



CHAPTER VII

Worth

“Education is the acquisition of the art of the utilisation of knowledge.”

Alfred North Whitehead, *The Aims of Education*

🍷 The Dropped Marker

Drop a marker on the floor in front of an eighteen-month-old. Within about ten seconds, she'll toddle over, pick it up, and hand it back to you. You didn't ask. You didn't offer a sticker. She just wanted to help.

Twelve years later, the same child sits in a classroom producing work that goes into a grade book and then the recycling bin. Ask her teacher about her motivation, and you may hear that she doesn't seem to care about much.

Somewhere between the marker and the worksheet, something got lost. This chapter is about what it was, and how to get it back.

Its name is **worth**, the fourth core engagement driver.¹ Worth is whether the output of an activity matters and gets used, by the learner or by someone else. It has nothing to do with a pep talk, or with someone telling you that your work is important. Children want their work to count from very early in

life. Worth comes through real use. And what counts as mattering changes as a learner develops.

• The Same Work, Done Twice

The clearest way to see worth is to hold everything else still. In each pair below, the materials, the skill, and the effort are the same. Only the use changes.

The letter. One class writes a persuasive letter to an invented mayor about a made-up zoning problem. The letters are graded and returned, and most end up in the recycling bin. They were written for an audience of one, the teacher, and their only purpose was evaluation.

Another class writes the same kind of letter, practicing the same rhetoric and the same grammar, to the actual town council, about the broken crosswalk outside the school. One of the letters is read aloud at a council meeting. A month later, the crosswalk is repainted.

The measurement. One student measures rainfall for a week and records it on a worksheet. Another measures rainfall the same way, with the same gauge, to tell an elderly neighbor which days she can skip watering her garden. The neighbor checks in with him every morning. Guess which one worries about whether the gauge is level.

The skills are identical. What differs is whether anyone needs the result, and the learner feels that difference at once. The second version of each is the one a learner cares about getting right.

You know this from the kitchen. Spend two hours on a complicated dinner and eat it alone, standing over the sink. Then cook the same dinner for friends. The chopping, the heat, the timing are all the same. But only the second time do you taste the sauce four times and fuss over how it looks on the plate, because someone else's evening depends on what you made.

• The Early Drive to Matter

Adults need their work to matter; that much seems obvious. But perhaps it's something society teaches us to want, and children would rather just play. Is the drive to contribute learned, or is it there from the start?

The evidence says it's there from the start.

Helping comes before language. Felix Warneken and Michael Tomasello (2006) found that children as young as eighteen months spontaneously helped an adult who had dropped something out of reach, without being asked, thanked, or rewarded. Most helped within the first ten seconds. These are children who can barely walk and can't yet speak in sentences.

Rewards can undermine it. The natural adult instinct is to reinforce the helping: a sticker, a treat. Follow-up work by the same researchers (2008) suggests that rewarding toddlers for helping can reduce their spontaneous helping later on. It's the same pattern the research on rewards finds for intrinsic motivation, sometimes called the overjustification effect.² Picking up the marker unprompted is a social act: we're together, and I help. A sticker reframes it as a trade. Stop paying, and the trade is off.

Some cultures keep the drive alive. Barbara Rogoff and her colleagues describe a way of learning common in many Indigenous communities of the Americas, which they call learning by observing and pitching in. Children learn by watching and joining the real work of family and community, from early on.

In one study in Guadalajara (Lucía Alcalá and colleagues, 2014), many six- to eight-year-olds from an Indigenous-heritage community took on complex family work on their own initiative: tending younger siblings, cooking, running errands. Few children from a highly schooled community did, and rarely on their own initiative. They spent more of their time in activities adults managed for them. And, strikingly, the highly schooled children had *less* free play. The children doing real work had more time to be children.

Schools can suppress it. In related work, Mexican-heritage children from families with limited Western schooling spontaneously pitched in to help a

science instructor during a demonstration. Classroom norms usually discourage exactly that. Children learn to wait to be told.

In Chapter 1, I called this the **atrophied work gene**. The image is a metaphor for a drive to contribute that is present early and weakens after years in institutions where nothing a child makes is used. Twelve to sixteen years of producing work whose only destination is a grade book is a long time for any muscle to go unused.

One caution. You'll find popular claims that doing chores as a child predicts success as an adult. The evidence behind them is weak, and this book doesn't rely on them. The argument here is about engagement and learning, today.

Two Faces of Worth

Who is the work for? Worth has two faces.

Use by the learner. A teenager building a turbocharger for her own car is doing work of real worth, even if nobody else ever sees the engine. This face of worth is tied to ownership: the output is the learner's, and so is the need it meets.

People value what they make themselves more than the same thing made by someone else. Michael Norton, Daniel Mochon, and Dan Ariely (2012) called this the IKEA effect, after the furniture you assemble at home. You may own a slightly crooked bookshelf you put together years ago. Objectively it's poor furniture, and you'll defend it to anyone, because you tightened those screws yourself.

Use by others. A contribution someone else relies on: the letter the council reads, the rainfall report the neighbor checks each morning. This face is tied to belonging. The learner's work has a place in other people's lives.

Worth Has to Be Found

Suppose you manage a team, and you want to tap into that need to belong. Can you call a meeting and announce that the new spreadsheet project is highly relevant to the company's mission?

The strongest experimental evidence on relevance suggests that won't work, and may backfire.

In a randomized field experiment, Chris Hulleman and Judith Harackiewicz (2009) had ninth-grade science students write short essays. Some wrote about how their coursework related to their own lives. Others summarized the material. For students who came in with low expectations of success, the relevance writing raised both interest and grades, by about two-thirds of a letter grade.

Later work tested the difference between finding relevance and being told it. Elizabeth Canning and Harackiewicz (2015) found that relevance the students generated themselves helped, while relevance announced by a teacher could backfire for the least confident students. If you're already struggling with algebra and your teacher tells you your whole financial future depends on mastering it, the speech adds weight to a load you're already failing to carry, without showing you a way forward.

Worth can't be declared. The learner has to see the use, or make it.

Worth Through Egan's Stages

If relevance has to be found, how do you help a learner find it? What matters to a five-year-old is very different from what matters to a fifteen-year-old.

Kieran Egan's kinds of understanding give one way to see how mattering changes as a learner develops.³ Egan wrote about cognitive tools; applying his stages to worth is my own move. And the stages are loose. Their ages overlap, and no form of worth is ever left behind. An adult still feels the toddler's pleasure when a face lights up, and a teenager can still be moved by a named role in a family story. Worth is tied to where this learner is, more than to any stage label.

Somatic (infancy and toddlerhood). Worth is felt through the body and through other people's response: the effect of an action, and an adult's face lighting up. The toddler insisting on carrying the groceries in from the car lives here. She wants the weight in her arms, and she wants your smile.

Mythic (roughly 3 to 7). Worth comes as a role in a story, framed in opposites: helper or hindrance, brave or scared. A contribution matters when it has a named place. "You're the one who keeps the plants alive."

Romantic (roughly 8 to 14). Egan's romantic learner is drawn to the real world's extremes: heroes, records, collections. Worth now means real competence in something real, and work that reaches beyond the family: a real customer, a published piece, a hobby taken seriously.

Philosophic (mid-teens into the twenties). Worth means contributing to a larger scheme or cause: a system to improve, a mission, a movement.

Ironic (adulthood). Worth becomes self-authored. The learner decides what matters, and holds even that lightly, aware that their own sense of worth is one of many.

One Jar, Many Framings

Take a carefully labeled jar of seeds saved from the garden.

To a six-year-old, it's precious if it comes with a role: she's the Seed Keeper, and the jar is her charge. To a twelve-year-old, being the Seed Keeper may sound like a game for little kids. But tell her the seeds need to be cataloged accurately because the family is trading them with a seed exchange two states away, and she's in: a real customer, a real standard. To a sixteen-year-old, the jar may come alive as the first contribution to a neighborhood seed library meant to put more home-grown food on more tables. And another sixteen-year-old may simply treasure the jar as it is.

The same output carries different worth for different learners.

The Design Rule

To raise worth, frame the use in the form this learner values now. The stages suggest where to look. The learner's engagement tells you whether the framing landed.

Worth in the Present

Whitehead defined education as “the acquisition of the art of the utilisation of knowledge,” and he put the use in the present: “The present contains all that there is. It is holy ground; for it is the past, and it is the future.”

Deferred worth, the “you’ll need this later” of schooling, asks a child to value a future she can’t see. The design rule is Whitehead’s point made practical: find the use the learner values now.

One jar of seeds, framed for the worth each learner values

Somatic infancy and toddlerhood	Carry the jar to Grandma, shake it, hear it rattle, and watch her face light up.
Mythic roughly 3 to 7	You’re the Seed Keeper. The jar is your charge.
Romantic roughly 8 to 14	Catalog the seeds exactly; a real seed exchange two states away is waiting for them.
Philosophic mid-teens into the twenties	Found a neighborhood seed library, so more tables get home-grown food.
Ironie adulthood	Decide for yourself whether saving seeds matters, and why, and hold the answer lightly.

Figure 7.1 · one jar, five framings

The output stays the same; the use is framed in the form each kind of understanding values. Engagement tells you which framing landed.

✿ Worth in Inquiry and in Practice

Worth in Inquiry

Inquiry has worth when someone needs the answer. The learner's question grows past curiosity into a finding someone will act on.

An eleven-year-old wonders which of three routes to school is fastest. She times each one over two weeks, with a stopwatch and a notebook on the dashboard. The data surprise her: the fastest route depends on the day. On Tuesdays, a street market jams the shortcut. She reports her finding at dinner, with a small chart, and the family changes how they drive on Tuesdays.

Her inquiry changed something real. It's also, as it happens, a fine piece of data analysis for an eleven-year-old.

Worth in Practice

Practice has worth when the skill is put to real use while it's still being learned. Waiting until the skill is mastered postpones the worth, sometimes indefinitely.

A twelve-year-old learning to sew practices hemming on her younger brother's trousers, which are too long. The first hem is uneven, and she unpicks it and does it again. The second is better. By the third pair, her brother is wearing her work to school. She didn't have to become a tailor before her work could matter.

✿ Value Work, Busywork, and Make-Work

Most tasks, the ones you assign and the ones assigned to you, fall into one of three kinds.

KIND	WHAT IT DOES	EXAMPLE
Value work	Produces something that matters and gets used	The letter the council reads; the hem her brother wears
Busywork	Fills time; its output isn't meant to be used	The rainfall worksheet

KIND	WHAT IT DOES	EXAMPLE
Make-work	Pretends to matter	The letter to the invented mayor, dressed up as civic action

Make-work is the most corrosive of the three, because it lies. If you've ever spent three weeks on a quarterly report and then discovered nobody opened the attachment, you know the feeling. Children have the same radar, and it's very good. They usually see through make-work, and what they learn from it is cynicism.

Failure Modes of Worth

A fair objection: a math teacher with 150 students can't find a real customer for every worksheet. True, and trying to force worth onto everything brings its own failures.

Pressure. Work that matters can weigh on a child. An eight-year-old who over-salts the soup while helping with dinner has had a gentle lesson. An eight-year-old put in charge of paying the family's electric bill has real worth and paralyzing stakes. The stakes have to fit the learner, as challenge does.

Labor instead of learning. Contribution becomes exploitation when a child's work serves adults' needs at the expense of the child's growth. A student who becomes good at designing graphics for the school's social media, and keeps getting asked to do that in place of learning anything new, has become unpaid staff.

Usefulness crowding out play. Not everything a child does needs a use. More on that in a moment.

Fake worth. An invented audience or a pretend customer is make-work dressed up as real. The invented mayor belongs here.

Worth and Fidelity

Worth and fidelity are separate drivers, but they often travel together. When someone relies on a piece of work, that reliance tests whether it works.⁴ The neighbor who skips watering on the strength of the rainfall report will notice, soon enough, if the gauge was wrong.

☛ When Low Worth Is Fine

All this attention to use can start to sound exhausting. Does every hour have to justify itself?

Picture a child spending an afternoon building a sandcastle at the tide line. The world answers back constantly: walls slump, the moat floods, a tower collapses and gets rebuilt. By evening the tide takes all of it. Nobody uses the sandcastle. Nobody needs to. It's play, and it's valuable as play.

Worth is one driver among four, and no verdict on every activity. A day with no worth in it is a warning sign. An afternoon with no worth in it may be exactly right. Children need room to build things that wash away, as much as they need chances to build things that last.

So look at the tasks on your plate this week, or on your child's. For each one, ask a simple question: who is waiting for the result?

☛ Open Questions

- How much worth can a young child carry before the stakes become pressure?
- Does rewarding contribution undermine the drive to contribute, as the toddler research suggests, and at what ages?
- What makes a use feel real to a learner? Can a well-designed simulation of use, a virtual world or an AI-driven game, ever carry the same weight?
- Can schools restore the drive to pitch in that the Guadalajara research found weakened in highly schooled families?

☛ Notes

1. See Chapter 4.
2. See Chapter 9, "The Road Runs Both Ways"; Chapter 11, "Rewards."
3. See Chapter 14.
4. See Chapter 6.

Sources

SOURCE	USE
Felix Warneken and Michael Tomasello, <i>Science</i> 311 (2006)	Spontaneous helping at 18 months
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Chris Hulleman and Judith Harackiewicz, <i>Science</i> 326 (2009)	Utility-value intervention in high school science
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