

# Thorndike's Laws, Translated for Monday

A century old, and the bones of modern practice design. Three laws, each carried today by stronger evidence than Thorndike had.

**EFFECT**

## Law of effect

Connections followed by success strengthen. Design practice so correct responses happen often and get confirmed fast.

**In class:** Practice sets pitched for roughly four right in five, with answers checked at the desk, not next week.

**EXERCISE**

## Law of exercise, amended

Thorndike himself revised it: repetition alone does little. Practice strengthens when each attempt meets feedback.

**In class:** Ten questions marked at the end beats thirty questions never marked. Volume without information is noise.

**READY**

## Law of readiness

Practice lands when the prerequisite connections exist. Check the sub-skill before drilling the skill.

**In class:** Long division practice is wasted on a learner whose times tables are not yet automatic. Fix the prerequisite first.

**RETRIEVE**

## The modern engine

Retrieval is the strongest form of exercise: the act of recalling strengthens more than re-reading ever does.

**In class:** Close the books. The practice IS the remembering, not the re-exposure.

# Designing Practice Sets

Four decisions that separate practice that sticks from practice that fills time.

## Pitch for success

High success rates keep the law of effect on your side; failure-heavy drill teaches avoidance.

**Say:** "Aim near 80% correct. Below that, re-teach; above 95%, raise the demand."

## Make it retrieval

Answers come from memory, not from the worked example sitting open.

**Say:** "Examples closed. If they cannot start, show it briefly, close it again."

## Space the sets

Three short practices across a week beat one long block. Forgetting between sets is the feature.

**Say:** "Same skill: Tuesday, Thursday, and in next Monday's starter."

## Feedback in the loop

Each attempt meets confirmation or correction while the thinking is still warm.

**Say:** "Mark the first three together before anyone does the next seven."

# A Practice Routine That Earns Its Time

Fifteen minutes, any subject. The structure does the strengthening.

## 1. Readiness check

Two questions on the prerequisite skill. Anyone failing these does a different set today.

**In class:** Before fractions-of-amounts: two quick times-table questions on whiteboards.

## 2. Retrieval block

Six to ten questions from memory, mixed recent and older, books closed.

**In class:** Four from this week, three from last month, one old chestnut.

## 3. Instant information

Answers checked immediately; errors named by type, not just marked wrong.

**In class:** Most wrong answers forgot the units. That is one habit to fix, not ten mistakes.

## 4. One more go

The questions missed return at the end of the set and again next session.

**In class:** Question four beat you; here is its twin. Same skill, new numbers.

# Auditing Your Practice Diet

Check a typical week. Practice is where curriculum becomes memory; it deserves design, not leftovers.

## The set itself

- Success rate sits near 80%: hard enough to matter, kind enough to motivate.
- Questions demand retrieval: notes and examples are closed.
- Old material appears in every set, not just this week's topic.
- Question types are mixed once accuracy is established.

## The loop around it

- Feedback arrives the same lesson, while errors are fresh.
- Errors are sorted by cause: knowledge gap, method slip, or misread question.
- Missed items reappear within a week, in twin form.
- Prerequisites get checked before new skills get drilled.

# Thorndike Today: A 5-Minute Evidence Briefing

What survives from 1911, what was revised, and what modern evidence adds.

## ■ The law of effect aged well

Success-plus-confirmation strengthening behaviour anticipated reinforcement theory and remains the working logic of practice design: frequent success, fast feedback.

## ■ Thorndike revised exercise himself

By 1932 he had demoted sheer repetition: practice without feedback barely strengthens. Modern feedback research ( $d = 0.48$ , information-dependent) confirms the amendment.

## ■ Retrieval is the strongest exercise

Recalling from memory beats re-exposure across classroom studies and meta-analyses. The testing effect is the law of exercise with a mechanism.

## ■ The honest caveat

Thorndike worked with cats in puzzle boxes and transferred boldly; connectionism says little about understanding, transfer or motivation. Use his laws for practice design, not as a theory of all learning.

### Evidence base

Agarwal, P.K., Nunes, L.D. and Blunt, J.R. (2019). Retrieval practice consistently benefits student learning: a systematic review of applied research. *Educational Psychology Review*.

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