

CHAPTER VIII

Ownership

“The dominant note of education at its beginning and at its end is freedom, but there is an intermediate stage of discipline with freedom in subordination.”

Alfred North Whitehead, “The Rhythmic Claims of Freedom and Discipline”

• The Kitchen Table

A fourteen-year-old is stuck on a history essay. It's late, it's due Friday, and his father sits down beside him to help.

The help starts well. Then the father reads the opening paragraph and suggests a better first sentence. Then a better word in the second. Then he points out that the third paragraph should really come first. Twenty minutes later he's dictating, the boy is typing, and the essay is getting noticeably better.

Then the boy pushes the laptop an inch away and says: “Just tell me what you want me to write so I can be done.”

That sentence marks a transfer. The essay used to be his, clumsy but his. Now it belongs to his father, and the boy has become the typist. He'll finish it, it'll be a better essay, and he'll have learned very little from writing it.

This chapter is about what changed hands at that table.

Ownership is a relation between a learner and a piece of work: this question is hers, this skill became his. The capacity to form that relation has to be learned and practiced, and every owned question builds the capacity to own the next one. Ownership works at every scale, from the self to the partnership, the group, and the story a person tells about their own life. **Agency** is ownership seen in the moment: who is steering right now. Good steering follows the learner's pull while supplying structure, and hands ownership over as fast as competence allows.

The Red Thread

Ownership is the driver the rest of the model is built around. It runs through every part of it.

- **Inquiry begins with it.** Inquiry is the pursuit of a question the learner owns.¹
- **Practice ends with it.** Practice is the effort by which a domain of skills becomes the learner's own.¹
- **Engagement reads it.** Ownership is a core engagement driver, and the two likely feed each other.²
- **Worth has an owner's face.** Work can matter because the learner uses it themselves.³
- **Outside drivers are judged by it.** Competition, rewards, and story are measured by whether they move a learner toward owning the work.⁴

The Same Thing, Two Ways

As with worth in Chapter 7, the clearest way to see ownership is to hold everything else still. In each pair below, the activity, the materials, and the skill are the same. Only whose it is changes.

Inquiry: Why the Leaves Turn

	ASSIGNED	OWNED
Where the question came from	The October science unit	Her own noticing: the maple in the yard turned red weeks before the oak
What she does with it	Finds the answer in the textbook and copies it	Collects leaves from both trees for two weeks and compares them
When it gets hard	Waits for the teacher to explain	Asks a sharper question: does the sunny side of the maple turn first?
When it is done	When the worksheet is handed in	When she is satisfied, and she checks again the next fall
What lasts	A sentence about chlorophyll	The question, a way of finding out, and a tree she watches every year

Practice: The Piano Passage

	ASSIGNED	OWNED
Who set the goal	The teacher's practice chart	She wants to play the song she heard in a film
Who sets the standard	A twenty-minute timer	The recording: she repeats the hard bar until it sounds like it
What a mistake means	Something to get past before the timer ends	Information: she slows down and works the bar alone
When it is done	When the timer rings	When it sounds right to her
What lasts	Minutes logged	A piece she can play, and a way to learn the next one

Both Systems: The Birdhouse

	ASSIGNED	OWNED
Where it started	The class project list	A wren nesting in the gutter
The questions	A worksheet on local bird species	His own: how big a hole lets a wren in and keeps sparrows out?
The skills	Following the kit's steps	Measuring and cutting to the size his answer demands

	ASSIGNED	OWNED
How they connect	The worksheet and the kit never touch	Each answer changes a cut, and each cut raises a new question: will rain get in?
What lasts	A birdhouse on a post	A birdhouse on a post, and a learner who expects questions and skills to meet

In every pair, the difference is whose it is, and that difference runs all the way down: what happens at the first difficulty, what counts as finished, and what the learner carries away. Look especially at the row about difficulty. The assigned learner stops and waits. The owning learner treats the snag as information and asks a better question.

The pairs also show how ownership sits differently in the two systems.

Inquiry owns from the start. The question is the learner's from the first moment, whatever its source. The design task is to protect that ownership while the pursuit meets the real structure of the domain.

Practice owns at the end. The skill becomes the learner's as the effort does its work. The design task is to hand over the pace, the standard, and the next rep as competence grows.

 Driver or Passenger

Each of us is either the entrepreneur or the employee of our own development. The evidence that this matters comes from a surprising range of fields.

Learning: the driver learns the route. Joel Voss and his colleagues (2011) had people study arrays of objects through a small window that moved across a screen. Some steered the window themselves. Others watched a replay of someone else's exact movements, so both groups saw the same information in the same order for the same time. The steerers remembered more. The benefit was tied to a brain network centered on the hippocampus, and patients with hippocampal damage gained nothing from steering. Same content, different owner, better learning. If you've ever been driven

somewhere a dozen times and still couldn't find your own way there, you've felt the difference.

Work: owner and employee. Matthias Benz and Bruno Frey (2004; 2008) found that self-employed people are substantially more satisfied with their work than employees, across many countries, and that the gap isn't explained by pay, hours, or personality. It comes from independence itself, which economists call **procedural utility**: autonomy valued for its own sake, apart from what it earns. Research on people pushed into self-employment by necessity suggests the benefit depends on the ownership being chosen.

Health: control, more than demand. You'd expect the executives with eighty-hour weeks to be the ones having heart attacks. The Whitehall II study of British civil servants found otherwise. People who reported low control over their work, on two occasions, had nearly double the odds of a later coronary event, an effect that held after accounting for job grade and the classic risk factors. How demanding the job was showed no relation to risk (Hans Bosma, Michael Marmot, and colleagues, 1997). Hard work without a say in it was the danger.

Aging: responsibility sustains. In Ellen Langer and Judith Rodin's nursing home experiment (1976; 1977), residents on one floor were encouraged to make their own decisions, about their rooms, their time, their activities, and each was given a plant to look after. Residents on another floor got the same plants and a kindly message that the staff would take care of everything, including the watering. Three weeks later the first group was more alert and active. Over eighteen months, 15 percent of them died, against 30 percent of the comparison group. It's a single small study, with two floors as the groups, and it should be read as suggestive. It's also hard to forget.

Evidence From Childhood

The same pattern shows up early, and here some of the evidence is experimental.

Infants seek control. John Watson and Craig Ramey (1972) gave ten-week-old infants a pillow that turned a mobile above the crib whenever they

moved their heads. The infants quickly learned the connection, and they smiled and cooed when their own movements made the mobile turn. Infants shown the same mobile turning on its own did no such thing. Recent work finds infants deliberately vary their movements, kicking one leg and then the other, to test how much control they have.

Rewards can take the work away. Mark Lepper, David Greene, and Richard Nisbett (1973) found preschoolers who loved drawing. Some were promised a Good Player certificate for drawing, and got it. Later, during free play, those children chose to draw less than children who had never been rewarded. The certificate made the drawing the adults' business.

Some children give up; others dig in. Faced with problems they couldn't solve, some fifth graders in Carol Diener and Carol Dweck's study (1978) blamed their own ability, and their problem-solving strategies fell apart. Others treated the failure as a problem to solve, talked themselves through it, and kept improving.

Autonomy-supportive parents. Children whose parents supported their autonomy showed more self-regulation and school competence (Wendy Grolnick and Richard Ryan, 1989).

Instruction can narrow exploration. Elizabeth Bonawitz and her colleagues (2011) gave preschoolers a new toy with several hidden functions: it squeaked, lit up, played music, had a mirror. When a teacher showed them one function, the children focused almost entirely on that one. Children who met the toy without instruction explored broadly, and discovered more.

The Limits, and the Classroom

Much of this evidence concerns adults, and much of it is correlational. The childhood studies add experiments. Together they show that control, and support for it, help children. They don't show directly that passivity is where people start; the infants and the uninstructed preschoolers point toward an early drive to explore and to control. The next section takes that up.

One more thing follows from the Whitehall finding. Seen through this evidence, the classroom form of Chapter 2 is twelve years of low job control.⁵

❧ Passivity Is the Default

Here's the most counterintuitive claim in this chapter. When things get hard, people start from passivity. The sense that one's actions shape outcomes is learned.

The Intuition It Overturns

Most of us assume children arrive full of agency and that bad environments make them passive. School teaches helplessness; the micromanaging boss teaches it again. For about fifty years, psychology said the same.

In the late 1960s, Martin Seligman and Steven Maier ran experiments with dogs and electric shocks. Some dogs could stop the shocks by pressing a panel. Others received the same shocks with no way to stop them. Later, all the dogs were placed where they could escape easily by jumping a low barrier. The dogs that had had control jumped. Many of the dogs that hadn't simply lay down and took the shocks. Seligman and Maier called it **learned helplessness**: the dogs had learned that nothing they did mattered, and stopped trying.

It's an elegant theory, and it fits our intuitions perfectly. The world teaches you that effort is futile, so you give up.

What the Evidence Now Says

Fifty years on, with tools that could look inside the brain, Maier and Seligman (2016) went back to their own theory and concluded it had things backwards. Passivity under prolonged adversity is the default. It needs no learning. What gets learned is **control**: detecting that one's actions work, which engages circuits in the prefrontal cortex that switch the default off. And learning control changes how the brain responds to later adversity, building resilience that lasts (Michael Baratta, Seligman, and Maier, 2023).

So the dogs that jumped had learned something the others never got the chance to learn: that their actions worked.

The Objection: Children Don't Look Passive

They don't. The four-year-old at the ant trail in Chapter 1 is steering hard, and nobody taught her to. Watson and Ramey's infants went after control within their first months.

The answer is that two different things are in play. The **drive to seek control** arrives unbidden, like curiosity. The **expectation that effort will keep paying off** is something else, and it gets tested at the first real difficulty. That expectation is built, or not, by experience.

Look back at the row "When it gets hard" in the three pairs. The assigned learner waits for the teacher. The owning learner asks a sharper question. Curiosity starts things. The default decides what happens when they stop being easy.

What It Changes for Design

If passivity were learned, the job would be protection: keep children away from the environments that teach it. If passivity is the default, protection falls short. Control has to be experienced, again and again, on work hard enough to test it.

That's why ownership is a matter of practice, and why every owned question builds the capacity to own the next.

The Limits

The core evidence comes from animals under prolonged, inescapable stress, a long way from children in ordinary learning. Carrying it into learning is my inference, and two questions stay open. Does the default apply to mild, everyday difficulty, or only to prolonged adversity? And how do curiosity and the expectation of control interact? Does curiosity left unsupported fade into passivity at the first obstacle? I suspect it often does, and I'd like to see it tested.

Box: Self-Control and Ownership

***The finding.** The Dunedin study followed about 1,000 New Zealand children from birth to age 32. Self-control measured between ages three and eleven, by observers, parents, teachers, and the children themselves, predicted adult health, wealth, and criminal record along a gradient, even after accounting for IQ and social class. In a second sample of about 500 British sibling pairs, the sibling with lower self-control at five fared worse by twelve. And children whose self-control improved over time did better than their early scores predicted (Terrie Moffitt and colleagues, 2011).*

***The famous test is weaker than its reputation.** You know the marshmallow test: one marshmallow now, or two if you can wait. A larger replication with 918 children found that each extra minute of waiting at age four predicted a small gain in achievement at fifteen, about half the size of the original finding. That gain shrank by two thirds once family background, early cognitive ability, and the home environment were taken into account (Tyler Watts, Greg Duncan, and Haonan Quan, 2018).*

***The link to ownership.** In a variation on the test, preschoolers who had just seen an adult keep promises waited about twelve minutes. Those who had just seen an adult break promises waited about three (Celeste Kidd, Holly Palmeri, and Richard Aslin, 2013). Waiting depends partly on believing that patience will pay off: the expectation that one's own effort shapes the outcome. That expectation is the capacity at the center of this chapter.*

***Three reasons to wait.** The same wait time can hide three different things.*

- **Trust.** The child believes the adult will come back, so waiting is a sensible bet.
- **Compliance.** An adult set a rule and the child follows it. The goal is the adult's. Self-determination theory calls this controlled regulation: acting under pressure, or to avoid guilt.

- **Ownership.** The child adopts the goal as her own and finds her own ways to reach it. Walter Mischel's research found that children who distracted themselves, by singing, looking away, or covering their eyes, waited longer. One child in Kidd's study sat on his marshmallow.

The reverse holds too. A child who eats the marshmallow at once, in a world where promises get broken, may be making an owned and rational choice; Kidd's team called it rational snacking. And a compliant child can look self-controlled while owning nothing.

***Close relatives.** Self-control is ownership turned inward: governing one's own impulses in service of one's own goals. The ownership lens splits the marshmallow test into its three reasons. It predicts that owned, trusting self-control is the kind that lasts, and that waiting built only on compliance fades once the adult leaves the room. That would also explain why a single wait time predicts so much less than Dunedin's years of measurement from many observers. The prediction remains to be tested.*

Follow the Pull, Supply the Structure

If control has to be experienced, the obvious move is to hand learners as much freedom as possible. Buy the canvas, lock yourself in a room, let the muse take over. The research says something more interesting.

Choice. Erika Patall, Harris Cooper, and Jorgianne Robinson (2008) reviewed 41 studies and found that offering choices raises intrinsic motivation, effort, task performance, and perceived competence. The effect was stronger for children than for adults, which makes sense: an adult chooses all day, while a child's day is mostly chosen for her. Three details matter. The effect was strongest with **two to four** successive choices. Benefits showed diminishing returns after five or more, as weighing the options starts to cost more than the choice gives back. And, strikingly, the effect was strongest for choices that were **instructionally irrelevant**.

If you've ever asked a three-year-old whether she wants to go to bed, you know the answer. Ask instead whether she wants to hop to bed like a kangaroo or stomp there like a dinosaur. Hopping or stomping has nothing to do with sleep, and bedtime is still bedtime. But the choice was hers, and the resistance is gone. A small, real choice tells a learner she's an agent here.

Autonomy support. Research in self-determination theory finds that adults who support learners' autonomy, by giving a rationale, offering choice, and leaving room for initiative, produce more engaged learners than adults who control.

Following attention. Michael Tomasello and Michael Jeffrey Farrar (1986) watched mothers playing with their toddlers. Some named whatever the child was already looking at: the child stares at a toy fire truck, and the mother says, "Look, a fire truck!" Others tried to redirect: the child stares at the truck, and the mother shakes a teddy bear and says, "Look, a bear!" Naming what the child was already attending to predicted larger vocabularies at 21 months. Redirecting predicted smaller ones. In an experiment, 17-month-olds learned new words better when the words named what they were already looking at.

The child staring at the truck has already done the expensive part. Her attention is on it. Hand her the word at that moment and it lands. Shake the bear and you ask her to pull her attention off the truck, put it on something she doesn't care about, and learn a word while part of her mind is still back at the truck. Learning rides on the learner's own focus.

Guided play. Deena Weisberg, Kathy Hirsh-Pasek, Roberta Golinkoff, and their colleagues describe **guided play**: activity the child leads, inside an environment and toward a goal an adult has set. It's a middle path between free play and direct instruction. A meta-analysis of studies with children aged one to eight (Kayleigh Skene and colleagues, 2022) found that guided play beat direct instruction on early math skills, shape knowledge, and task switching, beat free play on spatial vocabulary, and was never less effective than direct instruction on any outcome studied. (The review was funded by the LEGO Foundation, which is worth knowing.)

The Counterweight

A fair objection: if you simply follow a toddler's attention, you'll learn a great deal about how electrical outlets work. Follow an employee's attention and he may spend three weeks perfecting the font on a spreadsheet while the client presentation goes unwritten.

Pure following fails, and the evidence on this is strong. Louis Alfieri and colleagues (2011) reviewed 164 studies of discovery learning. Learners left to discover on their own, without guidance, did worse than learners taught explicitly (an effect size of -0.38). But discovery **enhanced** with feedback, worked examples, scaffolding, or prompts to explain did better than other forms of instruction ($+0.30$). Paul Kirschner, John Sweller, and Richard Clark (2006) make the same argument from the limits of working memory. Drop a novice into an unstructured problem and working memory fills up with figuring out the rules, the goal, and what to ignore, with nothing left over for learning.

The Resolution

Ownership and structure work together. The best steering follows the learner's pull and supplies the structure: a goal, a frame, feedback, a well-placed hint. **The learner owns the direction. The adult owns the scaffolding.**

Agency: Reading Who Steers

Agency is ownership in the moment: whether the learner is pulling the activity forward or being pulled through it. It has to be read, not tracked, and the reading decides who steers. It doesn't decide which system to use. Both Inquiry and Practice can run with the learner steering or with the adult steering.

There are two modes.

Follow mode. The learner has a pull, and the adult supports it.

Lead mode. The learner has no pull yet, and the adult offers a start.

Follow: The Ant Trail

Go back to the four-year-old at the ant trail from Chapter 1. She has been crouched over it for ten minutes, asking questions nobody prompted. Where are they going? Why do some carry crumbs? She's steering.

So the adult follows. She hands her a magnifying glass and asks where she thinks the ants are going. Maybe they can follow the line all the way home. If the girl decides to count how many ants pass in a minute, and wants to count them all, she has moved from Inquiry into Practice, and she's still steering.

Lead: Four Toys and a Whine

A boy drifts between four toys. He picks one up, drops it, picks up another, stares at the ceiling, complains that he's bored. Nobody is steering. There's no pull to follow.

So the adult leads, with something clear and winnable: a puzzle one step past the one he finished yesterday, or a question that catches. "I wonder which of these would float." Either one can start the engine. And the goal of leading is to hand the wheel back the moment he takes hold of it.

Commander's Intent

Military doctrine offers a model for steering in complex situations. A general can't direct every platoon's footsteps; conditions change too fast. So leaders state the goal and the reason for it (take the bridge by six, so the supply trucks can cross), and leave the method to the people on the ground who can see the terrain.

For learning, the adult can own the goal while the learner owns the method. And the learner's share should grow over time, until the learner is setting goals too.

The Rhythm of Steering

Whitehead's rhythm from Chapter 3 gives agency a pattern over time.

Romance is the learner's turn to lead. The question and the wandering are theirs.

Precision is the adult's turn to lead more, because exactness usually has to be offered before it can be chosen. Few children discover the value of slow, exact repetition on their own.

Generalization hands the lead back, to a learner now carrying technique.

That's the pattern in this chapter's epigraph: freedom at the beginning and the end, and in the middle "a stage of discipline with freedom in subordination." Whitehead's aim for that middle stage is ownership by another name. Discipline, he wrote, should become "the voluntary issue of free choice," and freedom should gain "an enrichment of possibility as the issue of discipline." His rule was that teaching should "suit the stage in the rhythm to which our pupils have advanced."

Reading agency in the moment still decides who steers. The phase of the cycle tells you which answer to expect. When the answer surprises you, a learner taking the wheel in the middle of precision, pay attention.

✿ Handing Over Ownership

Following and leading happen minute to minute. Over months and years, ownership has to change hands for good. Apprenticeship shows how, and it's the clearest picture of Practice's ownership arriving at the end.

The Tailors and the Meat Cutters

In *Situated Learning* (1991), Jean Lave and Etienne Wenger compared two apprenticeships.

Among the Vai and Gola tailors of Liberia, a new apprentice wasn't handed silk and shears on the first day, and wasn't sent off to study the geometry of seams either. He came straight onto the shop floor, among the masters, and got tasks at the edge of the work that were entirely real: sewing buttons onto finished garments, hemming cuffs. Small, low-risk, and destined for paying customers. Around him, all day, was the whole craft: the talk, the pace, the problems being solved. As his competence grew, so did his share. Linings, then sleeves, then whole garments. With few exceptions, these

apprentices became skilled and respected master tailors. Lave and Wenger called this **legitimate peripheral participation**: on the edge, and real.

The cautionary case is the meat cutters. In the supermarkets Lave and Wenger describe, the apprentices' work was organized apart from the journeymen's cutting. They wrapped and trimmed in another room, with little access to the full practice. They couldn't watch a master read a side of beef or hear how the work was talked about. They learned poorly.

The same institution, apprenticeship, produced opposite results. The difference was whether the apprentices got a real, visible, and growing share of the work.

The Handover as a Designed Stage

Allan Collins, John Seely Brown, and Susan Newman (1989) carried the tailor's shop over to thinking skills, which are harder to watch. Their **cognitive apprenticeship** builds the handover into the method, in four stages.

1. **Modeling.** The expert does the task while the learner watches, and the expert thinks out loud, so the reasoning is visible along with the actions. I do; you watch.
2. **Coaching and scaffolding.** The learner does the task, with the expert close by, offering a targeted hint where the learner would otherwise get stuck. You do; I help.
3. **Fading.** The support is withdrawn on purpose, piece by piece. You do; I watch.
4. **Exploration.** The learner sets their own problems.

Entrustment

Medicine formalized a similar ladder, because the stakes leave no room for either pure discovery or endless lectures. Over time Cate's **entrustable professional activities** are specific clinical tasks a trainee is trusted to perform without supervision once they've shown, under supervision, that they can.

The Pattern

Real work from the start. A small but genuine share of it. The expert present. The share growing with competence, and ownership handed over as fast as competence allows.

You can run this at home. A teenager who chops onions in the corner for six months while you do all the real cooking is a meat cutter. A teenager who chops the onions for this week's stew, seasons it next week while you watch, and plans the whole week's menu next month is a tailor.

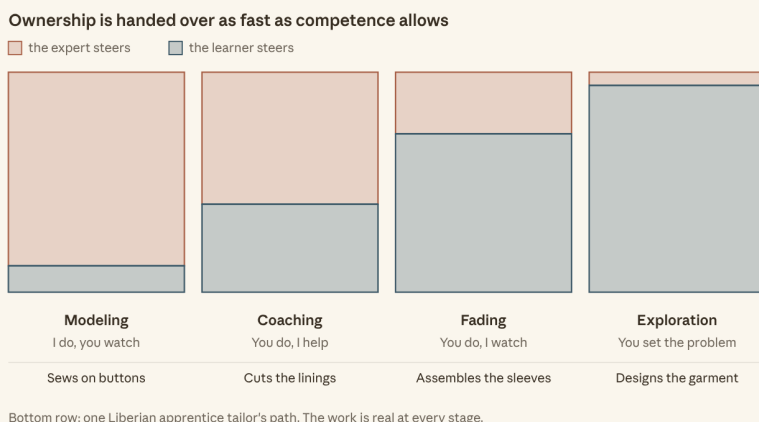


Figure 8.1 · the handover (schematic)

The stages of cognitive apprenticeship, with the learner's share of the steering growing at each one. The proportions are illustrative.

🌱 Seeding Ownership

Apprenticeship takes months or years. Sometimes it's Tuesday afternoon, the project is due Friday, and you need a learner to take hold of the work now. Ownership can be started quickly and cheaply. These seeds aren't the real thing, but they can open a path to it.

Mere ownership sharpens memory. Sheila Cunningham and her colleagues (2008) had people sort picture cards into two baskets: one that

belonged to them, and one that belonged to someone else. The task was the same either way; the division was arbitrary. Later, people remembered the items in their own basket better. Physically handling the cards made no difference. Only the ownership did. Children aged four to six showed the same advantage for toys sorted as their own (Cunningham and colleagues, 2013), and in a classroom version, children sorting shape flashcards into their own basket remembered those shapes much better, at no cost to memory for the others. The rule is simple: make it theirs.

Identity labels. Christopher Bryan, Allison Master, and Gregory Walton (2014) asked three- to six-year-olds to help an adult clean up. Children invited to “be a helper” helped substantially more than children asked whether they “could help,” who helped no more than children never asked at all. A named role is a form of ownership: being a helper is who you are, while helping is a chore someone hands you.

Identity labels come with a caution. In four experiments with 501 children aged four to nine, Marjorie Rhodes, Sarah-Jane Leslie, Kristina Yee, and Katherine Saunders (2019) found that inviting children to “do science,” in place of “be scientists,” increased girls’ persistence in new science games. For boys the results were mixed: younger boys did better with action language, older boys with identity language. If an identity doesn’t feel open to a child, offering it can turn the work into a test of whether she belongs. Identity labels can help or hurt, depending on the child.

Personalization and small choices. Diana Cordova and Mark Lepper (1996) personalized a math game with each child’s name and favorite things, and offered small choices about the interface that had nothing to do with the math. Motivation, engagement, and learning all rose.

A head start. Joseph Nunes and Xavier Drèze (2006) gave car-wash customers loyalty cards. Some got a blank card needing eight stamps for a free wash. Others got a card needing ten, with two already stamped. Both needed the same eight purchases. Over nine months, 34 percent of the head-start customers completed their cards, against 19 percent of the others. Progress that already feels like yours pulls you forward.

Seeds Fade

These effects are fast, cheap, and probably temporary. A seed is a starting point on the road from outside motivation to owning the work.⁶ The design principle: seed ownership to begin a learning path, then convert it into real ownership, with real choices, real stakes, and work that becomes the learner's own, before the seed wears off.

The Ethical Edge

You'll have recognized these tools. They're also the tools of manipulative app design: pre-filled progress bars ("you're already 20 percent of the way to today's goal!"), identity hooks, trivial choices that build commitment. A language app and a slot-machine game can use exactly the same levers.

The test is direction. A seed that leads toward the learner's own ownership serves the learner. A seed that keeps them hooked serves someone else. A starter motor is for starting the engine. A teacher who uses a game with the child's name on it to get past math anxiety, and then moves her onto real problems she can be proud of solving, used the seed well. An app that resets the progress bar every morning to keep her tapping has no intention of letting the engine run on its own.

Box: Seeding Ownership With Egan's Tools

Kieran Egan's imaginative education offers a toolkit for making material the learner's own.⁷ Egan designed his cognitive tools to engage the imagination; using them to build ownership is my own application. Each tool gives the learner a way in that feels like theirs.

- **Story.** Cast the learner as the protagonist, and the question becomes a quest. "The town's water is running out. You have to find out where it goes."
- **Binary opposites.** Frame the material as a struggle the learner can take a side in: the body's defenders against invading germs, the river against the dam, gravity against lift.

- **Mystery.** Open with a puzzle whose answer is nowhere in sight. “In 1347, ships arrived in Sicily with most of their sailors dead. Within five years, a third of Europe would be gone. What was in the cargo holds?” A question the learner wants solved is already partly theirs.
- **Heroes.** Tie the work to a figure the learner admires, and let them carry that figure’s work forward: the mapmaker, the inventor, the first climber of the mountain.
- **Collections and hobbies.** A collection is owned in the most literal sense. Rocks, stamps, leaves, or bird sightings give Practice a structure the learner keeps and completes.
- **Extremes and records.** The fastest, the largest, the oldest. A record the learner is chasing, including her own personal best, is a standard she chose.
- **The body.** Gesture, rhythm, and movement. Acting a process out, walking the moon’s orbit around a lamp or clapping the rhythm of a poem, makes it physically theirs.
- **Theories and anomalies.** For older learners, a general scheme of their own, and the anomaly that refuses to fit it, are ownership of the most demanding kind.

The tools suit different kinds of understanding: the body first; then story, opposites, and mystery; then heroes, collections, and records; and theories later still. The boundaries are loose, and every tool stays available for life. Like every seed, these tools open a path. The ownership has to become real as the learner goes.

• Scales of Ownership and Modes of Agency

So far, ownership has mostly meant one learner and one piece of work. People rarely work alone. Cooperation, belonging, and an audience also

appear among the outside drivers in Chapter 10.⁸ Here they matter as forms of ownership: what it means for work to be *ours*.

Scales of Ownership

Self. Work that is the learner's alone: everything so far in this chapter.

Partnership. Working on something together creates commitment. Katharina Hamann, Felix Warneken, Julia Greenberg, and Michael Tomasello (2011) had pairs of three-year-olds pull a board together with a rope to get marbles, arranged so one child ended up with more than the other. After earning the marbles together, the lucky child usually shared to even things out. After a windfall, or after working side by side on separate tasks, children shared far less. Chimpanzees in the same setup showed no such link: once the food was in reach, the stronger one took it. Even 14-month-olds will sometimes try to re-engage a partner who stops in the middle of a joint activity (Warneken and Tomasello, 2007). Working on something together makes it “ours,” with obligations attached.

Group. Elinor Ostrom won a Nobel Prize for showing that communities can manage shared resources, a pasture, a fishery, a forest, sustainably for generations, contrary to the old story of the tragedy of the commons. One of the conditions she found mattered most: the people affected by the rules help make and change them. Group ownership has a typical failure, **free riding**. People put in less effort when their own contribution can't be identified, a pattern known as **social loafing**. In a tug of war with ten people, nobody can tell how hard you're pulling, so you pull a little less.

Formal ownership. Employee-owned companies show the difference between owning a share and having a say. Douglas Kruse, Richard Freeman, Joseph Blasi, and their colleagues found that ownership works through three things together: the incentive that ownership creates, real ways for owners to act on it by taking part in decisions, and a culture that resists free riding. An employee who holds stock while a manager dictates every keystroke owns very little that matters.

The board. In 1932, Adolf Berle and Gardiner Means named the gap between owning a corporation and running it: the **separation of ownership and control**. Shareholders own; managers run. The distinction suggests a role for adults in a learner's life. The parent or tutor acts as a **board**: setting direction, securing resources, protecting against serious risk, and holding the operator accountable for results. The learner acts as **founder and operator**, running the daily work. A board that starts running operations turns the founder into an employee.

That's what happened at the kitchen table. A well-meaning board walked onto the factory floor.

Modes of Agency

Albert Bandura distinguished three modes of agency.

Personal agency. Acting directly on the world. You're cold, so you put on a sweater. You want to play the guitar, so you practice the chord.

Proxy agency. Getting someone with more power or skill to act on your behalf. You hire a mechanic to rebuild the transmission. A toddler takes an adult's hand to cross the street. Young children rely on proxies, appropriately. But leaning on proxies can keep personal competence from developing, as a cast left on a healed bone lets the muscle waste.

This applies directly to AI. A tutor that does the work for the learner is proxy agency, however helpful it feels, and it can crowd out the personal kind. A well-designed tutor, human or artificial, makes proxy agency shrink as competence grows: it moves from modeling to coaching to fading, and leaves the learner exploring on their own.

Collective agency. A group's shared belief that it can succeed together, which predicts how well groups actually perform.

Two more modes complete the picture.

Shared agency. Tomasello's shared intentionality: the capacity, visible in toddlers, to form joint goals and commitments with another person. The marble-sharing three-year-olds have it.

Narrative agency. Jonathan Adler (2012) followed 47 adults through psychotherapy and collected nearly 600 personal narratives from them along the way. Over time, the theme of agency in their stories grew: they increasingly told their lives with themselves as the driver. Increases in agency tracked improvements in mental health, and the changes in agency came first. People who began telling their story as its driver got better afterward.

For children, this points to the stories adults help them tell. When a child struggles with a problem for twenty minutes and cracks it, “you figured that out” does more than praise her. It gives her a sentence for her own story in which her effort caused the result. Named roles do the same, giving a child’s contributions a place.⁹

Every Scale

Each learner needs all of these: work that is theirs alone, partnerships with real obligations, group work with roles that can be seen, adults who act as a board, proxies that shrink as competence grows, and a story in which the learner is the one acting.

 Reading Ownership

Ownership, like engagement, shows in the learner.

SIGNS OF OWNERSHIP	SIGNS OF LOST OWNERSHIP
Initiative	Waiting to be told
Returning to the work unasked	Relief when the activity ends
Protesting interruptions	Doing exactly what was asked, and nothing more
Setting one’s own standard	Asking “is this right?” before checking
“My” language: “my experiment,” “my hem”	“Just tell me what you want”
Explaining the work to others, unprompted	

Reading ownership in the moment is the clearest test of a tutor, human or artificial. Competence delivers content well. Excellence knows when to step aside.¹⁰

Back to the Kitchen Table

Run the evening again. The boy is stuck on his history essay. His father sits down, reads the opening, and sees three things he'd change.

This time he asks a question instead. "What's the one thing you want your reader to believe by the end?" The boy thinks, and says it, clumsily. "Is that in your first paragraph anywhere?" It isn't. The boy sees it, and starts rewriting, his way. When he gets stuck on a transition, his father offers two ways it could go, and the boy picks one and changes it. The essay that comes out on Friday is worse than the one the father would have written. It's also the boy's, start to finish, and next month's essay will be better for it.

The father set the direction, supplied the structure, and stayed out of operations. He acted as a board. The boy stayed the founder, and nobody had to hand the laptop back.

Open Questions

- How early can a child act as the operator of their own learning, with adults as the board?
- Which ownership seeds convert into lasting ownership, and which only hook?
- How should AI tutors be designed so that proxy agency shrinks as the learner's competence grows?
- Does narrative agency in children, the stories they tell about their own learning, predict later engagement the way it predicts recovery in adults?
- Does the passivity default apply to mild, everyday difficulty, or only to prolonged adversity?

📖 Notes

1. See Chapter 2, “What Inquiry Requires” and “What Practice Requires.”
2. See Chapter 4.
3. See Chapter 7.
4. See Chapters 9 through 11.
5. See Chapter 2, “The Form Is the Cause.”
6. See Chapter 9, “The Road Inward.”
7. See Chapter 14.
8. See Chapter 10.
9. See Chapter 7, “Worth Through Egan’s Stages.”
10. See Chapter 15.

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