

# The DNA of Learning One- Pager Series

Discover four evidence-based frameworks — Direct Instruction, Independent Practice, Feedback, and Assessment — all in one place, and learn how to align them with your digital strategy.

**showbie**



# Direct Instruction

“Direct Instruction has one of the strongest effect sizes on student learning.”

John Hattie (2009)



## Clear, consistent, and accessible teaching

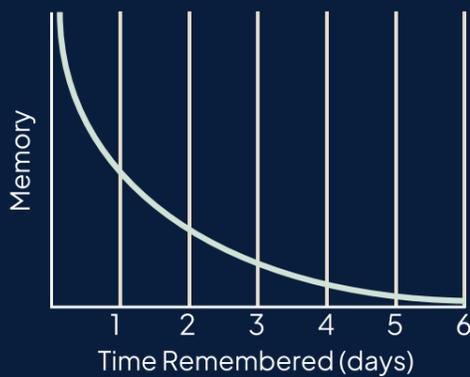
Direct instruction supports learning by providing students with clear, explicit explanations. Without reinforcement, much of this knowledge fades rapidly. As Ebbinghaus's (1885) Forgetting Curve shows, up to 90% of new learning can be lost within a week if it isn't revisited. By combining rehearsal, multimodal resources, and clear teacher explanations, instruction becomes more memorable, equitable, and effective.

Direct instruction should give every learner clarity and confidence. When students can revisit explanations in multiple formats – such as voice, video, and annotation – they are more likely to retain and understand new concepts. For families, access to the same explanations helps them play an active role in supporting progress.

## Evidence & Principles

### The Forgetting Curve

Humans lose knowledge quickly if it isn't revisited. Repeated exposure and review are essential for long-term retention. (Ebbinghaus, 1964)



### Rehearsal & Memorisation

Revisiting and practicing key ideas strengthens retention and long-term learning. Repetition, when built into instruction, improves fluency and confidence. (Hattie, 2009)

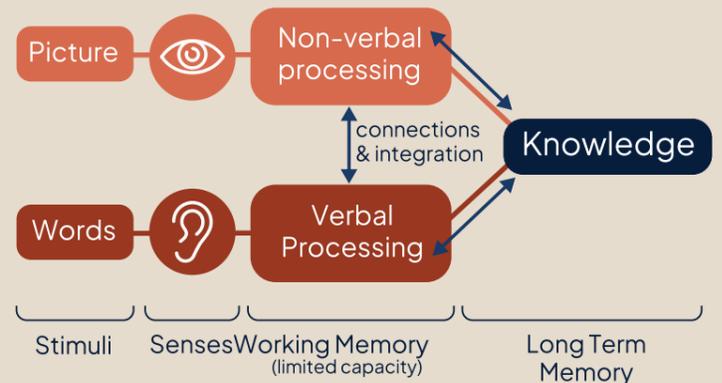
### EEF Evidence – Rob Coe

High-quality teacher explanations are crucial. *Clear modelling, scaffolding, and guided practice* help students develop deep understanding and independence. (EEF, Coe 2015)

### Dual-Coding Theory

When information is presented in both verbal and visual forms, learning is more effective. Combining teacher explanation with diagrams, annotations, or video enhances comprehension and recall. (Paivio, 1991)

### Allan Paivio's Dual-Coding Theory



## Digital Strategies

### Consistent, Accessible Instruction

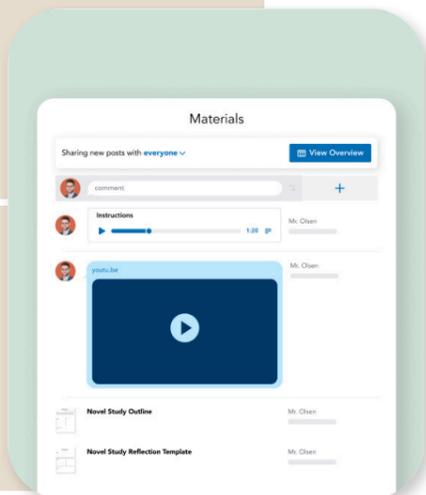
Students hear explanations from their own teacher in a familiar voice and tone. Instruction can then be revisited anytime, anywhere, helping to reduce learning loss.

### Time-Saving & Efficient

Teachers record direct explanations once and reuse them across lessons, classes, or for homework support, freeing class time for personalised support and higher-order learning.

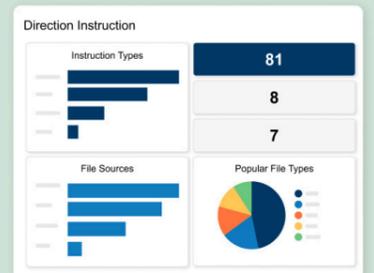
### Equity & Inclusion

All students, regardless of pace, background, or ability, access the same clear instruction. Parents can also revisit explanations to better support learning at home.



### Showbie makes direct instruction scalable and sustainable

- Record and share audio/video explanations directly in assignments.
- Use annotations and multimodal tools to combine teacher voice, text, and visuals.
- Create a lasting library of teacher-led resources to reinforce key learning.



1. Clarity – Personalised instruction that is always accessible.
2. Efficiency – Save time by reusing recorded explanations.
3. Equity – Ensure all learners and families can access consistent teaching.

# Independent Practice



## Empowering every student through choice, accessibility, and meaningful engagement

Independent practice empowers students to take ownership of their learning through structured opportunities to apply, rehearse, and extend new knowledge. With the right scaffolding, tools, and teacher clarity, practice becomes not just repetition — but transformation. One-size-fits-all doesn't fit anyone. Rows of identical desks or uniform outputs risk stifling creativity and widening equity gaps, leaving learners with different needs, interests, and abilities behind.



“ We spend the first four years teaching children to walk and talk, and the next fourteen telling them to sit still and be quiet.”

Ingvi Omarsson

Independent practice should unlock student voice and choice. When students can approach practice in different formats, at their own pace, and through modalities that work for them, they become more deeply engaged and more likely to retain their learning.

## Evidence & Principles

### Student Voice & Choice

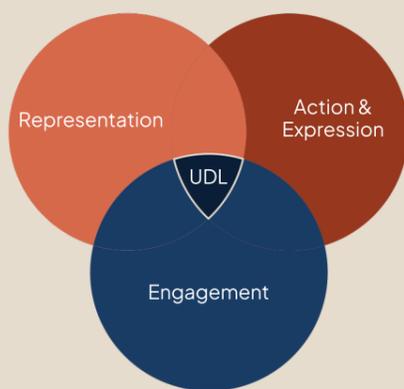
When learners have agency in how they demonstrate understanding, motivation and engagement rise. Independent practice should balance structure with freedom. (Ómarsson, 2017)

### Encoding & Retrieval Diversity

Learning strengthens when information is encoded and retrieved in different ways — writing, speaking, drawing, or applying in new contexts. (Kirschner, 2023)

### Universal Design for Learning (UDL)

Designing learning environments “for everyone” ensures equity and accessibility. Multiple means of representation, engagement, and expression benefit *all* students. (Rose & Meyer, 2002; OECD, 2023)



### Teacher Clarity & Scaffolding

Clear modelling and guided practice support successful independent practice. Explicit routines, expectations, and feedback help students thrive. (EEF, 2018; Rosenshine, 2012; Doug Lemov, 2021; Tom Sherrington, 2020)



- Setting Goals
- Questioning
- Collaborative Learning
- Explicit Teaching
- Differentiated Teaching
- Worked Examples
- Multiple Exposures
- Structuring Lessons
- Feedback

## Digital Strategies

### Structured Freedom

Provide clear goals and success criteria while allowing flexibility in how students demonstrate their understanding, encouraging creativity through multimodal practice — text, voice, video, or visual annotations.

### Rehearsal & Application

Practice should be deliberate, not just repetitive. Short, frequent rehearsal of key ideas strengthens automaticity and builds confidence.

### Equity & Inclusion

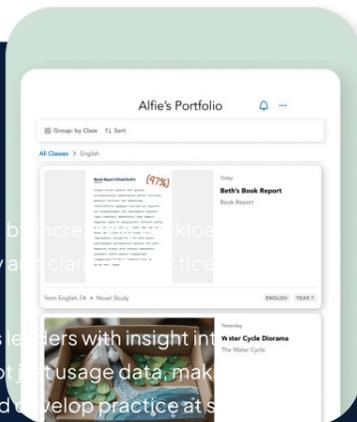
Digital tools enable students of all abilities to engage meaningfully. By applying UDL principles, practice opportunities become accessible and responsive to diverse needs.



### How Showbie Makes Independent Practice Visible and Sustainable

- Students can record, annotate, and submit work in multiple formats, giving choice in how learning is demonstrated.
- Teachers provide scaffolds and exemplars through reusable templates, voice notes, or annotated models.
- Parents can view and support practice, strengthening the home-school connection.
- Work is automatically collected into portfolios, making growth visible over time.

- Outcomes improve not only by increasing the quality and clarity of student work, but by improving the quality and clarity of teacher practice.
- At the organisational level, Showbie provides teachers with insight into pedagogical impact, not just usage data, making it possible to measure and develop practice at scale.



1. Voice & Choice – Students engage in practice that reflects their strengths.
2. Efficiency – Save time by reusing recorded explanations.
3. Equity – Ensure all learners and families can access consistent teaching.

# Feedback



Timely, human,  
and purposeful —  
feedback that moves  
learning forward

Feedback is one of the most powerful influences on learning, but in too many classrooms it arrives too late, fades too quickly, or leaves students uncertain about what to do next. Verbal feedback is often given 1:1 in class, but unless it is captured and revisited, most of it is forgotten within days. Written comments, meanwhile, can be slow to arrive, hard to interpret, or ignored altogether.

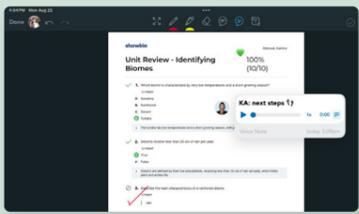
“Feedback is information that helps learners close the gap between their current performance and the desired goal.”



Sadler (1989)

Feedback should not be a bottleneck or an afterthought. When it is timely, actionable, and human, it strengthens relationships, builds confidence, and accelerates learning.

## Evidence & Principles



### Feedback Improves Learning

High-quality feedback is one of the strongest drivers of progress. Written feedback can add four months of learning, while verbal feedback adds up to seven months (EEF, 2021).

### John Hattie on Impact

John Hattie (2009) identifies feedback as one of the most powerful influences on achievement, but only when it is timely, specific, and actionable.

### Closing the Gap

According to Sadler (1989), effective feedback provides information that helps learners close the gap between their current performance and the desired goal.

### Retention Matters

Verbal comments given only once in class often fade from memory within days (Ebbinghaus, 1885). Recording and revisiting feedback, combined with retrieval practice, ensures students strengthen memory and can act on it when it matters most.

## Digital Strategies

### Fast & Personal

Teachers can give detailed, human feedback quickly through voice notes, text, or annotations. Tone and clarity are preserved, ensuring guidance is understood.

### Dialogic, Not One-Way

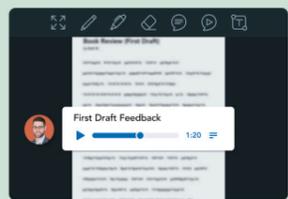
Students respond to comments, creating a feedback loop. Teachers gain insight into student thinking, while students take ownership of next steps.

### Equity & Relationships

Feedback is consistent and accessible to all learners, building trust and stronger teacher-student connections. Parent access strengthens the support triangle around each child.

### Task-Focused, Not Personal

Feedback is directed at the task, subject, or self-regulation strategies — never the individual. This makes it constructive, motivating, and aligned with EEF guidance.



## How Showbie Makes Feedback Scalable and Sustainable

- Capture voice feedback so it's clear, personal, and replayable.
- Provide live, personal feedback in class while recording it at the same time, so pupils can revisit and act on it at home.
- Annotate directly on student work to highlight strengths and next steps.
- Enable two-way communication, creating continuous dialogue.
- Loop in parents to increase visibility and support at home.
- Save time: verbal and visual feedback is faster than traditional marking.
- Transcripts, translation, and AI tools enhance accessibility, ensuring every learner, regardless of language or ability, can benefit fully from teacher feedback.

1. Clarity – Feedback is actionable and transparent.

2. Efficiency – Teachers save time without reducing quality.

3. Equity – Every learner receives timely, personal guidance.

### Feedback Assistant

#### Suggestions for improvements:

1. Personalize Praise: [Progress bar]
2. Encourage Further Development: [Progress bar]
3. Acknowledge Effort: [Progress bar]

Fantastic work on your essay about [student's favourite activity]! Your [specific aspect, e.g., creative description/imagination] really made your essay stand out. Next time, you could enhance your essay by [suggestion for improvement, e.g., adding more details/using a new word]. Keep up the great effort in [specific area, e.g., handwriting/spelling]!

Insert Rephrase

# Assessment



“Assessment should inform instruction minute by minute.”



William (1989)

## From guesswork to great insight, real-time assessment that drives progress

Assessment is often treated as an endpoint, with teachers reviewing results days or weeks later. By then, the opportunity to intervene has passed. Teachers describe this as “teaching in the dark”: relying on intuition, marking long after the moment of learning, and missing chances to adapt instruction.

Integrated assessment changes this dynamic by embedding quick, formative checks directly into teaching. With real-time insight, teachers can adjust instruction on the spot, ensure misconceptions are caught early, and engage every learner in the process. This creates a foundation for data-driven pedagogy, where teaching decisions are guided by evidence and every action is informed by a clear understanding of student needs.

## Evidence & Principles

### Teaching in the Dark

Without real-time insight, teachers rely on intuition or delayed marking. Feedback that arrives days later is too late to adapt instruction, leaving misconceptions unaddressed. (William, 2007)

### Timeliness Matters

Assessment has the greatest impact when it is immediate. If feedback and data are not acted on before the next lesson, the opportunity for intervention is lost. (Leahy, Lyon, Thompson & William, 2005)

### All Voices, Not Just Some

Traditional questioning methods captures only a handful of responses, leading to disengagement and guesswork. Effective assessment must reveal every learner's understanding to provide a full picture and raise the participation ratio, ensuring every student is actively involved, not just the confident few. (EEF, 2018)

### Minute-by-Minute Assessment

Assessment is most powerful when it is embedded in the flow of teaching, informing decisions as they happen. Quick questions, hinge-point checks, and live data help teachers adapt immediately. (William, 2007)

## Digital Strategies

### Real-Time Responsiveness

Quick questions and instant results ensure teachers can respond in the moment, not days later.

### All Voices Count

Technology ensures every student's response is captured, reducing disengagement and guesswork.

### Hinge-Point Questions

Well-designed questions provide evidence of class understanding and guide the direction of the lesson.

### Data for Action

Dashboards and reporting tools reveal trends at individual, class, and school levels, supporting targeted intervention and accountability. Assessment data drives targeted intervention, strengthens accountability, and supports continuous improvement.

## How Showbie Transforms Assessment

- Create, schedule, and launch assessments in one place
- Run multiple assessments simultaneously across groups or classes
- Review live dashboards for immediate insights into misconceptions and progress
- Deliver personalised feedback directly within reports
- Collect evidence into portfolios to track growth over time.
- Identify misconceptions as they happen
- Anonymise answers and showcase them on screen, ensuring all pupils can participate without fear
- Tailor quizzes to different abilities and languages

NAME	SCORE %	1	2	3	4	5	6	7	8
Abdoul, Karima	95%	✓ True	✓ True	✗ False	✓ True	✓ True	✓ True	✓ True	✗ Missed
Anney, Susan	85%	✓ True	✗ False	✗ False	✓ True	✓ True	✓ True	✓ True	✗ Substituted
Chen, Sophia	100%	✓ True	✓ True	✓ True	✓ Falling off				
Cloopen, Bianca	88%	✓ True	✗ False	✓ True	✓ True	✓ True	✓ True	✓ True	✓ No response
Greening, Elliot	88%	✓ True	✓ True	✓ True	✓ True	✗ False	✓ True	✓ True	✓ No response
Lantern, Ella	50%	✗ False	✗ False	✗ False	✓ True	✓ True	✓ True	✗ True	✗ They forgot
McLellan, Emily	88%	✓ True	✓ True	✓ True	✗ False	✓ True	✓ True	✓ True	✓ They forgot
7 Class Total		86%	57%	71%	86%	100%	86%	100%	86%

1. Clarity – Teachers always know where students are in their learning.
2. Timeliness – Insights arrive when they matter most, in the moment.
3. Equity – Every learner's voice and progress is visible.

