Learning Readiness Skills

Martin Kozloff

James D. Stocker

2025

 The document on behavior principles and phases of mastery showed how a terrific teacher used principles and methods of behavior analysis to “turn around” a classroom that was out of control. Students engaged in high rates of problem behavior; the teacher reinforced problem behavior; students were not learning much else. This document shows how to get a classroom off to a good start by teaching and maintaining Learning Readiness Skills 1 and 2.

1. Sitting tall, ready to learn.

2. Taking turns with the teacher.

Then we’ll teach students a routine for exploring, discovering, organizing information, and asking more questions—Skill 3—which will make them really smart.

Why Learning Readiness?

 Let’s take a quick look at chapter 4, where Ruby Rose transforms a demotivating classroom into a motivating one…. This chapter shows how second grade teacher, Lenore Poe, builds Learning Readiness from the *start*. Here is excellent teacher Poe’s plan. She will

1. Teach Learning Readiness Skills in a logical sequence. Sitting tall and ready 🡪 Then taking turns 🡪 Then learning the general routine of Exploring, Discovering, Organizing information, and Asking more questions.

2. Teach Learning Readiness as soon as school starts in short, focused sessions.
 “Now we’ll learn how to…..(pause)….take turns!”
3. Firm up Learning Readiness at the start of lessons and activities.
4. Remind students of, and practice, Learning Readiness whenever students become unengaged. She will check whether lessons are too long, have too much to learn, or whether she needs to pinpoint and reinforce desirable behaviors more often.
5. Verify and reinforce (praise) students as they use their Learning Readiness skills. “I love how my wonderful class is sitting calm and looking at our world map!” Use special activities to reinforce progress.
6. Correct errors immediately. “I need one more great student to show quiet mouth (Lemov, 2021)….. Yes, now we are all ready.”
7. If needed, have short, frequent sessions for students who have learning difficulties.

Okay, here we go!

Sitting Tall and Ready

 Examples of teaching this skill are in Engelmann & Bruner (1995) and in Engelmann, Hanner, & Johnson (1999).

Teaching Young Students to Sit Tall, Ready to Learn

 Here’s what we want to see.

At the start of a lesson or a task in a lesson, or when given a reminder, students put their feet on the floor; put their backs against the chair; calm their hands; look at the teacher; and stop talking (“quiet mouth”). If students are sitting on the floor (for instance, in front of the white board), you’ll have to invent your own version.

 Sitting tall is a routine; it has steps. Ms. Poe teaches the routine one step at a time (Forward Chaining, chapter 14). Here’s how. She models (I do) each step and tells what she is doing. Then students do the whole set of steps with Ms. Poe (Lead, We do). Then students do the whole sequence by themselves (Test/check, You do) a few times to firm up each step and the whole sequence. Let’s say the script along with Ms. Poe.

*Frame the Task.*

“Boys and girls. Let’s play….Sit tall and ready to learn.”

“I’ll show you how to… Sit tall and ready to learn.”

*Model Quiet Mouth.*
“First, I do….. quiet mouth… quiet mouth. [Ms. Poe puts her finger on lips as an extra cue.] Shshshs. Quieeeeet mouth. Sshshsh.”

“Now, I am quiet….shshshsh.”

*Model Feet on the Floor*

“I am quiet (whispers) *and* I put my feet on the floor. Are my feet on the floor? Say it sssooffftllyyy.”

*Yes… Feet on floor.*

“Yes, I put my feet on the floor.” [Ms. Poe lifts her feet off the floor and puts them down with a clump sound. Students will like making the clump sound, too.] I love how you are watching me!”

[Notice how Ms. Poe is showing students how to link the steps into the whole sequence.]

“Now, I am quiet, *and* my feet are on the floor.”

*Model Back Against the Chair*

“Now (still whispering) I put by back against the chair.”
 “Here I go….. Back against the chair. [Ms. P. Exaggerates. Bends forward and then puts her back against the back of the chair.] “Watch me again. Back against the chair.”

*Model Calm Hands*

Now, I am quiet…. and my feet are on the floor…. and my back is against the chair.”

Now I do….. calm hands. I put my hands on the (desk, table, in my lap)… My hands are on the (desk, table, in my lap)… Calm hands.” [Ms. P. exaggerates the sound of hands landing on the desk. Maybe repeat.]
“Watch again. Calm hands on the (desk, table, in my lap).”

*Model Looking at the Teacher or Materials*

“Now I look (at my book, at a picture on the board).” [Ms. Poe point to her eyes and then to the
book or picture.]

“Now I am (sitting tall, showing ready to learn). Quiet mouth…. Feet on floor…. Back against chair…. Calm hands…. Looking at this book.”

*Repeat Modeling the Sequence.*

“Watch me again. Quiet mouth. Feet on floor. Back against chair. Calm hands. Looking at this book. I love how you are all watching me!”

*Lead*

[Now Ms. Poe has students do the whole routinewith her.]

“Boys and girls…. Now sit tall and show ready *with* me.”
[Ms. Poe uses the word “Go” to signal students. Later, she will use “Go” to teach students to take turns with her.]

*Quiet mouth*

“First, we do quiet mouth…Do quiet mouth *with* me…. quiet mouth. [Finger on lips as an extra cue.] You put your finger on your lips to help with quiet mouth.”
“Shshshs. Quieeeeet mouth. Sshshsh…. Yes, we are doing quiet mouth… We are sssoooo quiet.”
[Ms. Poe uses a soft voice for the rest!]
*Quiet mouth and feet on floor.*

“Now, we are quiet *and* we put our feet on the floor…. Yup. Feet on the floor. Yes, all feet on the floor. We are so good at feet on the floor!”

“Shhhhh. Nice and quiet. I like how we are doing quiet mouth.” [Reinforcing the behavior of remaining quiet.]

*Quiet mouth, feet on floor, and back against the chair.*

“Now, we are quiet *and* our feet are on the floor *and* we put our back against the chair. Here we go. Back against the chair. [Ms. Poe bends forward and then puts her back against the back of the chair.] Let’s do that again. Back against the chair….And we are sooo quiet. And our feet are on the floor. We are good sitters.”

*Add Calm Hands*

“Now, we are quiet, our feet are on the floor, our back is against the chair, and now do we do….calm hands. We put calm hands on the (desk, table, in our lap)… That’s it. Calm hands on the (desk, table, in our lap)… Let’s do it again. Calm hands on the (desk, table, in our lap).”
*Verification.* [Note that the praise is specific. Not just “Good job.”]
“Oh, we are such good sitters. We are doing quiet mouth. Our feet are on the floor. Our backs are against the chair. Our hands are calm.”

*Add Looking at Teacher*

“Now we *look* at teacher.” [Or, we *look* at the picture on the board, at the Teacher’s finger as her finger moves, or at a book she is holding up.]

*Verification.*

“Now we are all sitting tall, ready to learn!”

[Maybe repeat the Lead to make sure that they all watched, focused on, and identified each step.]

*Test/check*

“Now it’s *your* turn to sit tall and show ready. I’ll give you a little help.”
“First, *you* do quiet mouth… [repeat]… quiet mouth. [Finger on lips as an extra cue.] You put
*your* finger on your lips to help with quiet mouth. Shshshs. Quieeeeet mouth. Sshshsh.”
“Yes, *you* are doing quiet mouth…You are sssooo quiet.”

“Now, you are quiet *and* you put your feet on the floor.” [Ms. Poe points to students’ feet on the floor.]
“Yup. Feet on the floor. Yes, all feet on the floor.”
“You are so good at feet on the floor!”

“Shhhhh. Nice and quiet. I like how you are doing quiet mouth.” [Specific praise for remaining quiet.]

 “Now, you are quiet and your feet are on the floor. *And now* you put your back against the chair. … Back against the *chair*….”
“Let’s do that again. Back against the chair…. And you are sooo quiet. And your feet are on the floor. You are *good* sitters.” [Reinforces the behavior of remaining quiet with feet on the floor.]

“Now, you are quiet. *And* your feet are on the floor. *And* your back is against the chair.”
“*And now* do calm hands. Put your calm hands on the (desk, table, in your lap).”

“That’s it! Calm hands on the (desk, table, in your lap)… Calm hands on the (desk, table, in our lap).”

“One more thing and we are all ready to learn! Everybody, look at the book I am holding up….”
*Verification and Activity Reward*

“Oh, you are such good sitters. Quiet *mouth*. *Feet* on the floor. *Back* is against the chair. Your *hands* are calm. *And* you are *looking* at our story book.” [Behavior-specific praise, not just “good job.”]

“Now, *look* at the picture on the board.… Yes! Now look at my finger as my finger moves…. Yes!Eyes following my finger. You are such good finger trackers!”

“Now we are *all* sitting tall ready to learn!”

“You are such good tall sitters that I will read you this story. It’s sssoooo exciting! It’s called *Melvin and his magical blanket*. Melvin and his blanket, Eddie, have lots of adventures. *And* we’ll learn new vocabulary words.”

Extra Guidelines

*What If Some Students Make a Mistake in a Step?*

Ms. Poe says

“Easy! We use *part-firming* (Gleason, 1999)*.* We practice the weak skill (for instance, calm hands) a few times until students are firm. Then we do the whole routine, including calm hands a few times.”

*What If Some Students Still Have Trouble Learning to Show Ready to Learn?*

Ms. Poe’s answer.

“We’d practice in a small group for a few minutes a few times a day!Model-Lead-Test/check/Verify the whole routine with *extra models* (Watch me…”), *telling* (“Feet on the floor.”), and *gestures* (Point to putting feet on the floor), and lots of praise even for tiny movements. “Yes, your hands are sitting quietly in your lap!”

*Practice Sit Tall/Show Ready with the Whole Class or a Small Group Before Lessons and Any Time You Need Students’ Attention.*

 For example, let’s say students are at their desks or tables or on the floor in front of you…. You say,

“Boys and girls. Now we’re going to (read new words, read a story, work on new math
 problems, learn about forests). So, I need *all* my good sitters to sit tall and show ready.”

Once students are pretty firm and quick, just say something like, “I need to see all my good sitters sitting tall and showing ready…! Go!.... Feet… quiet mouth…. back…. calm hands…. looking.

*Verify and Praise Sitting Tall. Sometimes, Follow with a Surprise Enjoyable Activity.*
“Yes! Feet… quiet mouth…. back…. calm hands…. looking. You are sssoooo ready! Now, let’s enjoy a music video starring Fran and Her All-Harmonica Band. We can dance to it!”

*Play Sit Tall Fast.*

 Students get a kick out of winning against you---showing you how smart they are, and going fast. So, have some fun, and challenge them to go fast.

“Let’s play sit tall fast! Watch me…. [Do the routine.] I bet you can’t sit tall as fast as me. Let’s see... Go!... Not bad. Can you sit tall fast all by yourselves? Let’s see….”

Next skill.

 Taking Turns

 Here is Ms. Poe’s plan. It’s similar to lessons in *Language for learning* (Engelmann & Brunner, 2008), but the turn-taking format was developed independently by teachers in the Autism Program, at Washington University, St. Louis, Missouri. See Hamblin, Buckholdt, Ferritor, Kozloff, & Blackwell (1971). Ms. Poe says,

1. Here’s what I want to see.
a. Students are sitting tall ready to learn.

b. Students wait, watch, and listen while I take my turn (Model), and then,
c. Students quickly take their turn when I give a signal such as“Go” or a hand gesture (Test/check).
2. We’ll have a few short sessions on taking turns.

3. Before each lesson we’ll firm up taking turns.
4. If students become lax about waiting or taking their turns, we will go back to short, special firm-up sessions.

5. This skill is really important for some students with learning difficulties. If needed, I will teach turn-taking in short, practice sessions.

 Okay, here we go. Let’s teach along with Ms. Poe. Students’ talk is *in italics.*

*Gain attention.*

“Everybody sit tall and show ready. Watch and show ready with me.. Feet…. quiet mouth…. back…. calm hands…. Looking at Ms. Poe.… Yes! We are such good sitters! Now we are ready to learn!”

*Frame the task.*“Boys and girls, let’s play…. take turns. Take Turns.”

*Model the rule.*
“When my hand is up….. [Ms. P. points to herself and raises her hand as a signal for “My
 turn.”] …. it’s Ms. Poe’s turn to talk, and *you* [point to group] are quuuiiieeet. Shshshsh. [Finger on lips.] Quiet….quiet.”
*Test/check.*
“When Ms. Poe’s hand is up, like this…. *whose turn* is it to talk?...” [Points to herself.]
*Teacher’s… Your turn…. Ms. Poe!...*

*Test/check.* “*….* and all my friends are doing what?...” [Puts finger over her lips.]
*Quiet*.
*Verification.*

“Yes, when Ms. Poe’s hand is up it is Ms. Poe’s turn to talk… and allll my friends are quiet. Shshshsh.”

*Practice.*

“Let’s practice. When Ms. Poe’s hand goes up…. Ms. Poe talks, and all of my smart students---you--- are sssooooo quiet.” [Exaggerate, finger on lips, shshshshsh.]

[Ms. P. raises her hand again.] “My hand is up and so it is *my* turn to talk. Here I go!”

“My hand is up and so I tell my wonderful students, Today is …..Monday.”
“When I put my hand down, it’s *your* turn to tell what day it is… Get ready…. Wait for my hand to come down. [Reminder.] Waaaaait.” [Ms. Poe quickly lowers her hand.]

*Monday…. It’s Monday…*

*Verification.*

“Yes, today *is* Monday. You waited for *your turn*. You were so quiet. You listened. And then my hand came down.”

[More practice with different actions*.*]

“Let’s play take turns some more. When Ms. Poe’s [Ms. P. points to herself and raises her hand.] hand is up…. It’s Ms. Poe’s turn to talk…. When Ms. Poe’s hand comes down [Ms. P. lowers her hand.]…. it’s *your* turn.”

“My turn. My turn. Everybody…. We’re going to stand up…. Wait for my signal. Wait for my hand to come down and *then* *we* stand up. [Reminder.]…Get ready… Go!” [Ms. P’s hand comes down.]

[Everyone stands up]*.*

*Verification.*

“Yes, you waited for my *hand* to come down. You waited for my *hand signal*. And you did stand up. Such good stander-uppers!”

*Error correction.*[If anyone makes an error---they don’t stand up---Ms. P. says to *the group*…]

“This time I need to see *all* my friends stand up when I give the signal… When my hand comes down, that is the signal for *everyone* to stand up…. Get ready.” [Ms. P. lowers her hand.]

[Students stand up.]

*Verification.*

“Yes, you waited for my signal! And we *all* did stand up.”

[The group practices with more turns: pointing to the map on the wall; sitting down; stamping feet, saying “apple pie.”]

*Extra Guidelines*

1. Ms. Poe use My turn-Your turn a lot, when she is about to communicate important information, or when students are becoming lax on paying attention, and especially with students who have learning and behavior difficulties. It is her way of keeping students engaged and the interaction organized. For instance, “Here comes the definition of centrifugal force….. When my hand comes down, you tell the definition.”
2. My turn-Your turn is especially useful when teaching reading and math, because teacher and students need to coordinate their actions during the quick back-and forth of MLTV, For example,
* Teacher gains attention. “Everyone, let’s sit tall.”
* Teacher’s hand is up. “Listen, I’ll read this sentence. [Model.] That cat ran fast.”
* Teacher says, “Your turn to read that sentence.” [Test/check.] Teacher lowers her hand as a “Go” signal.

3. *Make sure to reinforce (verify and praise) when students wait and take their turn*. “I love the way you all watched and waited while my hand was up, and how you read our sentence when my and came down!”

Okay, next Learning Readiness skill!

The Inquire and Discover Routine

Scan 🡪 Focus 🡪 Identify (Discover) 🡪 Record and Organize (on Tables) 🡪Ask More Questions

 This little routine prepares students to do inquiry projects using text, internet, and Nature at all grade levels. It is essential for students new to this culture, or with limited language, learning difficulties, or who come from situations where they do not have the opportunities or resources to explore their environments.

 The idea is that students come to see that a whole thing (a strand of DNA, a cell, a word, a math problem, a map, a scene in Nature, the Universe) consists of parts that are arranged (connected) in certain ways--analysis. And, that each part (such as a rose on a bush) is itself a whole that consists of even smaller parts. “Hey,” says 5th grader Timmy Suggs, “You can go deeper and deeper and deeper. Each tiny part has its place in the whole thing.”

Here are examples.

1. You are teaching students to read words. Show the whole word. Then have them scan the word and focus on the letter-parts. This will prepare them to decode the words letter by letter---part by part.

2. The class is reading sentences. Show a whole sentence. “This bug is little.” Have them scan the sentence and see the sequence of words; and then scan each word and see on the sequence of letters. This/bug/is/little. Th/i/s b/u/g i/s l/i/tt/l/e

3. The class is working on 2-digit multiplication. 42

 x 12

Show and have them read the whole problem.

Then have them scan the columns, focus on the numerals, and read the numerals in each column.

4. Teach students to do a *knowledge analysis* of the classroom. Use MLTV to.

* Scan the classroom. “Let’s see what makes up our classroom. What is here?”
* Focus on and list the kinds (classes) of things that make up the classroom. (See chapter 10.)
* Then scan, focus on, identify, and list (on tables) the parts of examples---of chairs, desks, tables, walls, and so forth.

“Let’s look at this table…. Let’s tell what parts this table has?”

*A top… legs…*

“Top and legs, yes! How are legs connected to the top?.... What holds the tops and the legs together?”

*I dunno… What?...*

“Screws! These are called screws? Here’s how they hold the legs to the table top... Look at the top of the screw. See the slot? We take this screw driver and we…..”

*Oh, I see… Cool…*

 Have students scan, focus, identify, and tell (list on a table) the colors on surfaces, such as walls, ceilings, floors, and doors. How are the colors arranged by shades? Ceilings white? Walls lighter shades of blue? Doors dark?

5. *Generalization.* Teach students to use the from wholes to parts (analysis) routine in their own homes, and with maps, diagrams, and in Nature.

6. *Now examine parts even more closely*, and Scan 🡪 Focus 🡪 Identify (Discover) 🡪 Record and Organize (on tables) 🡪Ask More Questions

For instance,

* What countries are in continents? What regions are in countries? What geological features and cites are in regions?
* What plants and animals are in a swamp? What are the parts of these plants and animals?
* What buildings, machines, hand tools, animals, and crops are on a farm? What are the parts of barns, tractors, chainsaws, cows, corn fields, and ears of corn?
* The anatomy of a human being: the whole organism; its organ systems; the organs in systems; the tissues in organs; the cells in tissues; the parts of cells.

 Here’s another example. Each small group of students has chunks of granite, small hammers, picks, and a magnifying glass. Teach students to….

Scan 🡪 Focus (poke, scrape, tap, scratch, magnify---and thereby learn something new) 🡪Identify/Discover 🡪Record and Organize (on a table) 🡪 Ask more questions.

“Hey!” says Milly Magnuson, “This sample of granite is made of three minerals: small, flat, black mica; flat pieces of yellow feldspar; and pink quartz. I wonder what holds them together?”

 With other materials, students might discover and ask….

* “This root of a sprouting corn kernel has little hairs. What do they do?”
* “This frog has lips! But where’s his ears?”
* “When I hit this nail with a hammer, the metal gets hot. How come?”
* “When you put baking soda in a vinegar, it makes bubbles! Why?”
* “When you tap a long piece of metal pipe with a little hammer, it makes a low sound. When you tap a shorter piece of the same kind of metal pipe, it makes a higher sound. What’s going on?”
* “Look at this wood. It’s got small fibers that run the same direction.”
* “Check this cat’s teeth. It’s got two long fang-teeth top and bottom. In between, it’s got really tiny teeth. I guess the fangs are to hold on tight to what’s in its mouth. What are the tiny ones for?”
* “So many colors in the rainbow. What makes that happen?”
* “Hey! All these snowflakes are different? What makes snowflakes?”
* “Look what’s inside this flower!? Cool parts! What do they do?”

 Here’s one more example. High school science students were shown a Nature scene.

<Insert figure 9.1 near here>

Figure 9.1. Nature Scene. Mountains, Village, Water.

 

Their teacher, Lance Saint-Michael, says,

“Here’s our task. Work in small groups. Draw on science, math, and social studies to guide a *knowledge analysis*. Identify the kinds (classes) of things in the scene. Go from part to part---the moon, sky, mountains, trees, water. *Go deeper and deeper into each thing you identify*. Then think of *questions* to ask. *List* it all. This will make you really smart! Explorers and discoverers.”

 Here are the results of one group’s investigation.

<Table 9.1 near here>

Table 9.1. Knowledge Analysis and Exploration of Nature Scene.

 Moon Sky Mountains Trees Water

 Circle In *Genesis* Kinds of rock Types of Properties

 What is a circle? Clouds Land forms Life cycles Salt vs.

 Area of circles Types of pre- Volcanoes Factors affecting fresh

 Identifying circles cipitation Tectonic plates growth Rivers

 Circumference of Water cycle Friction Insects Streams

 circles Clouds Stress Photosynthesis Lakes

 Spheres Types Uplift Uses as material Ponds

 Area of spheres Formation Latitude and Structure of cells Deltas

 Craters of longitude How roots work Boiling

 How formed? Layers of Altitude How trees protect point

 How is the Moon atmosphere Temperature and heal altitude

 lit? Ozone Air pressure Trees in ecosystems Ice

 Moon cycles Greek, Roman, Geography Plant vs. animal cells

 Effects on tides Islamic philo- Topography Animals above and

 Significance to sophy on Maps below tree lines

 Cultures Stars Landslides

 Origins of the Life cycles Slope angle

 word, moon Constellation Speed

 Folk tales Cultural signi- Debris

 Lunacy ficance Run-offs

 Scientific study Color spectrum Watersheds

 of in history Sunsets Triangles

 Moon missions Northern Types

 Russia vs. U.S.A. lights Areas of

 Compare and Rainbows Cones

 contrast Moon How formed Volume of

 and Sun: In *Genesis* Pyramids

 Size Egypt

 Distance from Religion

 Earth Rule

 Density Physics

 Composition

 Gravity

 Origin and

 change

 Most references, below, have interesting and useful findings on children’s exploratory behavior.

 Now let’s start teaching. We begin with classes, concepts, and their names. These are the foundation of the human representation of reality (they are the “what” that is in it), language (how we communicate about it), and thought (how we think about it).

 References

Bahm, A. J. (1972). Wholes and parts. *The Southwestern Journal of Philosophy*, *3*(1), 17-22.

Bijou, S. W. (1980). Exploratory behavior in infants and animals: A behavior analysis. *The psychological record*, *30*, 483-495.

Biffle, C. (2013). *Whole Brain Teaching for Challenging Kids (and the rest of your class, too!)*. Yucaipa, CA: Whole Brain Teaching LLC.

Blikstein, P., Gomes, J. S., Akiba, H. T., & Schneider, B. (2017). The effect of highly scaffolded versus general instruction on students’ exploratory behavior and arousal. *Technology, knowledge and learning*, *22*, 105-128.

Engelmann, S., and Bruner, E.C. (2008). *Language for learning*. SRA/McGraw-Hill.

Engelmann, S., & Bruner, E.C. (1995). *Reading mastery I.* McMillan/McGraw-Hill.

Engelmann, S., Hanner, S., & Johnson, G (1999). *Corrective reading series guide.* SRA/McGraw-hill.

Fink, B. (1994). Interest and exploration: Exploratory action in the context of interest genesis. In *Curiosity and exploration* (pp. 101-120). Springer Berlin Heidelberg.

Gibson, E. J. (1988). Exploratory behavior in the development of perceiving, acting, and the acquiring of knowledge. *Annual review of psychology*, *39*(1), 1-42.

Gleason, M. (1999). Advanced DI delivery techniques. 25th Annual National Direct Instruction Conference and Institutes. Eugene, OR. July.

Hamblin, R.L., Buckholdt, D., Ferritor, D., Kozloff, M., & Blackwell, L. (1971). *The humanization processes: A social, behavioral analysis of children’s problems.* Wiley-Interscience.

Hammond, P. (2001). Parts and Wholes: Contrasting Epistemologies. *Tradition and Discovery: The Polanyi Society Periodical*, *28*(3), 20-27.

Hardy III, J. H., Day, E. A., Hughes, M. G., Wang, X., & Schuelke, M. J. (2014). Exploratory behavior in active learning: A between-and within-person examination. *Organizational Behavior and Human Decision Processes*, *125*(2), 98-112.

Henderson, B. B., Charlesworth, W. R., & Gamradt, J. (1982). Children's exploratory behavior in a novel field setting. *Ethology and Sociobiology*, *3*(2), 93-99.

Legare, C. H. (2014). The contributions of explanation and exploration to children's scientific reasoning. *Child Development Perspectives*, *8*(2), 101-106.

Lemov, D. (2021). *Teach like a champion 3.0: 63 techniques that put students on the path to college*. John Wiley & Sons.

Martin, C. E., & Henderson, B. B. (1989). Adult support and the exploratory behavior of children with learning disabilities. *Journal of learning disabilities*, *22*(1), 67-68.

Meder, B., Wu, C. M., Schulz, E., & Ruggeri, A. (2021). Development of directed and random exploration in children. *Developmental science*, *24*(4), e13095.

Renner, N. O. (2011). Multisensory sensemaking: Children’s exploratory behavior has organizing structure at micro-and macro-scales. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 33, No. 33).

Schulz, L. E., Standing, H. R., & Bonawitz, E. B. (2008). Word, thought, and deed: the role of object categories in children's inductive inferences and exploratory play. *Developmental psychology*, *44*(5), 1266.

Weisberg, D. S., Dunlap, L. C., & Sobel, D. M. (2023). Dinos and GoPros: Children’s exploratory behaviors in a museum and their reflections on their learning. *Frontiers in Psychology*, *14*, 1110612.

Winther, R. G. (2011). Part-whole science. *Synthese*, *178*(3), 397-427.