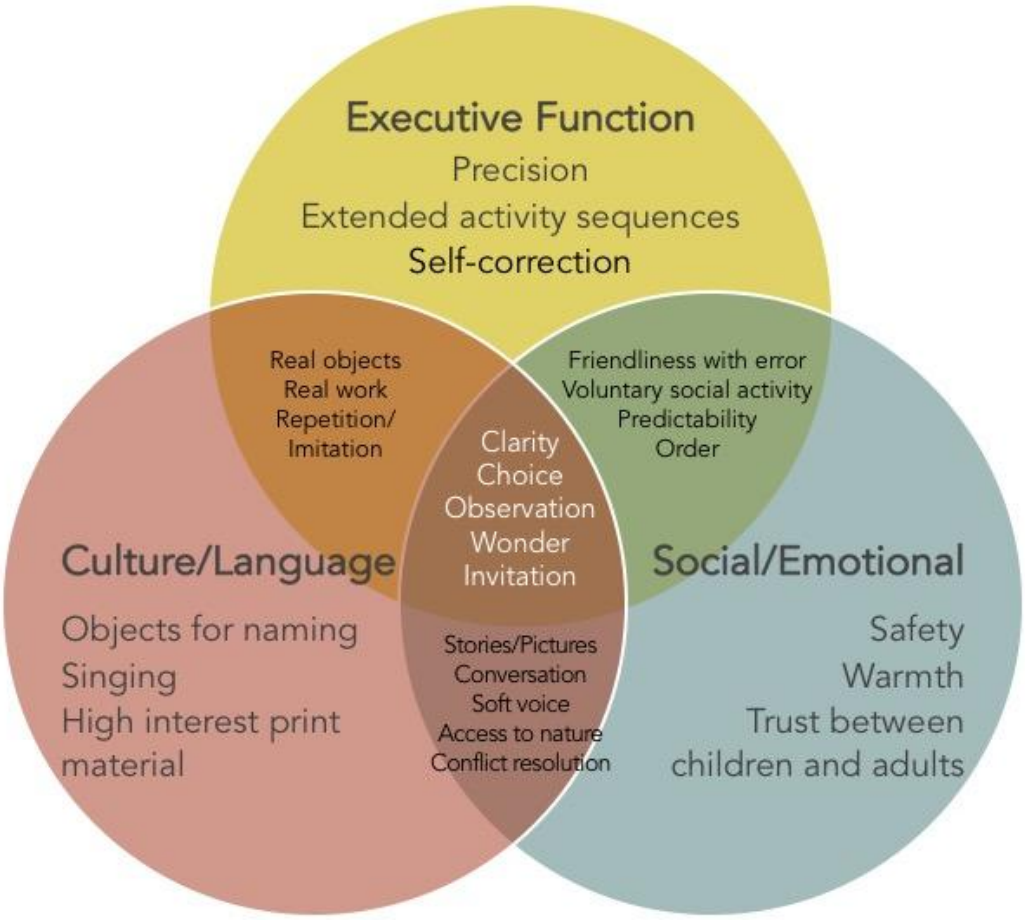


Figure 2: Mapping Inputs and Outcomes

Figure 2, above, illustrates the way items (inputs) such as precision, objects for naming, and warmth, map onto the outcome domains addressed by the DERS. Consistent with the way domains overlap, Figure 2 also illustrates the way inputs such as friendliness with error, repetition, and conversation support learning in multiple domains.

Defining Classroom Quality

The DERS is driven by a set of research-based precepts related to the process of human development. Those precepts – that development is integrated, cumulative, driven by exploration and self-construction, and influenced by the nature of the environment within which the learner operates – frame our definition of classroom quality, which is operationalized in the sixty discrete items comprising the DERS.

Guided by these precepts, the instrument starts with the assumption that learning takes place among a dynamic set of interactions between child, adult, and environment. This distinctive view of learning, what is sometimes referred to as the "instructional core" (Elmore et al. 2009; 1995), re-frames the process of instruction to de-emphasize both teacher-centered content transmission and dyadic interactions between teachers and students (Hamre, et al, 2013). Rather, within this frame, the child moves to the center of a triadic enterprise, constructing – as opposed to receiving – understanding through structured, spontaneous interactions with both adults and the environment. Within this framework, the defining features of quality instruction shift away from teacher moves like questioning, dialog, monitoring, and feedback, and toward observing, inviting, and protecting not just engagement, but a child's opportunity to engage in motivated problem-solving experiences, and to undertake concentrated investigations necessary for such experiences.

To signal this shift away from teacher-centered content delivery and toward a holistic conception of developmental learning, we refer to the child-adult-environment triad illustrated in Figure 1 as the Developmental Core. This term also signals the instrument's most immediate inspiration: Montessori education.

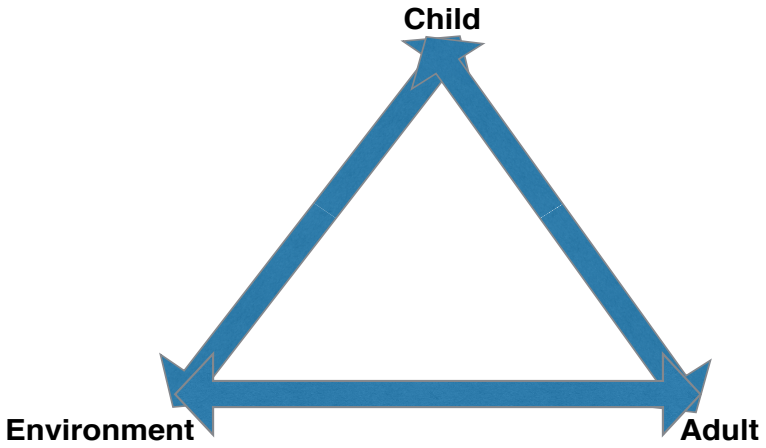


Figure 3: The Developmental Core

Long before the image of practice as a triangle of interactions between students, teachers, and content was articulated by scholars like Ted Sizer (1984), Deborah Ball (Ball & Forzani, 2009, 2011), and Magdalene Lampert (2001), Maria Montessori (2000/1949, p. 7) described supported development as "a natural process which develops spontaneously in the human being. It is not acquired by listening to words, but in virtue of experiences in which the child

acts on his environment. The teacher's task is not to talk, but to prepare and arrange a series of motives for cultural activity in a special environment made for the child."

As cognitive psychologist Angeline Stoll Lillard demonstrated in her (2017) analysis of Montessori pedagogical principles, the core precepts of developmental learning are both backed by a vast and expanding research base and made vivid in the practice of Montessori education. Lillard examined nine principles that are both embodied in Montessori pedagogy and supported by a robust literature base on human cognition. Those principles -- movement, choice, executive function, interest, motivation, learning from peers, meaningful contexts, adult interaction styles, and order – together with specific moves that are visible in a variety of developmental classrooms (including, but not limited to Montessori), informed the design of the DERS.

That is, where Lillard demonstrates how current research on cognitive development validates core principles of Montessori theory and practice, which are consistent with the core precepts of developmental learning, the DERS aims to identify, in precise detail, what actually goes on in classrooms that embody those precepts. As a result, the instrument is populated with highly specific items, which are further elaborated in scaled indicators designed to capture the magnitude as well as frequency of attributes known to be associated with optimal development.

The DERS is the first instrument of its kind designed to:

- Provide highly focused attention to the specifics of interactions between children, adults, and the learning environment
- Link those interactions to outcomes that matter most for human development

The DERS is a research-based measure. Items and scaled indicators were created after a comprehensive review of the existing literature on environmental enrichment and other factors contributing to child development. The DERS departs from other environmental rating measures in that its structure is derived from a systematic mapping of relationships between wide-scope developmental outcomes and the inputs necessary to achieve those outcomes. While the DERS can be used in conventional classrooms, it is optimal for use in

settings intended to promote development of capabilities such as focus, persistence, flexibility, curiosity, collaboration, empathy, self-regulation, and creativity.

Key Features

- The DERS is convenient to administer. Observation is guided by the DERS app, and clear definitions of each target area are readily provided. Note-taking materials are not needed, as data are recorded and analyzed directly on the tablet.
- The assessment is administered in a 60-minute classroom observation, during which the assessor records the presence, magnitude, and/or frequency for each item. At the conclusion of the observation, the app generates a report, which includes a narrative discussion of each domain, a graphic display of all 60 items, and a numerical score summary of each domain.
- DERS results are available immediately. The app calculates, sums, and analyzes scores, eliminating the possibility of observer calculation errors. Assessors can direct their full attention to classroom observation. When the observation is complete, the DERS report can be delivered automatically by email.
- The DERS can be administered at regular intervals, for use in school improvement, or to measure the effects of curriculum changes or staff development.
- Detailed instructions for administration of the DERS are presented in either live or on-line trainings provided by NCMPS.

Training

Use of the DERS requires training provided by NCMPS. (The iPad app can be freely downloaded from the Apple App store, but the user must log in to the app with credentials provided during training.)

Two levels of DERS training are available:

Observer Training is designed for practitioners using the DERS to support school-based continuous improvement. School leaders, coaches, department heads, as well as teachers can use the DERS to gain insight into the details of classroom attributes and how those attributes inform the achievement of desired outcomes.

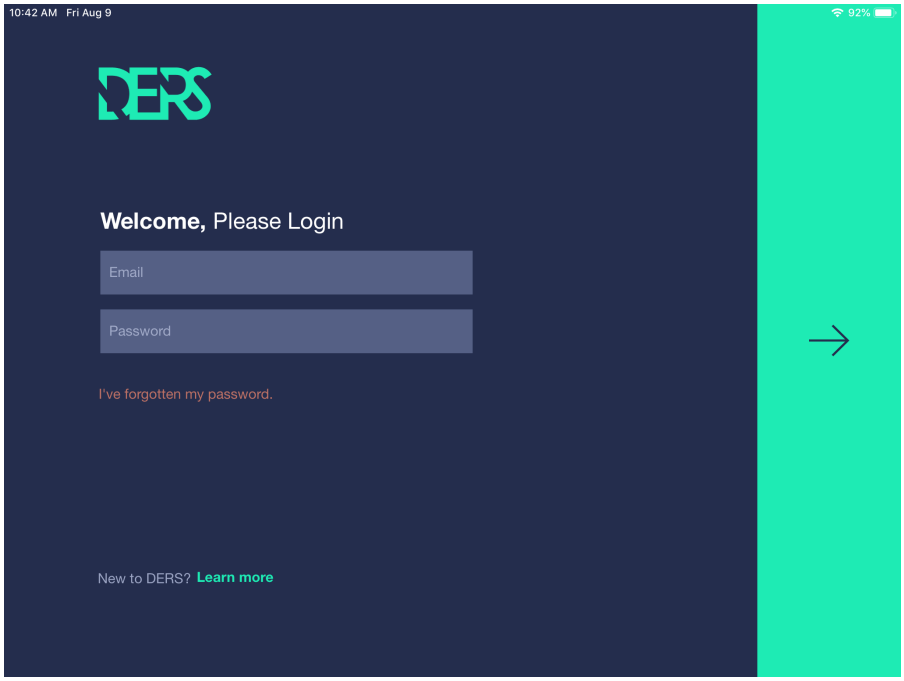
Rater Training is designed for observers interested in serving as external evaluators for schools, districts, authorizers, or other research purposes. This level of training requires an extended, live, experience. Like observers, raters must achieve reliability through a standard set of trials. In addition, raters engage in annual refresher workshops as well as re-certification for reliability.

Additional information about the qualifications necessary to be trained at each of these levels can be obtained from the NCMPS.

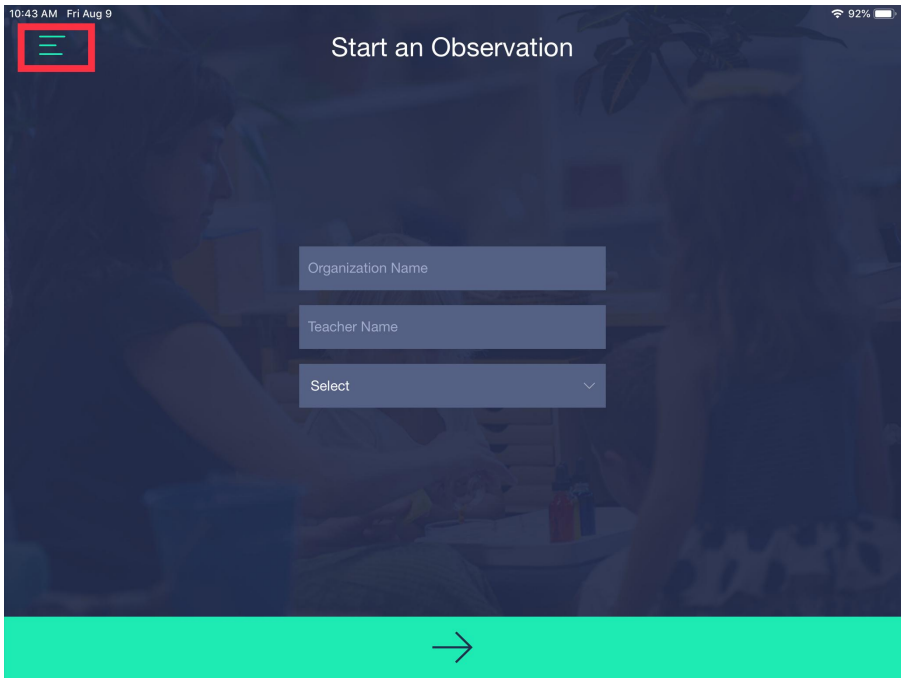
Using the DERS

Account Setup

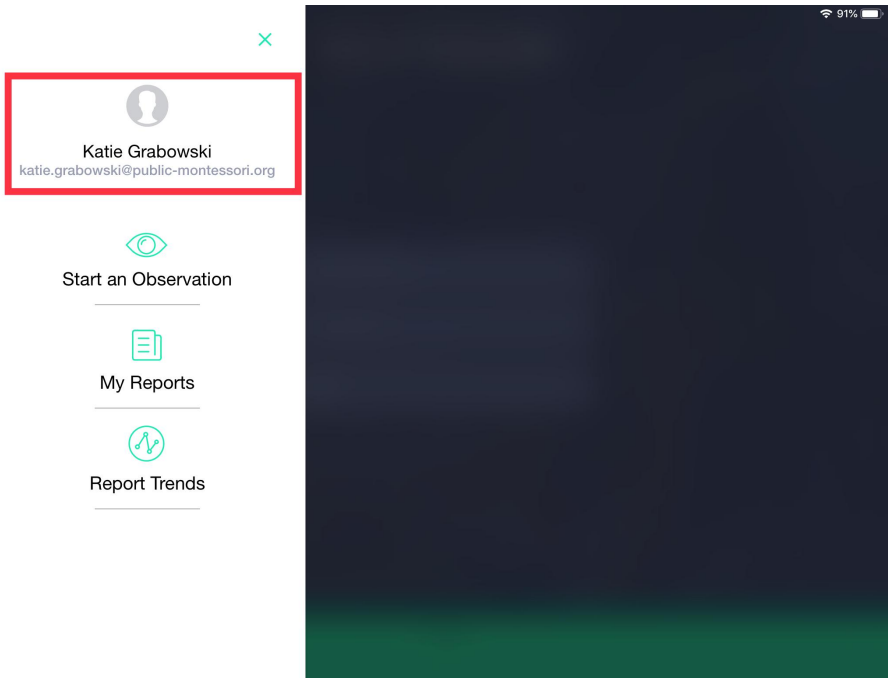
After completing DERS training, the first step of the certification process is to pass the DERS quiz. Upon passing the DERS quiz, you will receive an email with a temporary password. To set up your account, launch the DERS app and enter your email address and temporary password on the login screen.



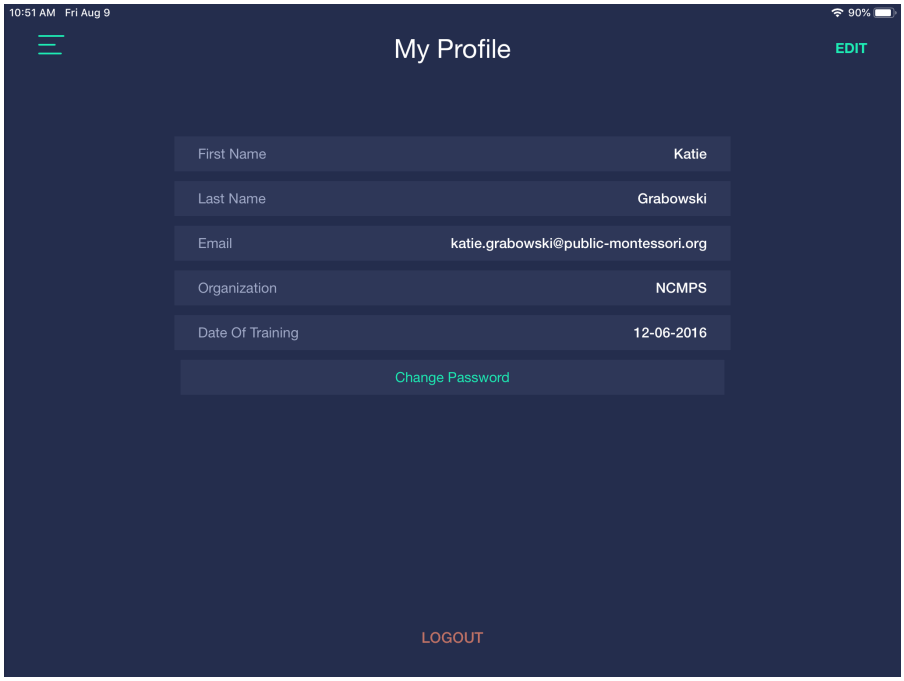
Upon logging in for the first time, the app will prompt you to visit your user profile to change your password. To get to your profile, tap the menu icon in the upper-left hand corner of the screen.



Then, tap your name.

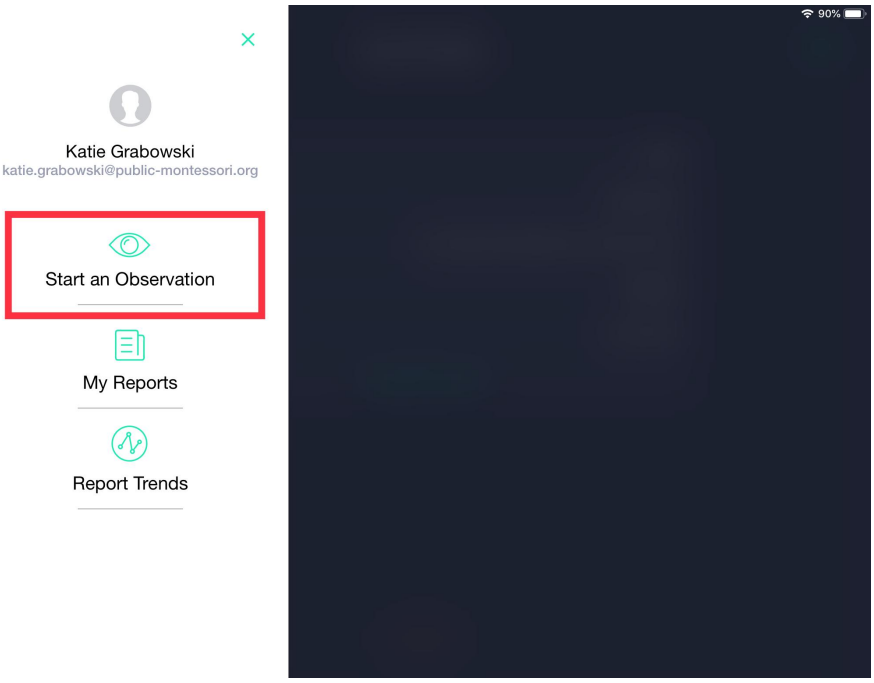


Your user profile will appear. To edit your personal information, tap "Edit." To change your password, tap "Change Password." From this screen, you can also logout of your account.

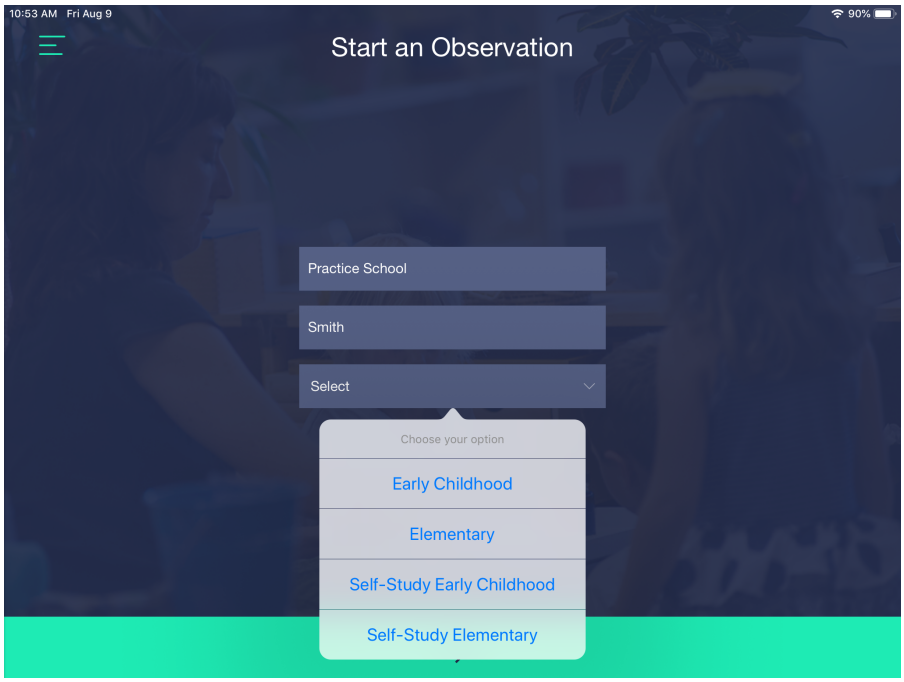


Starting an Observation

To start a new observation, tap the hamburger button in the upper-left corner of the screen and select "Start an Observation."

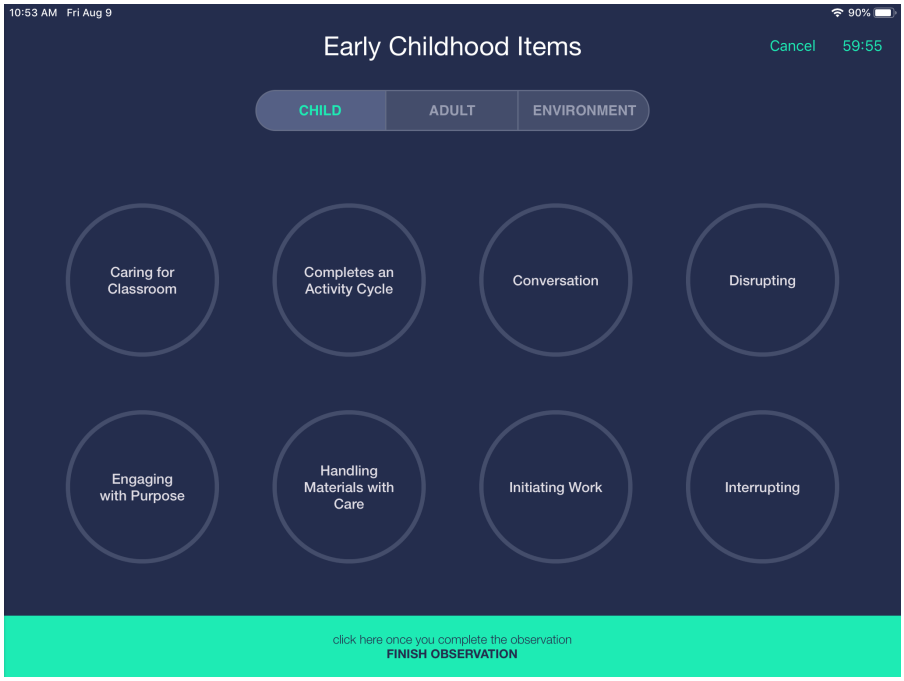


From there, you will be prompted to enter the name of your school and the name of the classroom you plan to observe, and to select the level of the classroom from the drop-down menu on the bottom. The self-study options are limited to child behavior and environment items, allowing you to observe your own classroom. Your school name will become available in the dropdown list as soon as at least one of your staff members completes the certification process, outlined here: www.ders-app.org/certification. For all practice observations, you should use "Practice School."

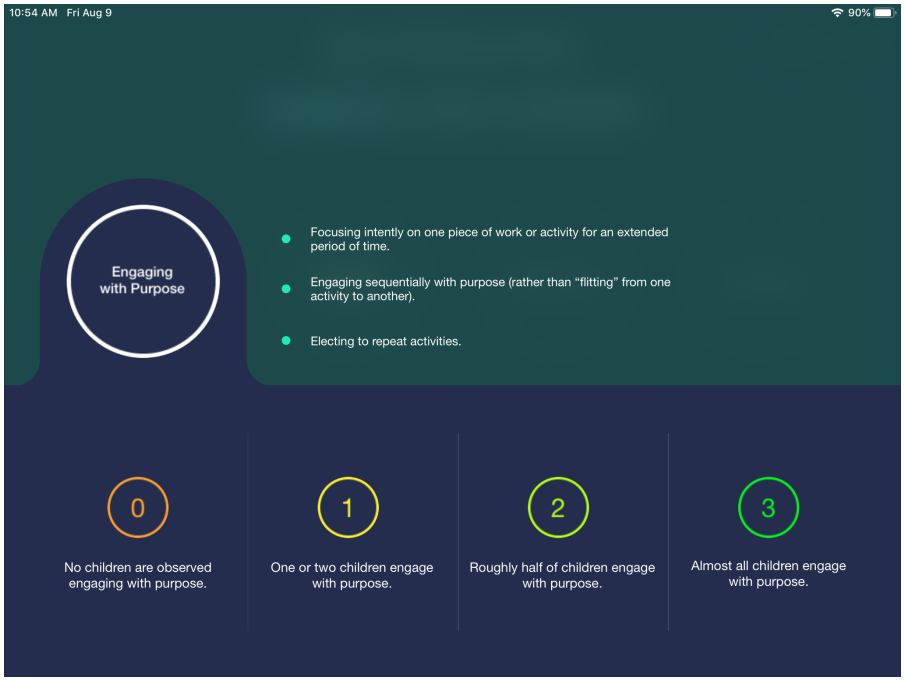


After making your selection, tap the arrow at the bottom of the screen to begin your observation.

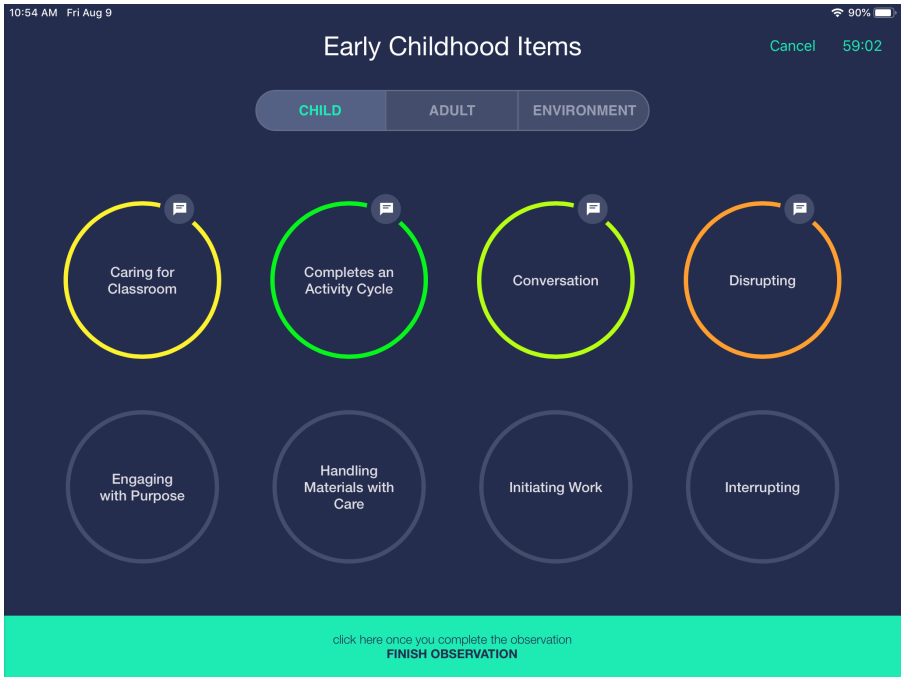
You are now ready to begin scoring DERS items. Buttons at the top of the screen allow the user to toggle among child, adult, and environment attributes. Items are alphabetized within each section; scroll up and down to move through the items within a section. A timer in the upper-right hand corner of the screen displays the time remaining in the observation. A cancel button can be found next to it allowing you to cancel an observation after you have begun. Cancelling an observation will cause you to lose all data from that observation.



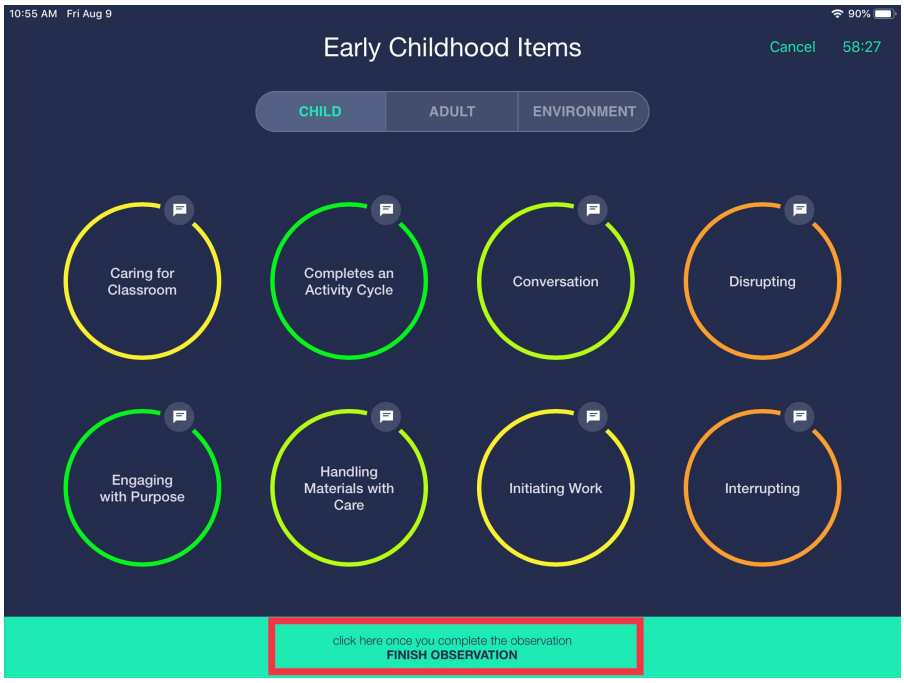
To score an item, tap the corresponding circle. Indicators for each item appear as bullet points. Select the desired score from the range of numbers that appear below.



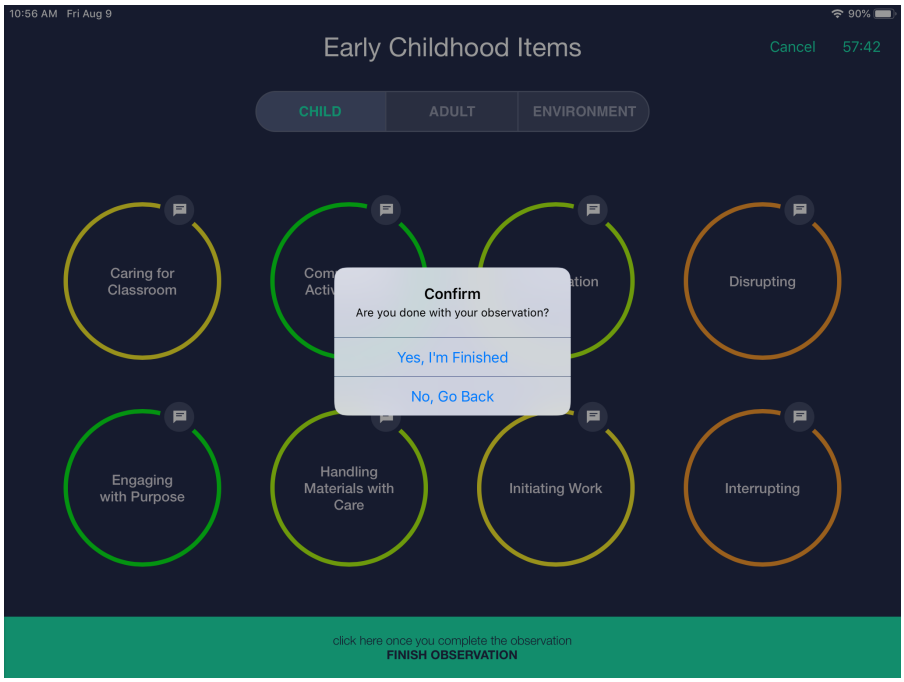
Items that have been scored will appear inside a colored circle, with the color corresponding to the score. You can change your score for magnitude items at any time by repeating these actions. You can also make notes about an item by selecting the note icon for that item, which will be inserted into the final report at the conclusion of the observation.



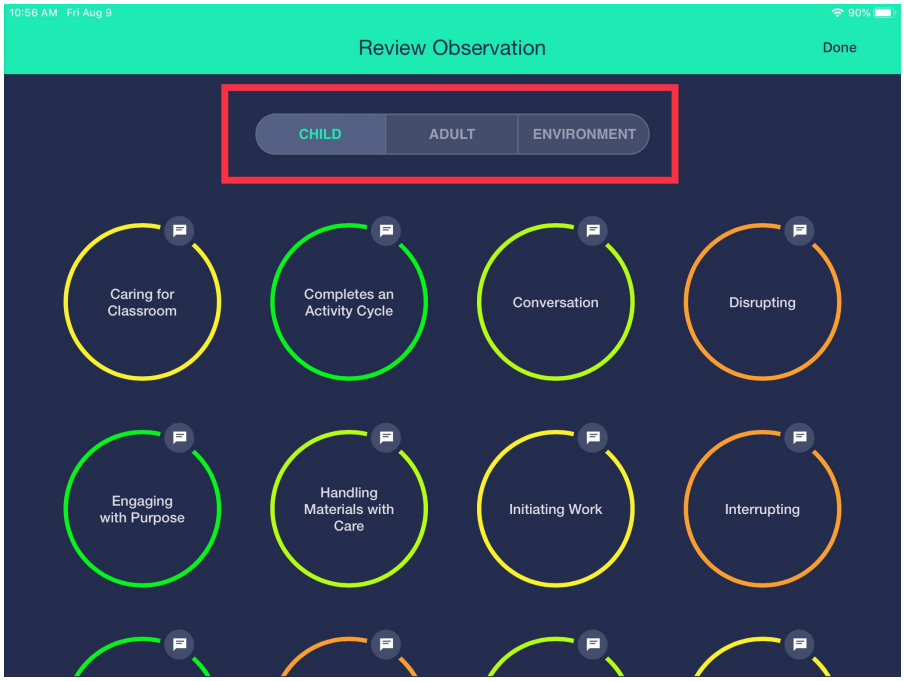
At the conclusion of the 60-minute observation period, tap "Finish Observation."



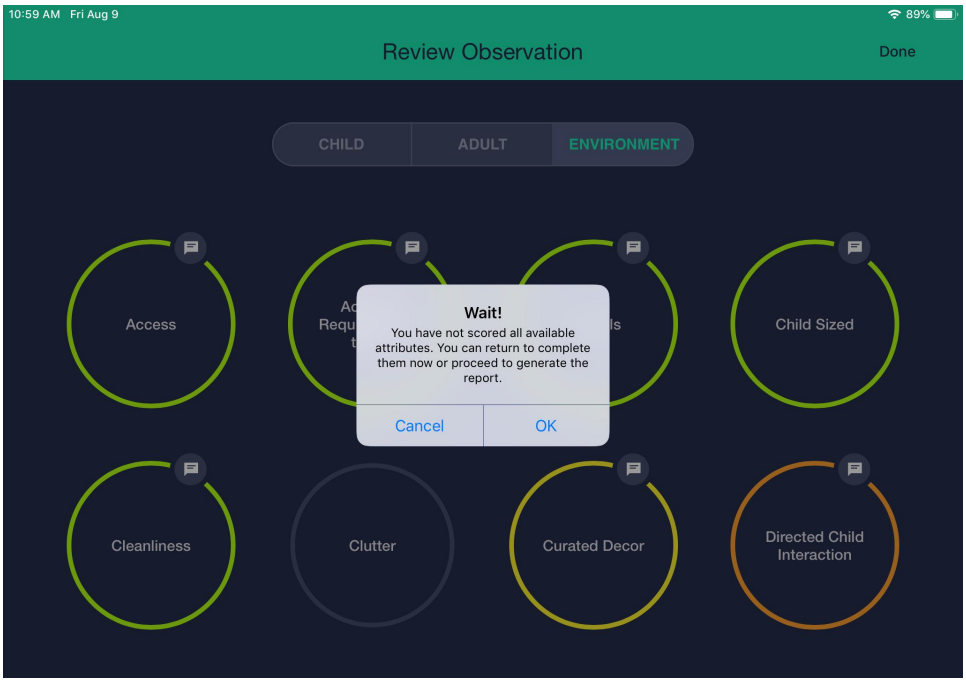
The app will ask you to confirm that you are done with your observation; tap "Yes, I'm finished" to proceed to the review observation screen or "No, go back" to return to the observation.



On the Review Observation screen, you will have the opportunity to make any necessary changes to scores for items and make or edit notes.

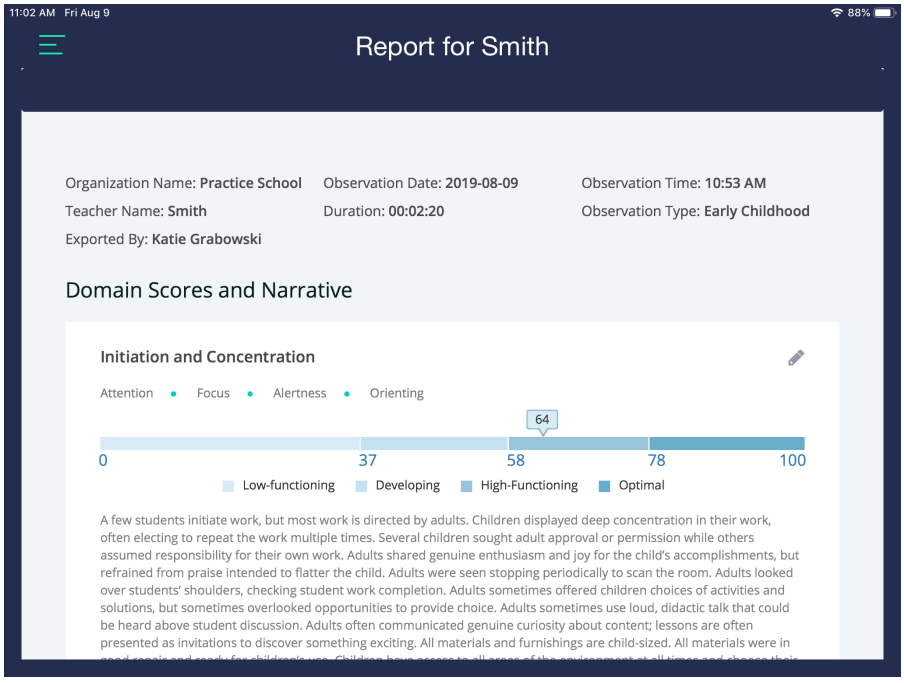


Once you are satisfied with your scores, tap "Done" in the upper-right hand corner to submit your scores and generate a report. If any items are left unscored, the app will remind you to revisit the items you forgot to score.

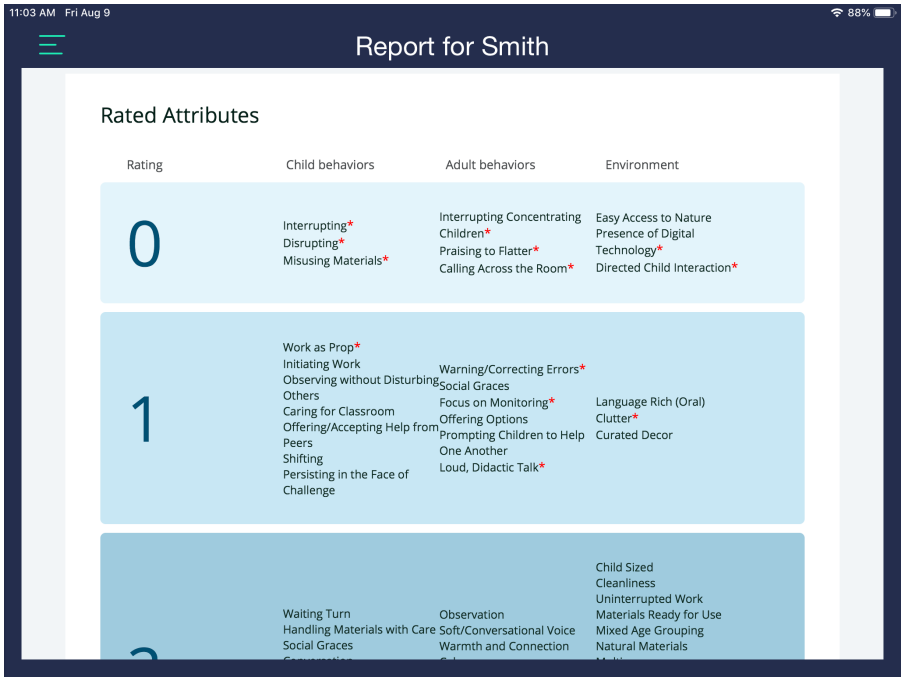


Completing a Report

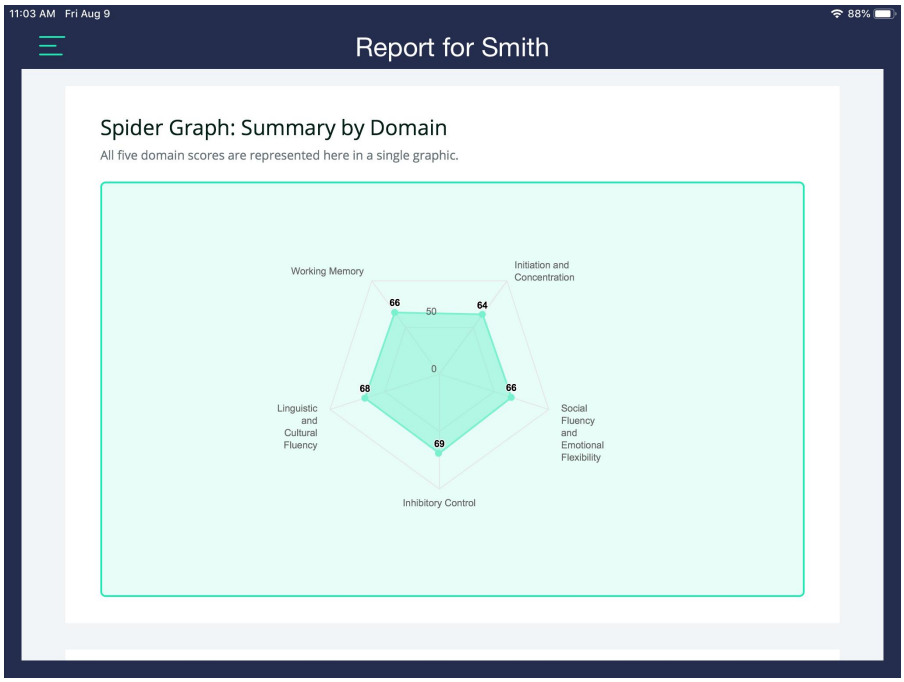
After reviewing your observation, an initial report will appear on the screen. This report will include a bar graph of domain scores at the top and a narrative section by domain underneath. Once you have generated the initial report, you can edit the text of the report to include any additional notes or to modify the automatically generated text. To edit the text in each section, tap the pencil icon in the upper-right hand corner of that section.



Continue to scroll through the report to see the table of rated attributes. The table shows each score from 0 being least prevalent to 3 being most prevalent. Three columns next to each score show the items scored as such in alphabetical order grouped by child, adult, and environment. Items with a red asterisk are items that are negatively scored.



Beneath the rated attributes you can see a spider graph representing each of the domain scores. Higher scores will have points on the corners of the pentagon closer to the outside while lower scores will be closer to the center. If all five scores are relatively close, the shape will appear fairly regular, but if there is a marked discrepancy among domain scores, it will appear irregular.

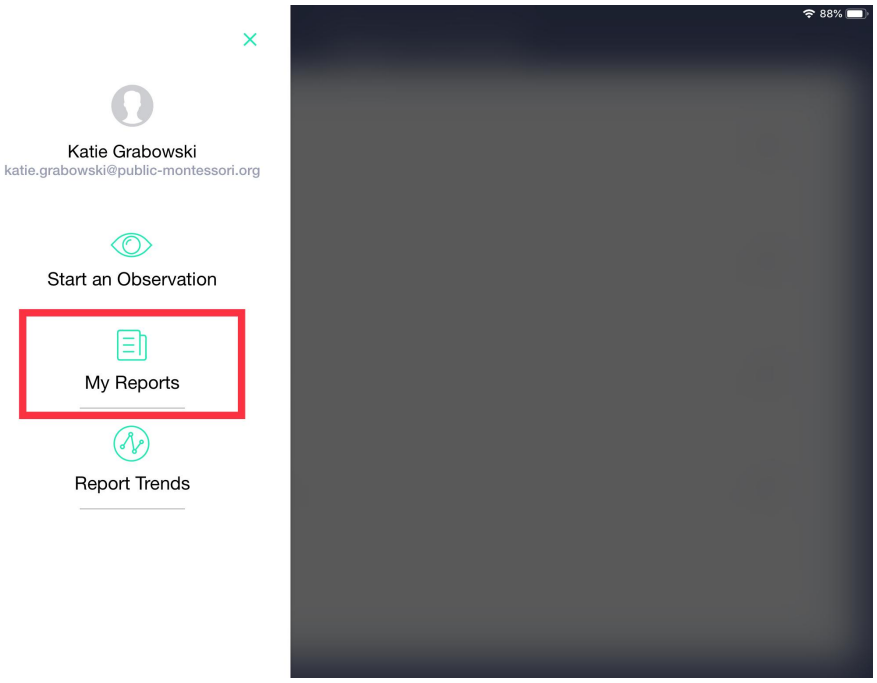


The four boxes at the end of the report are designed to support users in coaching and continuous improvement by identifying areas of strength and areas for growth, as well as goals and supports for reaching those goals. These boxes can be filled in during the review process or at a later time by using the pencil icon to edit those fields either within the DERS app or in the DERS user portal.

When you finish editing the report, tap the hamburger icon in the upper-left hand corner to start a new observation or to view your reports.

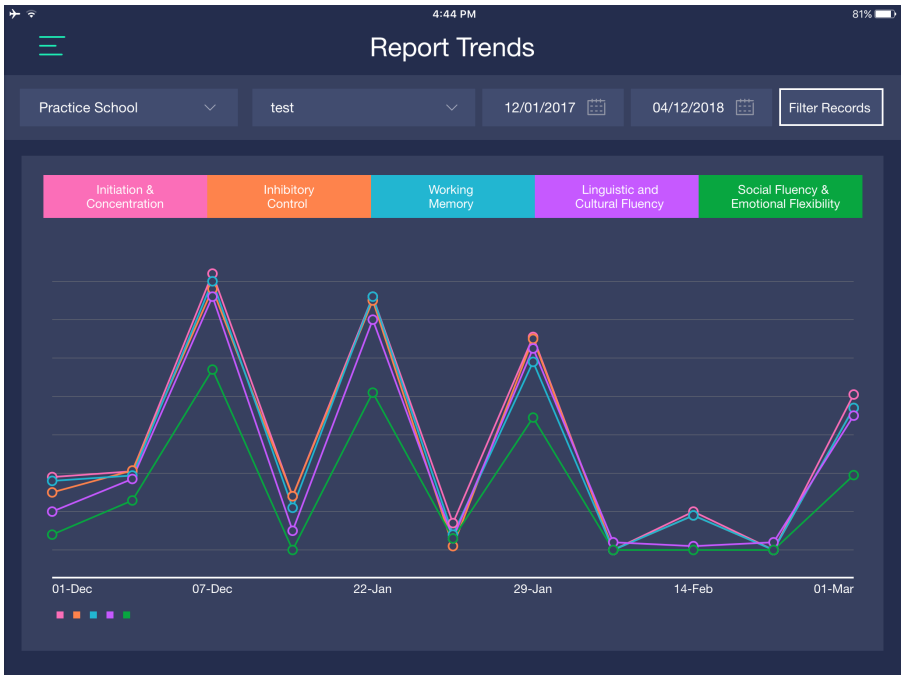
Managing Reports

To review completed reports from past observations, tap the hamburger icon in the upper-left hand corner of the screen. Select "My Reports" from the menu that appears.



From this page, you are able to sort your observations by school, classroom, and date. To view a report, tap the eye button. To e-mail a report, tap the envelope button.

To see a graphic representation of trends over time, tap "View Report Trends," using the drop-down menus at the top of the Report Trends screen to filter by classroom and date range. Tap the domain names to toggle them on and off in the display.



Items and Indicators

Using the DERS begins with becoming familiar with the 60 items, and their accompanying indicators that comprise the content of the scale. The following tables show indicators and scoring guidelines for each of the 60 items in each level.

Early Childhood

Indicators and Scoring Guidelines

CHILD BEHAVIORS		
ITEM	**INDICATORS**	**SCORING**
1. Caring for Classroom	• Spontaneously pushing in chairs, tidying shelves, sweeping, watering plants, etc. • Dusting, cleaning up spills, washing dishes. • Children rather than adults care for the physical environment.	3—Children care for the classroom as needed without adult prompting. 2—Multiple children are observed caring for the classroom, but adult prompting is needed. 1—One child is observed caring for the classroom. 0—No children are observed caring for the classroom.
2. Completes an Activity Cycle	• Selecting an activity, engaging with the activity, and returning it ready for use by another child. • If children move away from their work, it is only briefly, and they quickly return.	3—Almost all children progress through an activity from start to finish and return work to the shelves or original location when done. 2—Roughly half of children are observed completing activities, but some abandon activities in the middle. 1—At least one child is observed progressing through an activity from start to finish. 0—Not observed or all work is laid out by an adult.
3. Conversation	• Talk is child initiated and prevalent throughout the classroom. • Two or more volleys of conversation between children or between children and adults.	3—The classroom is characterized by a low hum of conversation throughout. 2—Conversation occurs in some parts of the room. 1—The classroom is generally quiet, with isolated instances of conversation. 0—Not observed.
4. Disrupting	• Behavior that is dangerous, demeaning or destructive. • Shouting. • Pushing or physical violence. • Throwing furniture or materials.	3—Three or more incidents of disruption are observed. 2—Two incidents of disruption are observed. 1—One incident of disruption is observed. 0—No children are observed disrupting.
5. Engaging with Purpose	• Focusing intently on one piece of work or activity for an extended period of time. • Engaging sequentially with purpose (rather than "flitting" from one activity to another). • Electing to repeat activities.	3—Almost all children engage with purpose. 2—Roughly half of children engage with purpose. 1—One or two children engage with purpose. 0—No children are observed engaging with purpose.

6. Handling Materials with Care	• Carrying, manipulating, and putting away materials carefully and intentionally. • Carrying items one at a time using both hands. • Incidental spills or accidents may still occur, in spite of children's care.	3—Almost all children handle materials with care. 2—Roughly half of children handle materials with care. 1—At least one child handles materials with care. 0—No children are observed handling materials with care.
7. Initiating Work	• Choosing work without adult direction. • Independently locating a place to work. • Transitioning without adult direction.	3—Almost all children initiate work independently without adult direction. 2—Roughly half of children initiate work independently without adult direction. 1—At least one child initiates work independently without adult direction. 0—No children are observed initiating work independently.
8. Interrupting	• Verbal interruptions—breaking into others' conversation. • Non-verbal interruptions, such as interfering with other children's work.	3—Four or more children are observed interrupting. 2—Two or three children are observed interrupting. 1—At least one child is observed interrupting. 0—No children were observed interrupting peers or adults who were engaged in other activity.
9. Joy	• Smiling, laughing, or singing. • Clearly comfortable in the environment. • Expressing satisfaction with work. • Peaceful.	3—Almost all children exhibit joy. 2—Roughly half of children exhibit joy. 1—Up to three children exhibit joy. 0—No children are observed exhibiting joy.
10. Misusing Materials	• Play-fighting with objects. • Twirling globes, tossing or throwing objects. • Extended fantasy play with educational materials.	3—More than three are observed misusing materials. 2—Two or three children are observed misusing materials. 1—One child is observed misusing materials. 0—No children are observed misusing materials.
11. Navigating Room with Care	• Walking around peers' work. • Moving through the room without bumping into tables or shelves.	3—Almost all children navigate the room with care. 2—Roughly half of children navigate the room with care. 1—One or two children navigate the room with care. 0—No children are observed navigating the room with care.
12. Observing without Disturbing Others	• Watching a peer work without touching or interrupting.	3—Almost all observations are made without disturbing others. 2—Roughly half of observations are made without disturbing others. 1—At least one observation is made without disturbing others. 0—No children are seen observing others with or without disturbing.
13. Offering/Accepting Help from Peers	• Noticing a peer in need and offering assistance with words or gestures. • Asking, "do you need help?" or saying, "here, I'll help you." • Accepting assistance when offered. • Spontaneously assisting with cleanup.	3—Three or more instances of a child offering or accepting assistance from a peer are observed. 2—Two instances of a child offering or accepting assistance from a peer are observed. 1—At least one instance of a child offering or accepting assistance from a peer is observed. 0—No children are observed offering or accepting help from peers.

14. Persisting in the Face of Challenge	• Sighing or expressing difficulty while engaged in an activity. • Asking for help from a peer. • Attempting multiple ways of solving a problem.	3—Three or more instances of a child exhibiting persistence. 2—Two instances of a child exhibiting persistence. 1—At least one instance of a child exhibiting persistence. 0—No children were observed persisting in the face of challenge.
15. Resolving Needs with Words	• Requesting help from peers or adults verbally. • Disagreements between peers are resolved without violence—though voices may be raised temporarily. • Children cooperate peacefully to solve problems or mediate disagreements.	3—Three or more instances of children resolving needs with words are observed. 2—Two instances of children resolving needs with words are observed. 1—At least one instance of a child resolving needs with words is observed. 0—No children are seen using words to get their needs met or resolve their needs (either because there were no needs or because they use means other than peaceful verbal expression).
16. Seeking Adult Approval or Permission	• Children are required to check work completion with adults. • Asking permission to use resources, move around in the environment, or select work. • Completing a checklist of activities.	3—Almost all children seek approval or permission from the teacher. 2—Roughly half of children seek adult approval or permission while others assume responsibility for their own work. 1—One or two children seek adult approval or permission while the others assume responsibility for their own work. 0—No children are observed seeking adult approval or permission to engage in work.
17. Shifting	• When an activity, material, person, or location is unavailable, recovering and making another choice. • Recovering from distraction. • Shifting between individual and group work.	3—Almost all children are observed shifting. 2—Roughly half of children are observed shifting. 1—At least one child is observed shifting. 0—Not observed.
18. Social Graces	• Verbal expressions such as "please," "thank you," "excuse me". • Greetings, handshakes, offering refreshments. • Non-verbal courtesies, including expressions of inclusion of peers, kindness, yielding space to allow a peer to join a group or find a workplace, smiling or making eye contact with a peer.	3—Children use verbal social graces spontaneously. 2—Children sometimes use verbal social graces spontaneously, but are sometimes prompted to use them by an adult. 1—Children generally employ non-verbal courtesies. 0—No children are observed using social graces with or without adult prompting.
19. Waiting Turn	• When a material, activity, or person is unavailable, children wait their turn without interrupting or resorting to force. • Children are seen waiting for an adult's attention, a seat at the snack table, a work space, activity, or use of a material.	3—Multiple children are observed visibly waiting for a material, activity, or person. 2—At least one child is observed visibly waiting for a material, activity, or person. 1—Children have opportunities to wait for materials, activities, places, or people, but are not observed doing so. 0—No children are seen waiting their turn, because they interrupted rather than waited.
20. Work as Prop	• Sitting in front of work but not engaging with work or others for an extended period. • Manipulating work with only the appearance of engagement.	3—Four or more children are observed using work as prop. 2—Two to three children are observed using work as prop. 1—One child is observed using work as prop. 0—No children are observed using work as prop.

ADULT BEHAVIORS		
ITEM	**INDICATORS**	**SCORING**
1. Calling Across the Room	• Calling or shouting across the room rather than moving to the child. • Calling or shouting across the room to other adults.	3—Adults call across the room three times or more. 2—Adults call across the room twice. 1—Adults call across the room once. 0—Not observed.
2. Calm	• Moving around the space slowly and intentionally. • Behavior is consistent and predictable. • Speech is soft in volume and calm in tone.	3—Adults are calm in all interactions and movements. 2—Adults are often, but not always, calm. 1—Adults rarely exhibit calm. 0—Not observed.
3. Clarity	• Verbal instructions are expressed in simple, clear language. • Language is used intentionally, with attention to vocabulary, syntax, grammar, and cultural context.	3—Adults always speak with clarity. 2—Adults often, but not always, speak with clarity. 1—Adults rarely speak with clarity. 0—Not observed.
4. Focus on Monitoring	• Frequent checking of student work completion—as distinct from observing to track activity. • A majority of time is spent circulating, looking over children' shoulders to monitor activity as distinct from general observation. • Monitoring activity results in a lack of instruction and interference with children's engagement.	3—No instruction is observed because adults are exclusively monitoring children. 2—Adults spend roughly half of their time monitoring children's work. 1—Adults are seen engaging in monitoring behavior between instructional activities/lessons. 0—Not observed.
5. Friendliness with Error	• Allowing children to experiment and experience failure. • Communicating respect for the process of trial and error and encouraging children to embrace potential learning from error.	3—Adults always exhibit friendliness with error. 2—Adults often, but not always, exhibit friendliness with error. 1—Adults rarely exhibit friendliness with error. 0—None of these indicators are observed.
6. Interrupting Concentrating Children	• Approaching children who are obviously concentrating. • Interrupting children's work.	3—Adults interrupt concentrating children three times or more. 2—Adults interrupt concentrating children twice. 1—Adults interrupt a concentrating child once. 0—Not observed.
7. Loud, Didactic Talk	• Voice can be heard above student discussion. • Voice is mannered and focused on telling rather than discussion. • "On-stage" talk. • Commanding rather than inviting engagement.	3—Adults always use loud, didactic talk. 2—Adults often, but not always, use loud, didactic talk. 1—Adults rarely use loud, didactic talk. 0—Not observed.

8. Moving/Bending to Speak to Child	• Adults move to the child, bend or kneel, and make eye contact when speaking.	3—Adults always move to the child. 2—Adults often, but not always move to the child. 1—Adults rarely move to the child. 0—Not observed.
9. Observation	• Withdrawing from classroom activity in order to observe children in a focused, purposeful manner. • Scanning the room. • Taking notes.	3—Adults protect observation as a practice, resisting interruptions while sitting, observing, and taking notes. 2—Adults pause briefly to observe and make a note. 1—Adults are seen pausing periodically to scan the room. 0—Not observed.
10. Offering Options	• Verbally offering children choices of activities, including where to work, with whom to work, and how long to engage in activity. • Reminding children of available options.	3—Adults are observed offering options three times or more. 2—Adults are observed offering options twice. 1—Adults are observed offering options once. 0—Not observed.
11. Praising to Flatter	• Offering general praise, such as "good job," as distinct from descriptive feedback. • External validation provided by adults that does not prompt child reflection.	3—Three or more instances observed. 2—Two instances observed. 1—One instance observed. 0—Not observed.
12. Precision	• Lessons with materials are presented with attention to detail in gesture. • Modeling slow, careful hand movements for children while handling materials.	3—Adults always exhibit precision in their movements. 2—Adults often, but not always, exhibit precision in their movements. 1—Adults rarely exhibit precision in their movements. 0—Not observed.
13. Prompting Children to Help One Another	• Verbal prompts for children to help or consult with each other. • Redirecting the children seeking assistance to peers when appropriate. • Encouraging peer teaching.	3—Three or more instances observed. 2—Two instances observed. 1—One instance observed. 0—Not observed.
14. Protected Instruction	• Holding instructional time sacred, protecting the mutual engagement between adult, child, and material. • Not allowing other children to interrupt instruction. • Not allowing themselves to be distracted from instruction.	3—Adults always protect instruction. 2—Adults often, but not always, protect instruction. 1—Adults rarely protect instruction. 0—All instruction is interrupted; no instruction is protected/offered.
15. Responding to Inappropriate Behavior	• Redirecting rather than correcting. • Children are redirected using in positive rather than negative language. • Limits are clearly expressed in a kind but firm way.	3—When inappropriate behavior was addressed, it was always through positive redirection. 2—When inappropriate behavior was addressed, it was often, but not always, through positive redirection. 1—When inappropriate behavior was addressed, it was rarely through positive redirection. 0—When inappropriate behavior was addressed, it was through negative, corrective language.

16. Social Graces	• Modeling pragmatic social language as needed—"please", "thank you", "excuse me". • Modeling gestural elements of social graces when appropriate—pushing in chairs, picking up litter, handshakes, stepping aside to allow another person to pass.	3—Adults always model social graces. 2—Adults often, but not always, model social graces. 1—Adults rarely model social graces. 0—Not observed.
17. Soft/Conversational Voice	• Speaking softly in a manner that is conversational rather than didactic. • Adult voices are rarely audible above the general hum of the classroom.	3—Adults always use a soft, conversational voice. 2—Adults often, but not always, use a soft, conversational voice. 1—Adults rarely use a soft, conversational voice. 0—Not observed.
18. Warmth and Connection	• Frequent smiling. • Sharing in children's enthusiasm. • Connecting with children by making eye contact. • Conversation with children is not limited to academic topics.	3—Adults always exhibit warmth and connection in interactions with children. 2—Adults often, but not always, exhibit warmth and connection in interactions with children. 1—Adults rarely exhibit warmth and connection in interactions with children. 0—Not observed.
19. Warning/Correcting Errors	• Intervening in children's activity, often correcting mistakes, either through verbal cues or physically moving objects (blocks, pencils). • Warnings for the child's safety constitute exceptions.	3—Adults are observed warning or correcting children three times or more. 2—Adults are observed warning or correcting children twice. 1—Adults are observed warning or correcting children once. 0—Not observed.
20. Wonder	• Instruction is presented as an invitation to discover something exciting. • Adults communicate genuine curiosity about the content they or their children are engaged with, shifting focus from self to work. • Adults lead with open-ended questions in conversation with children.	3—Three indicators are observed. 2—Two indicators are observed. 1—One indicator is observed. 0—Not observed.

ENVIRONMENTAL ATTRIBUTES		
ITEM	**INDICATORS**	**SCORING**
1. Access	• Children have access to the entire environment and all materials in it.	2—Children have access to all materials areas of the environment at all times. 1—Some areas of the environment or some materials in it are inaccessible to children. 0—Children's movement is constantly curtailed.
2. Activities Requiring Turn-taking	• Materials are limited in number. • Waiting for activities, snack, or the bathroom is necessary.	2—Three or more activities requiring turn-taking are observed. 1—At least two activities requiring turn-taking is observed. 0—Not observed.
3. Animals	• The environment contains live animals (mammals, reptiles, amphibians). • Materials for animal care are available to children. • There is evidence that animals are integrated into science and/or language instruction and learning; children may observe, classify, or socialize animals.	3—There is evidence that instruction and learning integrate classroom animals. 2—There is evidence of animal care. 1—The environment contains live animals. 0—No animals are visible.
4. Child Sized	• Materials and furnishings are appropriately sized for use by very young children. • This includes tables, chairs, didactic materials, kitchen tools, and implements for caring for the environment.	2—Almost all materials and furnishings are child-sized. 1—Some materials and furnishings are child-sized. 0—No materials or furnishings are child-sized.
5. Cleanliness	• Shelves and tables free of dust. • All surfaces are clean. • Garbage has been emptied. • Whiteboard/chalkboard is clean.	2—All areas of the classroom are clean. 1—Some areas of the classroom are clean. 0—Room is dusty, disheveled, dirty.
6. Clutter	• Over-stimulating wall decoration. • Inadequate storage leads to supplies, materials, and other items cluttering the environment. • Lack of attention to order.	2—All three indicators are observed. 1—One or two indicators are observed. 0—No clutter observed.
7. Curated Decor	• Wall décor is carefully selected with emphasis on fine art rather than commercial posters or student work. • Décor reflects a variety of cultures and heritages. • Décor creates a warm, comfortable, and welcoming environment.	2—All three indicators are observed. 1—One or two indicators are observed 0—No indicators are observed.
8. Directed Child Interaction	• Children broken into age or grade-level groups. • Children assigned seats. • Whole group time, including circle or snack, exceeds 15 minutes per work period.	2—All three indicators are observed. 1—One or two indicators are observed. 0—No indicators are observed.

9. Easy Access to Nature	• The classroom provides direct access to nature via a door opening to an outdoor space. • Children pass freely between indoor and outdoor spaces without adult mediation or permission.	2—Children have direct and free passage between inside and outside. 1—Children can access the outdoors with adult permission. 0—No direct access to outdoors from classroom.
10. Food	• Children primarily prepare, serve, and clean up snacks and/or meals with minimal help from adults. • Individual food preparation activities are present where children are preparing, consuming, and cleaning up the activity independently. • Snack is provided for children to serve themselves and is taken in small, rather than whole, groups.	3—All indicators are observed. 2—Two indicators are observed. 1—At least one indicator is observed. 0—No evidence of access to food is available, or snack is whole group.
11. Language Rich (Oral)	• The environment is equipped with an array of items to identify, name, and talk about. • Fine art images reflecting the cultures and ethnicities present in the classroom are available for children to peruse, discuss, and contemplate.	2—Both indicators are observed. 1—At least one indicator is observed. 0—No indicators observed.
12. Language Rich (Written)	• The environment contains a cozy reading area, with a chair and a selection of texts culturally representative of the classroom community. • High-interest print material (books, magazines and other physical texts) are available at all times, as distinct from leveled readers and other didactic texts.	2—Both indicators are observed. 1—At least one indicator is observed. 0—No indicators observed.
13. Materials Ready for Use	• Pencils are sharpened. • Consumables are stocked. • All areas of the classroom are orderly and prepared for children.	2—All materials are in good repair and ready for children's use. 1—Most materials are in good repair and ready for children's use. 0—Materials are haphazardly prepared, and generally not inviting or ready for children's use.
14. Mixed Age Grouping	• Children are in mixed age groups of two-year age spans. • Children are in mixed age groups of three years.	2—Children are in mixed-age groups of three years. 1—Children are in mixed-age groups of two years. 0—Children are grouped by grade-level or single year age spans.
15. Multisensory	• Materials are available to learn through different senses. • Materials allow for hands-on exploration.	2—Materials for hands-on exploration and multisensory learning are available. 1—Hands-on materials are observed, but materials for learning about the different senses are not. 0—No hands-on materials observed.
16. Natural Materials	• Materials, furniture, and containers intended for children's use are made of wood, glass, fiber, metal.	2—Most materials are made of natural materials. 1—Roughly half of materials are made of natural materials. 0—Preponderance of unbreakable or plastic materials, furniture, and/or containers.

17. Plants	• The environment contains live plants. • Materials for plant care are available to children. • There is evidence that plants are integrated into science and/or language instruction and learning; children may experiment with, measure, describe, or classify plants.	3—There is evidence that instruction and learning integrate classroom plants. 2—The environment contains live plants and materials for plant care. 1—At least one plant is visible. 0—No plants are visible.
18. Presence of Digital Technology	• Tablets, computers or a Smart Board are available for children. • Children are observed using digital technology for learning. • Digital technology is used as a substitute for didactic materials.	2—Instruction being delivered via computers, tablets, or Smart Boards is observed. 1—Digital technology is available for children's use. 0—Digital technology is not accessible to children.
19. Real Tools and Real Work	• Children have access to working, child-sized, real-life tools (e.g., hammers, rakes, shovels, brooms, knives). • Children participate in activities requiring the use of real tools (gardening, washing, ironing, sweeping, sewing, handcrafts, food preparation).	3—Child-sized work tools are available and three or more children are observed using them. 2—Child-sized work tools are available and one or two children are observed using them. 1—Child-sized work tools are available, but no children are observed using them. 0—Children have no access to real tools or real work.
20. Uninterrupted Work	• Children have access to the entire environment for at least two and a half hours per day.	2—Children have two and a half hours or more of uninterrupted work time per day. 1—Children have at least two hours of uninterrupted work time per day. 0—Children have less than two hours of uninterrupted work time per day.

Elementary

Indicators and Scoring Guidelines

CHILD BEHAVIORS		
ITEM	**INDICATORS**	**SCORING**
1. Caring for Classroom	• Spontaneously pushing in chairs, tidying shelves	3—Children consistently care for the classroom as needed. 2—Children sometimes care for the classroom, but sometimes miss opportunities to do so. 1—At least one child is observed caring for the classroom. 0—Not observed.
2. Collaboration	• Working at the same table with other children • Consulting with other children on extended, complex, self-chosen work	3—At least three sets of children are observed working at the same table, consulting with other children on extended, complex, self-chosen work. 2—At least two sets of children are observed working at the same table, consulting with other children on extended, complex, self-chosen work. 1—At least one set of children is observed consulting with other children or working together on extended, complex, self-chosen work. 0—No collaboration is observed.
3. Comfort with Adults	• Children demonstrate comfort and ease with adults—smiling, speaking conversationally, joking	3—An easy relationship between adults and children dominates the classroom culture, indicated by at least four conversational exchanges between children and adults, which often include smiles or jokes. 2—Most children demonstrate comfort with adults, indicated by at least three conversational exchanges between children and adults, which often include smiles or jokes. 1—Some children demonstrate comfort with adults, indicated by at least two conversational exchanges, which may include smiles and/or jokes. 0—Comfort between children and adults is not observed.
4. Conversation	• Hum of conversation • Two or more volleys of conversation between children or between children and adults	3—The classroom is characterized by a low hum of conversation. 2—Conversation occurs in some parts of the room, or occurs sporadically. 1—Conversation occurs, but is limited. 0—Not observed.

5. Disrupting	• Interfering with other children's engagement • Shouting • Pushing or physical violence	3—Disruption permeates the classroom culture. 2—Disruption is common, but eventually resolved (more than one child is observed disrupting). 1—One child is observed disrupting. 0—No children were observed disrupting.
6. Frustration	• Quickly seeking help from an adult when work is challenging • Ending activity when work becomes challenging – as distinct from taking a break and returning to work	3—More than three students are observed seeking help from adults quickly or ending activity when confronted with challenge. 2—Two students are observed seeking help from adults quickly or ending activity when confronted with challenge. 1—One student is observed seeking help from adults quickly or ending activity when confronted with challenge. 0—No students are observed seeking help quickly or ending activity when confronted with challenge.
7. Initiating Work	• Choosing work without adult direction • Independently locating a place to work • Transitioning without adult direction	3—Adult-directed work is the rare exception. 2—There is a mix of children acting and being directed by adults. 1—A few children initiate work, but most work directed by adults. 0—No children are observed initiating work independently.
8. Interrupting	• Children interrupt peers or adults who are engaged in other activities	3—Children consistently interrupt peers or adults who are engaged in other activity. 2—Children often interrupt peers or adults who are engaged in other activity. 1—Children sometimes interrupt peers or adults who are engaged in other activity. 0—No children are observed interrupting peers or adults who were engaged in other activity.
9. Joy	• Smiling, laughing, singing • Children are clearly comfortable in the environment • Children express satisfaction with their work • Children are peaceful	3—Almost all children exhibit joy. 2—Most children exhibit joy. 1—Some children exhibit joy. 0—No children were observed exhibiting joy.
10. Maximum Effort	• Extended periods of intense focus/concentration • Intense, extended focus on "big work"	3—Many children are observed deeply engaged in work for an extended period of time, often attempting multiple ways of solving a problem, formulating ideas, or organizing presentations. 2—Some children are observed deeply engaged in work for an extended period of time, often attempting multiple ways of solving a problem, formulating ideas, or organizing presentations. 1—Some children are observed deeply engaged in work, though they may break focus to attend to other matters. 0—No children are observed engaged in intense, focused work.

11. Navigating Room with Care	• Walking around peers' work • Moving through the room without bumping into tables or shelves	3—Almost all children navigate the room with care. 2—Most children navigate the room with care. 1—Some children navigate the room with care. 0—No children were observed navigating the room with care.
12. Offering/Receiving Help from Peers	• Noticing a peer in need and offering assistance • Accepting assistance when offered	3—More than two children offer or receive assistance a peer. 2—More than one child offers or receives assistance from a peer. 1—At least one child offers or receives assistance from a peer. 0—No children are observed offering or receiving help from peers.
13. Persisting in the Face of Challenge	• Sighing • Expressing difficulty • Asking for help from a peer • Attempting multiple ways of solving a problem	3—More than two children exhibit persistence. 2—Two children exhibit persistence. 1—At least one child exhibits persistence. 0—No children were observed persisting in the face of challenge.
14. Planning and Reflection	• Recording work in a work journal • Conferring with peers or adults about plans	3—Work journals are visible and in use by almost all children. 2—Work journals are visible and in use by most children. 1—Work journals are visible and in use by some children. 0—Work journals are not visible or no children are observed using them.
15. Resolving Needs with Words	• Children are able to request help from peers or adults verbally • Disagreements between peers are resolved peacefully	3—Children consistently resolve their needs with words. 2—Children often resolve their needs with words. 1—Children sometimes resolve their needs with words. 0—No children are seen using words to get their needs met or resolve their needs (either because there are no needs or because they use means other than peaceful verbal expression).
16. Seeking Adult Approval	• Children seek approval or permission before selecting work • Children ask adults to check their work	3—A culture of seeking adult approval dominates the classroom, indicated by at least four children checking with adults before or after selecting work. 2—Many, though not all, children seek adult approval before selecting or finishing work—at least three children observed 1—Some children seek adult approval before selecting or completing work, at least two children observed. 0—Children are not observed seeking adult approval.
17. Shifting	• When an activity, material, or location is unavailable, recovering and making another choice • Recovering from distraction • Accepting change in work partners • Shifting between individual and group work	3—Most children are able to shift plans, activities, partners, and/or focus. 2—There is a mix of children who are able to shift plans, activities, partners, and/or focus and children who cannot. 1—Some children are able to shift plans, activities, partners, and/or focus. 0—Not observed.

18. Social Graces	• Consistent use of "Please," "thank you," "excuse me" • Greetings, handshakes, offering refreshments	3—Children use social graces spontaneously. 2—Children sometimes use social graces spontaneously, but are sometimes prompted to use them by an adult. 1—Children use social graces with adult prompting. 0—No children were observed using social graces with or without adult prompting.
19. Waiting Turn	• When a material, activity, or person is unavailable, children wait their turn without interrupting or resorting to force	3—Children consistently wait their turn for an activity or material. 2—Children often wait their turn for an activity or material. 1—Children sometimes wait their turn for an activity or material. 0—No children are seen waiting their turn (either because there was no waiting being done or because they interrupted rather than waiting)
20. Work as Prop	• Sitting in front of work but not engaging • Manipulating work with only the appearance of engagement	3—Many children are observed using work as prop. 2—Several children are observed using work as prop. 1—One child is observed using work as prop. 0—No children are observed using work as prop.

ADULT BEHAVIORS		
ITEM	**INDICATORS**	**SCORING**
1. Calling Across the Room	• Adults call across the room rather than moving to the child	4—Adults call across the room three times or more. 3—Adults call across the room twice. 2—Adults call across the room once. 0—Not observed.
2. Care of Environment	• Adults model care by picking up litter, pushing in chairs, straightening materials • Adults build time into every day for communal care and chores	3—Adults consistently model care for the environment. 2—Adults usually model care for the environment. 1—Adults rarely model care or the environment. 0—No evidence that adults model care for the environment.
3. Clarity	• Verbal instructions are expressed in simple, clear language • Language is used intentionally, with attention to vocabulary, syntax, and grammar	3—Adults consistently speak with clarity. 2—Adults often speak with clarity. 1—Adults sometimes speak with clarity. 0—Not observed.
4. Confident Presentation	• At least one lesson/presentation observed • Adults appear in command of the content and are not reading directly from album, following a script, or correcting and re-phrasing	3—At least three presentations are observed and the adult(s) were in confident command of materials, language, and follow-on opportunities. 2—At least two presentations are observed and the adult(s) were in proficient command of materials, language, and follow-on opportunities. 1—At least one presentation is observed and the adult appeared tentative in his/her command of the materials, language, and follow-on opportunities. 0—No presentations observed.
5. Content Confusion	• Tentative command of material (reading from album) • Reading directly from album or text, stammering, re-phrasing or haphazardly handling materials • Obvious mistakes in content presentation	3—Adults are consistently confused or tentative when presenting lessons. 2—Adults sometimes seem confused or tentative when presenting lessons. 1—Occasionally adults seem confused or tentative when presenting lessons. 0—Not observed.
6. Encouraging Collaboration	• Large projects requiring group work are encouraged • Adults actively suggest children work together on projects and to solve problems • Adults may observe ongoing conversation between children, occasionally offering a viewpoint or asking questions	3—Collaboration is a signal element of the classroom culture, indicated by many children working together and consulting one another, and ample space for conversation and large projects. 2—Collaboration is somewhat evident, indicated by at least two groups of children engaged in conversation or group work. 1—Collaboration may occur at times—indicated by room arrangement or assigned projects - but is not clearly evident during the observation. 0—No evidence that collaboration is encouraged.

7. Encouraging Exploration	• Lessons and presentations are offered as the beginning of learning • Adults ask many open-ended questions • Adults encourage children to answer those questions through exploration, research, and inquiry	3—Adults consistently frame their interactions with children through inquiry. 2—Adults sometimes frame their interactions with children through inquiry. 1—Adults occasionally frame their interactions with children through inquiry. 0—Adults are not observed encouraging exploration and inquiry.
8. Focus on Monitoring	• Frequent checking of student work completion • A majority of time is spent circulating, looking over children' shoulders • Absence of lessons/presentations	3—All of these behaviors are present. 2—Two of these behaviors are present. 1—One of these behaviors is present. 0—Not observed.
9. Friendliness with Error	• Adults refrain from intervening when student is about to make a mistake • Adults communicate respect for the process of trial and error and encourage children to embrace potential learning from error	3—Adults never intervene when a child makes or is about to make a mistake. 2—Adults sometimes intervene when a child makes or is about to make a mistake but other times refrain. 1—Adults frequently intervene when a child makes or is about to make a mistake. 0—Not observed—either because adults always intervened when a child makes or is about to make a mistake or because no child was seen making or about to make a mistake.
10. Loud, Didactic Talk	• Voice can be heard above student discussion • Outside of lesson presentation, voice is mannered and focused on telling rather than discussion • "On-stage" talk • Commanding rather than inviting engagement	3—Adults consistently use loud, didactic talk. 2—Adults often use loud, didactic talk. 1—Adults sometimes use loud, didactic talk. 0—Not observed.
11. Observation	• Adults sit in order to observe activity in a focused, purposeful manner • Adults take notes	3—Adults are seen sitting in an observer's chair, taking notes. 2—Adults are seen stopping periodically to scan the room. 1—An observer's chair is visible, but not used. 0—No observer's chair is visible and no notes are taken.
12. Precision	• Procedures are presented with attention to detail in gesture • Movements are intentional	3—Adults consistently exhibit precision in their movements. 2—Adults often exhibit precision in their movements. 1—Adults sometimes exhibit precision in their movements. 0—Not observed.
13. Soft/Conversational Voice	• Adults speak softly in a manner that is conversational rather than didactic • Adult voices are rarely audible above the general hum of the classroom	3—Adults consistently use a soft, conversational voice. 2—Adults often use a soft, conversational voice. 1—Adults sometimes use a soft, conversational voice. 0—Not observed.

14. Warmth and Connection	• Adults frequently smile • Adults share in children's enthusiasm • Adults connect with children by making eye contact	3—Adults consistently exhibit warmth and connection. 2—Adults often exhibit warmth and connection. 1—Adults sometimes exhibit warmth and connection. 0—Not observed.
15. Wonder	• Lessons are presented as invitations to discover something exciting • Adults communicate genuine curiosity about the content they or their children are engaged with, shifting focus from self to work • Lessons are presented with vivid storytelling • Adults lead with open-ended questions in conversation with children	3—At least three examples of communicating curiosity, excitement, and interest in the child's work. 2—Two examples of communicating wonder. 1—One example of communicating wonder. 0—Not observed.
16. Interrupting Concentrating Children	• Adults approach children who are obviously concentrating • Adults interrupt children's work	4—Adults interrupt concentrating children three times or more. 3—Adults interrupt concentrating children twice. 2—Adults interrupt a concentrating child once. 0—Not observed.
17. Moving/Bending to Speak to Child	• Adults move to the child, bend or kneel, and make eye contact when speaking	3—Adults consistently move to the child. 2—Adults often move to the child. 1—Adults sometimes move to the child. 0—Not observed.
18. Praising to Flatter	• Adults offer general praise, such as "good job," designed to elicit extrinsic motivation	3—Adults consistently praise to flatter. 2—Adults often praise to flatter. 1—Adults sometimes praise to flatter. 0—Not observed.
19. Social Graces	• Adults model appropriate social graces (please, thank you, excuse me)	3—Adults consistently model social graces. 2—Adults often model social graces. 1—Adults sometimes model social graces. 0—Not observed.
20. Warning/Correcting	• Children are warned before making mistakes • Children are corrected rather than redirected in response to mistakes	3—Children are more often corrected than redirected in response to mistakes. 2—Adults often warn children who are about to make a mistake. 1—Adults sometimes warn children who are about to make a mistake. 0—Not observed.

ENVIRONMENTAL ATTRIBUTES		
ITEM	**INDICATORS**	**SCORING**
1. Access/Choice	• Children have access to the entire environment • Children work in a variety of self-chosen spaces—tables, floor, together and alone • All materials are available to children at all times	2—Children have access to all areas of the environment at all times. 1—Some areas of the environment are inaccessible to children. 0—Children's movement is constantly curtailed.
2. Animals	• The environment contains live animals (mammals, reptiles, amphibians) • Materials for animal care are available to children • Animals are part of zoology study	3—There is evidence that classroom animals are part of zoology study. 2—There is evidence of animal care. 1—The environment contains live animals. 0—No animals are visible.
3. Big Work	• Room arrangement supports collaborative work, with a range of spaces for groups of children to gather • There are ample materials to support student-generated research projects, including reference books, writing tools, and judiciously used digital technology • Children have ongoing access to art materials	2—All three indicators are observed. 1—At least one indicator is observed. 0—No indicators observed.
4. Child Sized	• Materials and furnishings are appropriately sized for use by children • This includes tables, chairs, didactic materials, kitchen tools, and implements for caring for the environment	2—Most materials and furnishings are child-sized. 1—Some materials and furnishings are child-sized. 0—No materials or furnishings are child-sized.
5. Cleanliness	• Shelves and tables free of dust • All surfaces are clean • Garbage has been emptied • Whiteboard/chalkboard is clean	2—All areas of the classroom are clean. 1—Some areas of the classroom are clean. 0—Room is dusty, disheveled, dirty.
6. Clutter	• Over-stimulating wall decoration • Redundant materials • Materials with unclear purpose • Lack of attention to order	2—Clutter predominates throughout the classroom. 1—Some areas of the classroom are cluttered. 0—No clutter observed.

7. Curated Décor	• Wall décor is carefully selected with emphasis on fine art rather than commercial posters or student work • Décor reflects a variety of cultures and heritages • Décor creates a warm, comfortable, and home-like environment	2—All indicators are observed in the classroom 1—At least one indicator is observed in the classroom 0—No indicators are observed
8. Directed Child Interaction	• Children are broken into age or grade-level groups • Children have assigned seats • Whole-group time exceeds more than 15 minutes per work period	2—Two or more indicators are observed. 1—One indicator is observed. 0—No indicators are observed.
9. Easy Access to Nature	• Direct passage from inside to outside • Free passage between inside and outside	2—Children have direct and free passage between inside and outside. 1—Children can access the outdoors indirectly or with adult permission. 0—No direct access to outdoors from classroom.
10. Excessive Reliance on Digital Technology	• Children receive instruction or assessment via computers • Whole group instruction is delivered with the aid of computers and SmartBoards • Classroom time is taken up with individual, computer-based activities	2—Two or more indicators are observed. 1—One or more indicator is observed. 0—No indicators observed.
11. Food	• Children share snack together in self-formed groups • Lunch is taken in the classroom • Children prepare and clean up food as part of daily routines	3—Children prepare, consume, and clean up meals and snacks in the classroom. 2—Some food prep may be present. 1—Snack is available in the classroom. 0—No evidence of access to food is available.
12. Language Rich	• Conversation is ongoing and children move easily between social and academic topics • Books, magazines and other physical texts are available at all times • The environment contains a cozy reading area, with a chair and a selection of texts	2—All three indicators are observed. 1—At least one indicator is observed. 0—No indicators observed.
13. Links to Wider Community	• Materials and décor reflect the children' ethnic/cultural backgrounds • There is evidence that children have access to the world beyond the classroom—through field study, "going out" and research	2—There is evidence that children regularly leave the classroom for trips into the community; multiple elements of the classroom reflect the children' cultural/ethnic backgrounds. 1—There is some evidence of going out into the wider community or some elements of the classroom reflect children' cultural/ethnic backgrounds. 0—No evidence of going out into the wider community and no elements of the classroom reflect children' cultural/ethnic backgrounds.

14. Materials Ready for Use	• Materials are in good repair and ready for children's use • Cultural materials—specimens, beakers, microscopes, maps, etc., are ready up-to-date and ready for use	2—All materials are in good repair and ready for children's use. 1—Most materials are in good repair and ready for children's use. 0—Materials are haphazardly prepared, and generally not inviting or ready for children's use.
15. Mixed Age Grouping	• Children are in mixed age groups of at least two-year age spans • Children are in mixed age groups of three years	2—Children are in mixed-age groups of three years. 1—Children are in mixed-age groups of two years. 0—Children are grouped by grade-level or single year age spans.
16. Natural Materials	• Materials are made of wood, glass, fiber, metal	2—Most materials are made of natural materials. 1—Some materials are made of natural materials. 0—Preponderance of unbreakable or plastic materials.
17. Plants	• The environment contains live plants • Materials for plant care are available to children • Plants are used for botany study	3—There is evidence that plants are used for botany study. 2—The environment contains live plants and materials for plant care. 1—At least one plant is visible. 0—No plants are visible
18. Prudent Use of Digital Technology	• Digital technology is present as a support for research and communication but not delivery of instruction • Children use digital tools to develop and deliver presentations	2—Both indicators are noted. 1—One indicator is noted 0—No indicators observed.
19. Real Tools and Real Work	• Children have access to working, child-sized, real-life tools (scissors, hammers, rakes, shovels, brooms, knives) • Activities requiring the use of real tools are in use (gardening, washing, ironing, sweeping)	3—A large complement of child-sized work tools is available and many children are observed using them. 2—Some child-sized work tools are available a few children are observed using them. 1—Some child-sized work tools are available, but no children are observed using them. 0—Children have no access to real tools or real work.
20. Uninterrupted Work	• Children have access to the entire environment for at least two and a half hours	2—Children have two and a half hours or more of uninterrupted work time. 1—Children have at least two hours of uninterrupted work time. 0—Children have less than two hours of uninterrupted work time.

DERS Reliability Guidelines

Unpacking Items, Indicators, and Scoring

Becoming a reliable DERS Observer or Rater begins with developing fluency with all the items and their indicators. DERS Observers must be reliable at the Domain level. Raters must be reliable at the Item Level. Both capacities are achieved through multiple observations using the tool followed by targeted reflection on the indicators and scoring options. Like all observation rubrics, the observer is a critical element in ensuring the tool's validity and reliability.

It is important to remember that the DERS is designed to quantify qualitative data (Chi, 1997, Shaffer, 2017, Ward, 2007). Which is to say, DERS aims to provide a nuanced and actionable answer to what is essentially an open-ended question: What's going on in this classroom? In a qualitative context this question would be answered through extensive observation recorded in field-notes, which would then be transformed into narrative and a set of coded categories reflecting salient themes present in the data. Qualitative findings are derived based on a continual tacking back and forth between the themes emerging from the data and the theoretical construct(s) that frame the inquiry.

DERS flips the process by structuring the observation around a set sixty pre-coded items, each representing a salient theme or attribute derived from a combination of theory and prior research. Each item is further dissected into indicators which provide detailed guidance on what to look for when addressing the item. Based on those indicators, each item is scored on a three or four-point scale that measures either magnitude (how much of the attribute is visible?) or frequency (how many times is the attribute observed?). Final scores are reported according to a set of theoretical constructs expressed as the five DERS domains. Because there is intentional overlap across domains, this reporting convention is designed to provide conceptual lenses focused on providing a multi-dimensional answer to the question: "What's going on in this classroom?"

In this way DERS quantifies the complex and contextualized phenomenon of classroom quality. While items, indicators, and scales are designed to foster accuracy and mitigate the effects of bias through a disciplined use of detailed descriptors, the instrument retains some elements of qualitative research practice, most notably the necessity of searching for disconfirming evidence (Maxwell, 1992, Miles & Huberman, 1994). Users who achieve reliability must become adept at both strategies.

A few additional points to remember:

All items must be scored in order to produce an accurate report. If you do not observe an item, the score is 0. The most common reason observers fail reliability tests is that they fail to score all items.

DERS includes negative as well as positive items. Because the goal of the instrument is to capture what is observable rather than simply what is desirable, observers must train themselves to look for magnitude (how much) or frequency (how often) rather than good or bad. Scoring notes, below, highlight mirror items. Becoming familiar with these items and their indicators will make scoring more efficient and the final report more accurate.

DERS measures the quality of the classroom as a whole—not the quality of the teacher. Therefore, all adults who are present should be counted in scoring. Sometimes adults in the same classroom behave differently. For instance, one may call across the room while the other moves or bends to speak to a child. What matters in these cases is whether or not it happened, not who did it.

A crucial validity check is the intentional search for disconfirming evidence. Once an observer is familiar with items and indicators, it is possible to complete a first-round score in about ten minutes. The remainder of the observation should be spent considering potential revisions. In most cases, when observers are alert to potential bias, both positive and negative, scores will be modified based on a closer look at the evidence. For instance, children may initially appear to be deeply engaged in activity. However, upon further inspection, what looked like engagement may actually be Work as Prop.

Aim to address the 20 Environment items first, ideally without children in the room. This will provide an opportunity to closely examine shelves, materials, wall decoration, and the presence or absence of food and animals. Likewise, you will need to ask about the length of

the work period, and the age range of children in the room. If you are not able to gain access to the room while children are elsewhere (recess, lunch, before school), be sure to move your chair around the room during the 60-minute observation period.

Next, we delve more deeply into items and indicators by providing further discussion and notes to aide scoring.

Early Childhood Items, Indicators and Scoring Notes

CHILD ITEMS

ITEM	INDICATORS	SCORING NOTES
Caring for Classroom	• Spontaneously pushing in chairs, tidying shelves, sweeping, watering plants, etc. • Dusting, cleaning up spills, washing dishes. • Children rather than adults care for the physical environment.	This item comes with very specific scoring guidelines, all concerning the degree to which activity is child rather than adult-initiated. If a single child is observed caring for the classroom with or without adult prompt, it scores a 1. If multiple children are observed engaged in the activity with adult prompt, it scores a 2. A 3 signals that caring for the classroom is part of the culture of the room, and children spontaneously choose to do it.
Completes an Activity Cycle	• Selecting an activity, engaging with the activity, and returning it ready for use by another child. • If children move away from their work, it is only briefly, and they quickly return.	This is an EF item built around frequency. The observer sees a child select an item from a shelf, work with it for a while, and then return it to its home on the same shelf. Some children will leave their work area for a few minutes and return to resume the activity.
Conversation	• Talk is child initiated and prevalent throughout the classroom. • Two or more volleys of conversation between children or between children and adults.	This item measures how much conversation is going on in the room. Conversation is distinct from giving directions, correction, or rhetorical questions from teachers. True conversation is spontaneous and frequently child rather than adult-initiated.
Disrupting	• Behavior that is dangerous, demeaning or destructive. • Shouting. • Pushing or physical violence. • Throwing furniture or materials.	This is a frequency item that distinguishes a single outburst from a culture of ongoing disruption. There may even be a loud crash, such as a piece of furniture falling over, and often children will be only momentarily distracted from their work. This is not disruption. Rather, this item refers to extreme behavior that captures the attention of a large portion of people in the room.
Engaging with Purpose	• Focusing intently on one piece of work or activity for an extended period of time.	This item refers to both the magnitude of the engagement and the amount of engagement taking place across the room. Purposeful

	• Engaging sequentially with purpose (rather than "flitting" from one activity to another). • Electing to repeat activities.	engagement is signaled by deep concentration, extended focus, and repetition.
Handling Materials with Care	• Carrying, manipulating, and putting away materials carefully and intentionally. • Carrying items one at a time using both hands. • Incidental spills or accidents may still occur, in spite of children's care.	Here we are looking for habituation of respect for the environment, precision and mindfulness in movement. You may see rugs being rolled or unrolled with attention to detail, trays filled with materials being carried slowly, or attention to the details of setting materials up and/or putting them away.
Initiating Work	• Choosing work without adult direction. • Independently locating a place to work. • Transitioning without adult direction.	Child activity without adult prompt is the key here. The score of 3 means that almost all children are observed selecting work without adult direction. You are most likely see this a score of 3 in classrooms that are intentionally designed to foster choice. In classrooms where adults initiate activity, you may see some children ask for lessons or initiate self-chosen activity during time reserved for play or recess. If initiation is limited to these times, the score is 2; and you should make an anecdotal note to flag the limitation.
Interrupting	• Verbal interruptions—breaking into others' conversation. • Non-verbal interruptions, such as interfering with other children's work.	This is a frequency item that mirrors Observing Without Interrupting. Scoring requires the observer to count interruptions during the course of the session.
Joy	• Smiling, laughing, or singing. • Clearly comfortable in the environment. • Expressing satisfaction with work. • Peaceful.	This is a magnitude item designed to capture how much joy is evident in the classroom. While joy may take several forms—from laughing to a sense of serenity, what you are looking for here is how prevalent this emotion is. Begin by counting instances of smiling, laughing, satisfaction, and calm. Up to three children scores a 1, half of the classroom a 2, and almost all children a 3.
Misusing Materials	• Play-fighting with objects. • Twirling globes, tossing or throwing objects. • Extended fantasy play with educational materials.	This frequency item mirrors Handling Materials with Care. It is also opposed to Engaging with Purpose. Scoring requires you to count instances.

Navigating Room with Care	• Walking around peers' work. • Moving through the room without bumping into tables or shelves.	This item focuses on coordination and awareness. Some children have explicit lessons in how to move without disturbing others. Others do it spontaneously.
Observing without Disturbing Others	• Watching a peer work without touching or interrupting.	In some classrooms, children are taught explicitly how to observe without disturbing. You may notice a child watching a peer work with his or her hands behind their back or passing by a table and pausing to observe quietly. In other settings, children may display similar behavior signaling inhibitory control.
Offering/ Accepting Help from Peers	• Noticing a peer in need and offering assistance with words or gestures. • Asking, "do you need help?" or saying, "here, I'll help you." • Accepting assistance when offered. • Spontaneously assisting with cleanup.	Sometimes offers of help are subtle: a suggestion to move to a better location, or moving to make room for a peer's work. Any of the indicators can be considered evidence of this item. Scoring focuses on frequency.
Persisting in the Face of Challenge	• Sighing or expressing difficulty while engaged in an activity. • Asking for help from a peer. • Attempting multiple ways of solving a problem.	This is most likely to be observed in children working alone. The child may pause or even walk away from the activity, but if they return and continue to engage, this should be scored as persistence.
Resolving Needs with Words	• Requesting help from peers or adults verbally. • Disagreements between peers are resolved without violence—though voices may be raised temporarily. • Children cooperate peacefully to solve problems or mediate disagreements.	This frequency item captures children's capacity to exercise impulse control. Disagreements may become heated, even loud; but so long as they do not devolve into violence, these incidents should be scored positively. A score of 0 should be assigned when no incidents are observed or if incidents devolve.

Seeking Adult Approval or Permission	• Children are required to check work completion with adults. • Asking permission to use resources, move around in the environment, or select work. • Completing a checklist of activities.	This is a negative item, a mirror to **Initiating Work.** Classrooms that encourage independence and initiation are more likely to be characterized by many children engaging in those activities. Classrooms that are dominated by adult direction and control are more likely to score high on this item.
Shifting	• When an activity, material, person, or location is unavailable, recovering and making another choice. • Recovering from distraction. • Shifting between individual and group work.	You are most likely to observe shifting when a child accepts redirection or finds another activity when the first choice is unavailable. Shifting is more likely to be visible in classrooms that prioritize choice and/or one-on-one instruction.
Social Graces	• Verbal expressions such as "please," "thank you," "excuse me". • Greetings, handshakes, offering refreshments. • Non-verbal courtesies, including expressions of inclusion of peers, kindness, yielding space to allow a peer to join a group or find a workplace, smiling or making eye contact with a peer.	The scoring prompts for this item are quite specific, and based on the premise that social graces may be expressed verbally as well as non-verbally. Highest scores are awarded when children say things like "please", "thank you", and "excuse me" without adult prompt.
Waiting Turn	• When a material, activity, or person is unavailable, children wait their turn without interrupting or resorting to force. • Children are seen waiting for an adult's attention, a seat at the snack table, a work space, activity, or use of a material.	This item mirrors **Interrupting** and aims to capture the magnitude of children spontaneously exercising inhibitory control. The scale spans the range from "interruption rather than waiting turn" to multiple children waiting for a material, activity, or person. In cases where you see neither interruption nor a preponderance of waiting turn, you should look for opportunities to wait—such as limited space at a snack table, only one of particular types of materials, or the adults giving one-on-one lessons. If these are present yet you do not observe waiting, the score is a 1.

Work as Prop	• Sitting in front of work but not engaging with work or others for an extended period. • Manipulating work with only the appearance of engagement.	Sometimes described as "fake engagement," Work as Prop describes children who, for lack of interest or readiness, pretend to engage with a given activity. This will be observed in children working alone or in a small group, absent the presence of an adult. This is a simple magnitude scale, which requires you to count the number of children observed—0=0 and 3=4 or more.

ADULT ITEMS

Observers and raters should attend to ALL adults in the room.

ITEM	INDICATORS	SCORING NOTES
Calling Across the Room	• Calling or shouting across the room rather than moving to the child. • Calling or shouting across the room to other adults.	This is a highly salient, negative item. It is scored based on frequency. Occasionally an adult who is exemplary in other items slips and instead of walking to speak softly to a child will call across the room.
Calm	• Moving around the space slowly and intentionally. • Behavior is consistent and predictable. • Speech is soft in volume and calm in tone.	In most cases, adults are either always or rarely calm. As a result, this item will often positively correlate with items such as: Moving/Bending to Speak to a Child, Soft Conversational Voice, and negatively correlate to items such as Calling Across a Room or Loud, Didactic Talk. In classrooms where there are two adults, sometimes one will be calmer than the other.
Clarity	• Verbal instructions are expressed in simple, clear language. • Language is used intentionally, with attention to vocabulary, syntax, grammar, and cultural context.	Clarity focuses on language use. Take care not to confuse with Precision, which focuses on gesture. You are most likely to see clear, intentional language use in (a) lessons, (b) informal conversation, and (c) redirection and limit-setting.
Focus on Monitoring	• Frequent checking of student work completion—as distinct from observing to track activity. • A majority of time is spent circulating, looking over children' shoulders to monitor activity as distinct from general observation. • Monitoring activity results in a lack of instruction and interference with children's engagement.	This is a mirror item to Friendliness with Error. Adults who focus on monitoring may patrol the classroom, looking over children's shoulders, or remain stationary at a desk or on a chair, with children coming to them to check work.
Friendliness with Error	• Allowing children to experiment and experience failure. • Communicating respect for the process of trial and error and encouraging children to embrace potential learning from error.	This mirrors two items: Focus on Monitoring and Warning and Correcting. In classrooms where one or both of these items predominate, Friendliness with Error is not likely to be observed.

Interrupting Concentrating Children	• Approaching children who are obviously concentrating. • Interrupting children's work.	This is a frequency item. Scoring requires the observer to note the number of time interruption occurs. More than three instances results in the highest score.
Loud, Didactic Talk	• Voice can be heard above student discussion. • Voice is mannered and focused on telling rather than discussion. • "On-stage" talk. • Commanding rather than inviting engagement.	This is a mirror item to **Soft, Conversational Voice**. Occasionally, even an adult who habitually uses a soft voice will raise their voice, for which the scale accommodates.
Moving/ Bending to Speak to Child	• Adults move to the child, bend or kneel, and make eye contact when speaking.	Most classrooms tend to be characterized either by moving to the child or calling across the room. Sometimes one or the other predominates with observable exceptions.
Observation	• Withdrawing from classroom activity in order to observe children in a focused, purposeful manner. • Scanning the room. • Taking notes.	Scoring for this item is quite detailed. Distinguishing occasional scanning from methodical study, the scale captures the range and magnitude of attention adults give to this practice.
Offering Options	• Verbally offering children choices of activities, including where to work, with whom to work, and how long to engage in activity. • Reminding children of available options.	Scoring this item requires the observer to count the times an adult (any adult) offers a child options, from zero to at least three.
Praising to Flatter	• Offering general praise, such as "good job," as distinct from descriptive feedback • External validation provided by adults that does not prompt child reflection	This is a frequency item requiring the observer to count the number of times an adult (any adult) is observed using a praise as an extrinsic reward. This is distinct from sharing excitement about a child's accomplishment ("I see you did that") or celebrating with a child who is pleased with their progress or activity.
Precision	• Lessons with materials are presented with attention to detail in gesture. • Modeling slow, careful hand movements for children while handling materials.	Precision refers to physical movements, as opposed to **Clarity**, which addresses language. This is most likely to be observed during the course of a lesson or presentation.

Prompting Children to Help One Another	• Verbal prompts for children to help or consult with each other. • Redirecting the children seeking assistance to peers when appropriate. • Encouraging peer teaching.	This is a frequency item requiring the observer to count the number of times any adult prompts a child to help another.
Protected Instruction	• Holding instructional time sacred, protecting the mutual engagement between adult, child, and material. • Not allowing other children to interrupt instruction. • Not allowing themselves to be distracted from instruction.	This item may be visible in whole group as well as one-on-one instruction. Adults who allow themselves to be interrupted typically do so as a matter of course. This will be observed by how often an adult disengages from a student they are directly engaged with to interact with another student who is seeking the adults attention or is exhibiting a behavior concern.
Responding to Inappropriate Behavior	• Redirecting rather than correcting. • Children are redirected using in positive rather than negative language. • Limits are clearly expressed in a kind but firm way.	This item mirrors Warning and Correcting. Classrooms tend to be dominated by one of these two behaviors. The scoring scale is designed to accommodate exceptions to typical behavior or instances (1 or 2) in which no inappropriate behavior occurs (0)
Social Graces	• Modeling pragmatic social language as needed—"please", "thank you", "excuse me". • Modeling gestural elements of social graces when appropriate—pushing in chairs, picking up litter, handshakes, stepping aside to allow another person to pass.	This item informs social and linguistic domains. It addresses speech as well as gesture. Like several other items, scores tend to fall on one or another end of the scale. It is also common to observe correlation between adult and child behavior on this item.
Soft/ Conversational Voice	• Speaking softly in a manner that is conversational rather than didactic. • Adult voices are rarely audible above the general hum of the classroom.	Soft voice mirrors Loud, Didactic Talk, and often correlates to Calm and Warmth and Connection. Some adults may switch registers, using a loud, didactic voice when giving lessons, and a softer voice in one-on-one interactions. In cases such as these, scores of 1 versus 2 will be determined by the ratio of presentations to informal conversation.

Warmth and Connection	• Frequent smiling. • Sharing in children's enthusiasm. • Connecting with children by making eye contact. • Conversation with children is not limited to academic topics.	Some loud adults are also warm. Any one of the indicators may be present to guide scoring. More typically, though, two or more will be evident for a score of 2 or 3.
Warning/ Correcting Errors	• Intervening in children's activity, often correcting mistakes, either through verbal cues or physically moving objects (blocks, pencils). • Warnings for the child's safety constitute exceptions.	This frequency item mirrors **Friendliness with Error** and **Responding to Inappropriate Behavior**. In the first instance, the subject is academic work; in the second it is behavior. **Warning and Correcting** can occur in either case. This item also often correlates with **Focus on Monitoring**.
Wonder	• Instruction is presented as an invitation to discover something exciting. • Adults communicate genuine curiosity about the content they or their children are engaged with, shifting focus from self to work. • Adults lead with open-ended questions in conversation with children.	This magnitude item relies exclusively on the three indicators.

ENVIRONMENT

Item	Indicators	Scoring Notes
Access	• Children have access to the entire environment and all materials in it.	This magnitude item requires you to assess the degree to which children have access to some or all of the classroom. A teacher desk, shelves only available to adults located in a classroom which is otherwise available to children scores a 1.
Activities Requiring Turn-taking	• Materials are limited in number. • Waiting for activities, snack, or the bathroom is necessary.	This item requires you to count the number of activities that require turn-taking.
Animals	• The environment contains live animals (mammals, reptiles, amphibians). • Materials for animal care are available to children. • There is evidence that animals are integrated into science and/or language instruction and learning; children may observe, classify, or socialize animals.	This item (along with Plants and Food) is based on highly specific scoring scale that ranges from the simple presence of an animal to evidence that children care for the animal to evidence that the animal is used in Zoology study.
Child Sized	• Materials and furnishings are appropriately sized for use by very young children. • This includes tables, chairs, didactic materials, kitchen tools, and implements for caring for the environment.	Most classrooms will be furnished with child-sized tables, chairs, shelves and materials. A score of 1 would be indicated by the presence of adult-sized brooms, rakes or other tools.
Cleanliness	• Shelves and tables free of dust. • All surfaces are clean. • Garbage has been emptied. • Whiteboard/chalkboard is clean.	In most cases, classrooms are either clean or dirty. However, occasionally, some areas of the environment are better maintained than others.

Clutter	• Over-stimulating wall decoration. • Inadequate storage leads to supplies, materials, and other items cluttering the environment. • Lack of attention to order.	This is a negative item, which mirrors **Curated Décor** (below). It is scored based on the number of observed indicators. It tends to correlate with **Cleanliness and Materials Ready for Use.**
Curated Decor	• Wall décor is carefully selected with emphasis on fine art rather than commercial posters or student work. • Décor reflects a variety of cultures and heritages. • Décor creates a warm, comfortable, and welcoming environment.	Like its mirror item **Clutter**, this item addresses EFs, language, and social development by attending to both quantity and quality of visual stimulation in the environment. Scores are based entirely on the number of observed indicators.
Directed Child Interaction	• Children broken into age or grade-level groups. • Children assigned seats. • Whole group time, including circle or snack, exceeds 15 minutes per work period.	Even within mixed-age groupings, children may be segregated by age or ability level. This item is scored based on whether one, two or three indicators are observed.
Easy Access to Nature	• The classroom provides direct access to nature via a door opening to an outdoor space. • Children pass freely between indoor and outdoor spaces without adult mediation or permission.	If a classroom does not have direct access to the outdoors via a door, this item will score a 0.
Food	• Children primarily prepare, serve, and clean up snacks and/or meals with minimal help from adults. • Individual food preparation activities are present where children are preparing, consuming, and cleaning up the activity independently. • Snack is provided for children to serve themselves and is taken in small, rather than whole, groups.	Food, both its consumption and preparation, is often an important part of classroom culture. While breakfast and snack are frequently served, this item attends to how food is handled as an opportunity for social and EF development.

Language Rich (Oral)	• The environment is equipped with an array of items to identify, name, and talk about. • Fine art images reflecting the cultures and ethnicities present in the classroom are available for children to peruse, discuss, and contemplate.	This item is scored based on whether one or both indicators are observed.
Language Rich (Written)	• The environment contains a cozy reading area, with a chair and a selection of texts culturally representative of the classroom community. • High-interest print material (books, magazines and other physical texts) are available at all times, as distinct from leveled readers and other didactic texts.	This item is scored based on whether one or both indicators are observed
Materials Ready for Use	• Pencils are sharpened. • Consumables are stocked. • All areas of the classroom are orderly and prepared for children.	In most classrooms, the degree of care in the preparation of areas or stations will be evident. This item often correlates with Cleanliness and, sometimes, with Curated Décor.
Mixed Age Grouping	• Children are in mixed age groups of two-year age spans. • Children are in mixed age groups of three years.	You will most likely need to ask an adult what age spans are the classroom.
Multisensory	• Materials are available to learn through different senses. • Materials allow for hands-on exploration.	In most early childhood classroom, some degree of multisensory learning will be evident. You may see a sand table or activities involving water or activities involving blocks. These would be considered activities for learning about senses. Art activities that involve painting, drawing, clay, or collage would be considered hands-on but not focused on the senses.
Natural Materials	• Materials, furniture, and containers intended for children's use are made of wood, glass, fiber, metal.	Natural materials refers to wood, glass, fiber, metal, and so on. Classrooms that have plastic chairs but a preponderance of natural materials for children to handle will score a 2.

Plants	• The environment contains live plants. • Materials for plant care are available to children. • There is evidence that plants are integrated into science and/or language instruction and learning; children may experiment with, measure, describe, or classify plants.	This item (along with **Animals** and **Food**) is based on highly specific scoring scale that ranges from the simple presence of a plant to evidence that children care for plants (watering cans, spray bottles, cotton balls) to evidence that plants are used in Botany study.
Presence of Digital Technology	• Tablets, computers or a Smart Board are available for children. • Children are observed using digital technology for learning. • Digital technology is used as a substitute for didactic materials.	This item refers only to devices that children handle. The presence of a laptop or tablet for teacher use should not be factored into the score.
Real Tools and Real Work	• Children have access to working, child-sized, real-life tools (e.g., hammers, rakes, shovels, brooms, knives). • Children participate in activities requiring the use of real tools (gardening, washing, ironing, sweeping, sewing, handcrafts, food preparation).	This magnitude item measures the degree to which real tools are available as well the degree to which children engage in real work. A pretend kitchen is not considered real tools or real work.
Uninterrupted Work	• Children have access to the entire environment for at least two and a half hours per day.	If the schedule is not posted, you will have to ask an adult how long activity periods last. Circle time is considered an interruption to child-directed activity.

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Frequently Asked Questions

Why should schools use the DERS?

The DERS measures the presence of environmental elements proven to support executive function, linguistic and cultural fluency, social fluency, and emotional flexibility. Programs for children aiming to support these traits may use the tool for evaluation and continuous improvement.

Is the DERS valid and reliable?

The DERS has been in the pilot phase of administration since January 2017, when the app was officially launched. During this period of data collection and analysis, we are verifying early data that strongly suggests high rates of inter-rater reliability and the potential of predictive validity using the Minnesota Executive Function Scale as a measure of student performance on executive functions. Every DERS item is validated by research on executive functions, linguistic and cultural fluency, and social-emotional learning.

What about other environmental rating scales like the ECERS and the CLASS?

The ECERS and the CLASS were designed for teacher-led, single-age, classrooms, and they include items and indicators that extend beyond the core focal areas of the DERS. The CLASS, in particular, is grounded in a view of classroom quality that focuses primarily on interactions between teachers and students. The DERS, by contrast, is governed by a conception of learning that focuses on dynamic interactions between students, teachers, and the learning environment. Moreover, the instrument explicitly addresses indicators shown to

influence the development of executive functions, linguistic and cultural fluency, and social-emotional learning.

Does the DERS measure executive function in children?

No. The DERS measures the potential of environments to nurture executive functions. We recommend using the DERS, which is an input measure, in combination with output measures that assess child performance in executive function. The Minnesota Executive Function Scale, (MEFS), developed and distributed by Reflection Sciences, is an example of such a measure. NCMPS has launched the DERS Network, which allows schools to collaborate and share data with these two tools. For more information, contact ders@public-montessori.org

Is the DERS only for Montessori schools?

No, the DERS can be used in any learning environment seeking to nurture the development of executive functions, linguistic and cultural fluency, and social-emotional learning.

Is the DERS only for children under six?

No. There are separate scales in the app for working in environments for children six and under, and for children ages six to twelve.

Do I have to be trained to use the DERS?

Yes. DERS Training is directed toward three key aims: (1) understanding how the instrument works, (2) understanding the core precepts of classroom observation, and (3) achieving reliability as an observer/rater.

Does the DERS have to be used with an iPad tablet? Do children interact with the app?

Yes. The app is not available on other platforms at this time. Children do not interact with the app.

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