Transforming Apprenticeships

Removing the Hidden Barriers in Off The Job Training

Context

The current landscape of apprenticeships

Despite significant investment and numerous reforms, UK apprenticeships continue to face persistent challenges in delivering genuine workplace capability.

Off-the-job (OTJ) training often prioritises knowledge transfer over capability development, separates theory from practice, and fails to address the hidden curriculum of professional practice.

To be effective, apprenticeships must deliver functioning knowledge, make the tacit expectations of the workplace explicit, and produce adaptable employees.

This white paper examines the fundamental weaknesses in traditional apprenticeship design, and offers a blueprint for creating learning experiences that effectively prepare participants for workplace success.

Challenges with off-the-job training

Apprentices face significant structural challenges that fundamentally impact their professional development.

Many apprentices are frequently shielded from decision-making opportunities due to their junior status. This prevents them from experiencing the consequences of meaningful choices, and denies them opportunities to develop skills in adaptability and using their judgment.

Without practical experience making decisions with real implications, apprentices struggle to develop the very capabilities employers most value - the ability to adapt to unfamiliar situations and make informed, ethical choices under pressure.

Research also shows apprentices receive inconsistent mentoring in the workplace, with quality depending on individual supervisors rather than structured learning.

Employers want ways to train and retain talented staff, across all levels of their organisation, enabling them to grow and progress in a way which is beneficial to the individual and the organisation. UVAC, 2024

The quality of off-the-job training

Effective collaboration between employers and training providers positively impacts the quality of apprentices' learning.

Where employers and providers work together to plan curriculum content, coordinate on-the-job and off-the-job training, and jointly review apprentice progress, apprentices develop more coherent understanding and stronger workplace capabilities.

Staff expertise also significantly affects quality, with the most effective providers investing in developing their staff as 'dual professionals' with both teaching expertise and current industry knowledge.

Curriculum recommendations

Research into the apprenticeship challenge has produced several recommendations for curriculum enhancement:

1. **Improve alignment**
   Ensure off-the-job training aligns with the realities of the workplace

2. **Integrate knowledge systematically**
   Create training that effectively integrates knowledge, skills and behaviours

3. **Integrate theory and practice**
   Use teaching strategies that focus on implementing and applying theoretical knowledge in workplace situations

4. **Invest in staff development**
   Provide training for staff to help them deliver appropriate learning experiences

Ding's 6-stage methodology

The Ding Learning methodology transforms apprenticeship design by simulating the realities of the workplace rather than focusing on knowledge transfer. It addresses fundamental weaknesses in traditional approaches through six interconnected stages that progressively build practical expertise.

Our approach tackles the hidden curriculum in apprenticeship standards to create learning experiences that genuinely prepare apprentices for workplace success.

Stage 1: Define workplace capabilities

We begin by using our Knowledge Spectrum to identify the functioning knowledge, skills and behaviours required for workplace readiness.

Stage 2: Reveal the hidden curriculum

We create interventions that deliberately reveal and address unwritten workplace expectations and conventions in specific professional disciplines.

Stage 3: Use a 'doing first' approach

We design practical training activities that move apprentices through cycles of experiential learning.

## Stage 4: Design a spiral curriculum

We produce a curriculum structure that revisits key concepts at increasing levels of complexity, and makes explicit connections between earlier and later learning.

Stage 5: Implement scenarios

We create immersive environments that simulate the realities of the professional workplace, and use deliberate imperfections to develop judgment and problem-solving.

Stage 6: Align assessment with reality

We design assessments that reflect real workplace tasks, focusing on application and judgement as well as technical execution.
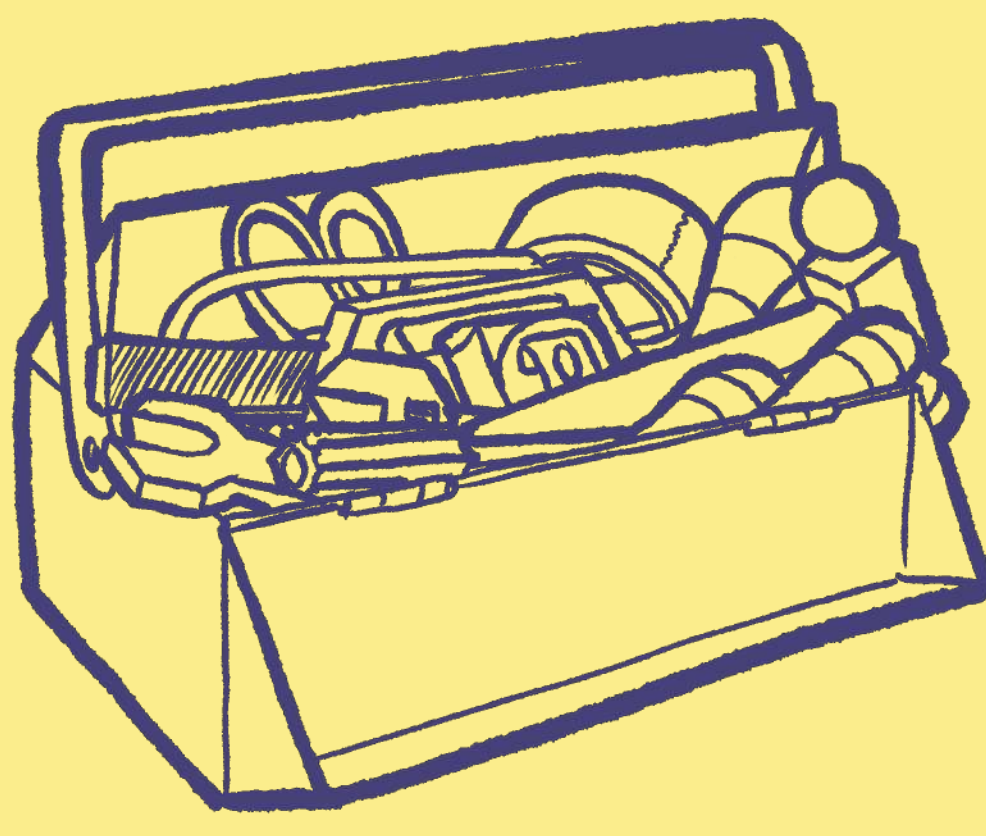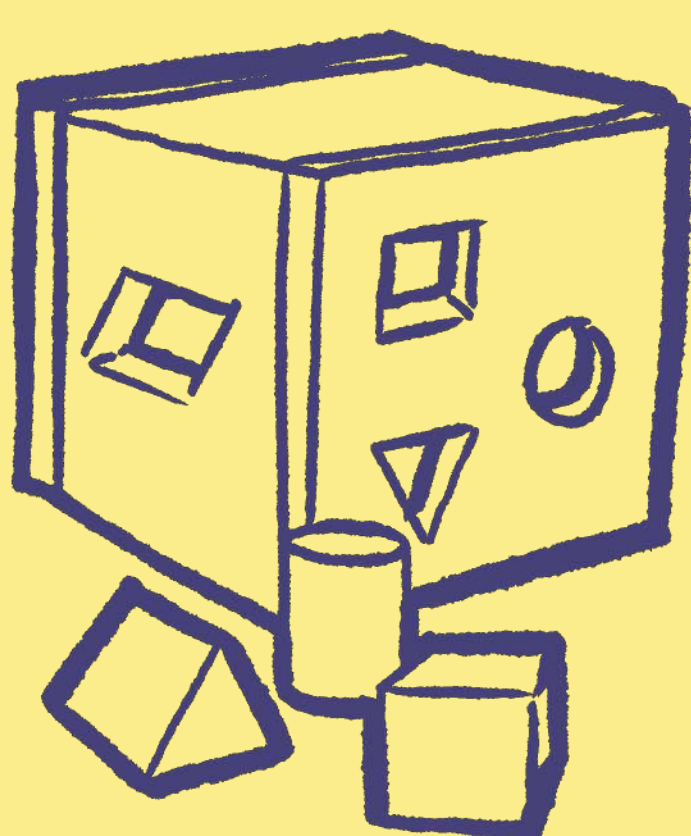
Stage 1: Define workplace capabilities

The first stage involves recognising that knowledge exists along a spectrum from information we can talk about (declarative knowledge) to capabilities we can demonstrate in variable contexts (functioning knowledge).
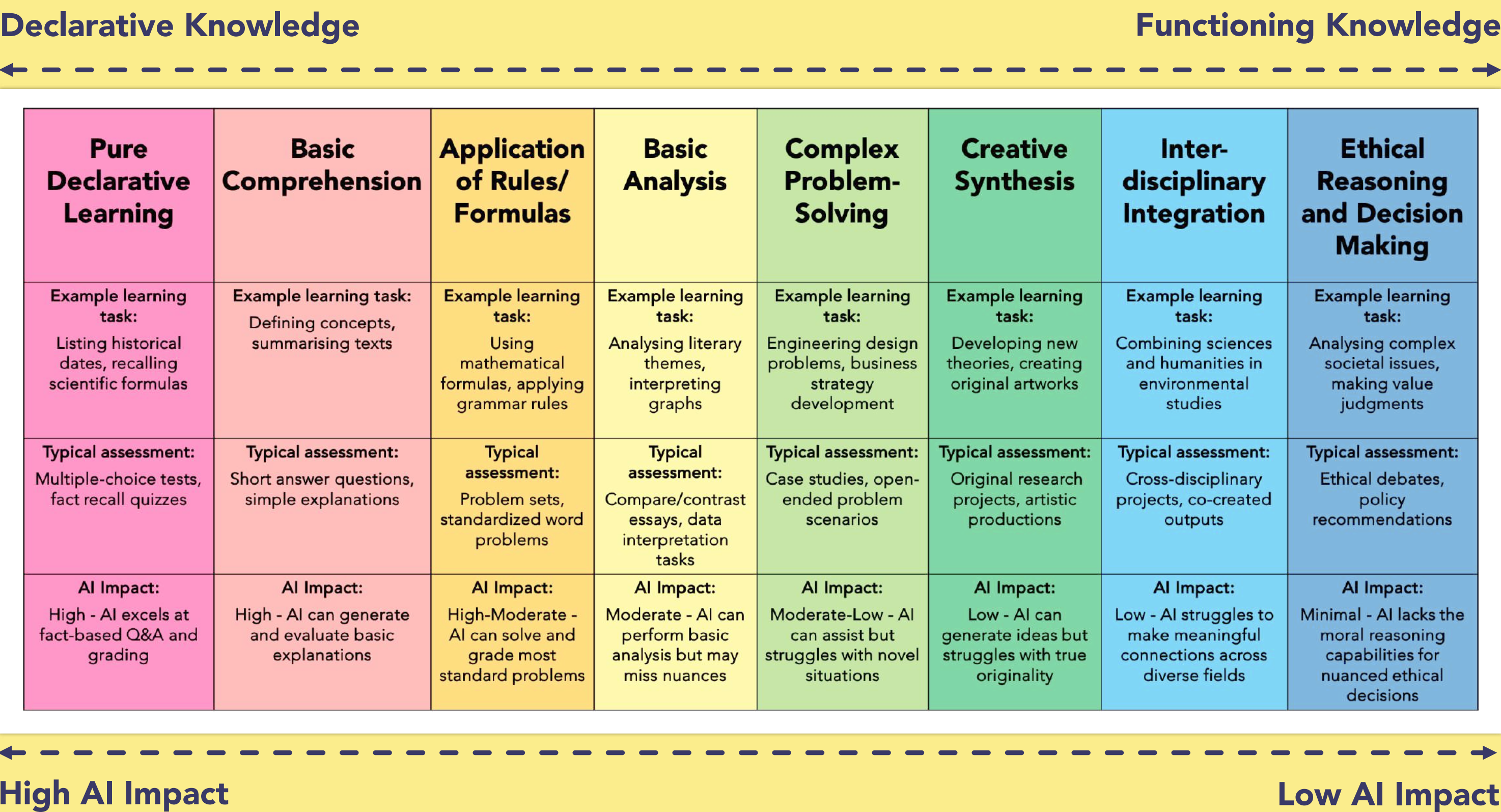
Declarative knowledge

Declarative knowledge represents information we can state and explain—facts, theories, and principles about a specific discipline. While essential as a foundation, declarative knowledge alone doesn't prepare apprentices for workplace success.

Traditional apprenticeship training often over-emphasises declarative knowledge through classroom instruction and examinations that test recall rather than application. This leaves apprentices with substantial theoretical understanding but limited practical capability.

Functioning knowledge

Functioning knowledge represents capabilities we can demonstrate in variable contexts—the ability to apply understanding appropriately to solve real workplace problems.

Effective apprenticeships must systematically develop functioning knowledge by creating opportunities to practice skills in authentic situations, make judgments with incomplete information, and receive feedback on performance. This produces employees who are genuinely work-ready rather than merely well-informed.

Declarative Knowledge ← - → **Functioning Knowledge**

Pure Declarative Learning	Basic Comprehension	Application of Rules/ Formulas	Basic Analysis	Complex Problem-Solving	Creative Synthesis	Inter-disciplinary Integration	Ethical Reasoning and Decision Making
Example learning task: Listing historical dates, recalling scientific formulas	**Example learning task:** Defining concepts, summarising texts	**Example learning task:** Using mathematical formulas, applying grammar rules	**Example learning task:** Analysing literary themes, interpreting graphs	**Example learning task:** Engineering design problems, business strategy development	**Example learning task:** Developing new theories, creating original artworks	**Example learning task:** Combining sciences and humanities in environmental studies	**Example learning task:** Analysing complex societal issues, making value judgments
Typical assessment: Multiple-choice tests, fact recall quizzes	**Typical assessment:** Short answer questions, simple explanations	**Typical assessment:** Problem sets, standardized word problems	**Typical assessment:** Compare/contrast essays, data interpretation tasks	**Typical assessment:** Case studies, open-ended problem scenarios	**Typical assessment:** Original research projects, artistic productions	**Typical assessment:** Cross-disciplinary projects, co-created outputs	**Typical assessment:** Ethical debates, policy recommendations
AI Impact: High - AI excels at fact-based Q&A and grading	**AI Impact:** High - AI can generate and evaluate basic explanations	**AI Impact:** High-Moderate - AI can solve and grade most standard problems	**AI Impact:** Moderate - AI can perform basic analysis but may miss nuances	**AI Impact:** Moderate-Low - AI can assist but struggles with novel situations	**AI Impact:** Low - AI can generate ideas but struggles with true originality	**AI Impact:** Low - AI struggles to make meaningful connections across diverse fields	**AI Impact:** Minimal - AI lacks the moral reasoning capabilities for nuanced ethical decisions

High AI Impact ← - → **Low AI Impact**

Stage 2: Reveal the hidden curriculum

Apprenticeship standards often contain a hidden curriculum of professional behaviours that remain implicit yet integral to workplace success. These tacit expectations shape professional practice but are rarely addressed explicitly in formal training components.

The illusion of the discipline

Like Rubin's Vase, where the same image can be perceived as either a vase or two facing profiles, disciplinary knowledge (the vase) only becomes useful when integrated with hidden professional skills (the faces). Focusing solely on technical content creates an incomplete picture and reduces the effectiveness of off-the-job training.

These skills—adapting to change, navigating ambiguity, self-organisation, critical thinking, and tailoring communication to different stakeholders—create the context that makes technical knowledge valuable. Neither element exists independently; the faces define the vase just as professional behaviours enable technical expertise.

Using scenarios to develop skills

Scenario-based learning provides an effective approach to developing these hidden skills by simulating authentic workplace situations. Through immersive scenarios, apprentices encounter the messy realities of professional practice—incomplete information, competing priorities, and stakeholder dynamics.

These experiences develop the tacit capabilities that off-the-job training often misses, creating a safe space to practice professional behaviours before facing them in actual workplaces. Well-designed scenarios require apprentices to navigate relationships, manage expectations, and make decisions with limited information—precisely the conditions they'll face in real work environments.

Subject-specific curriculum
'The vase'

The hidden curriculum
'The two faces'
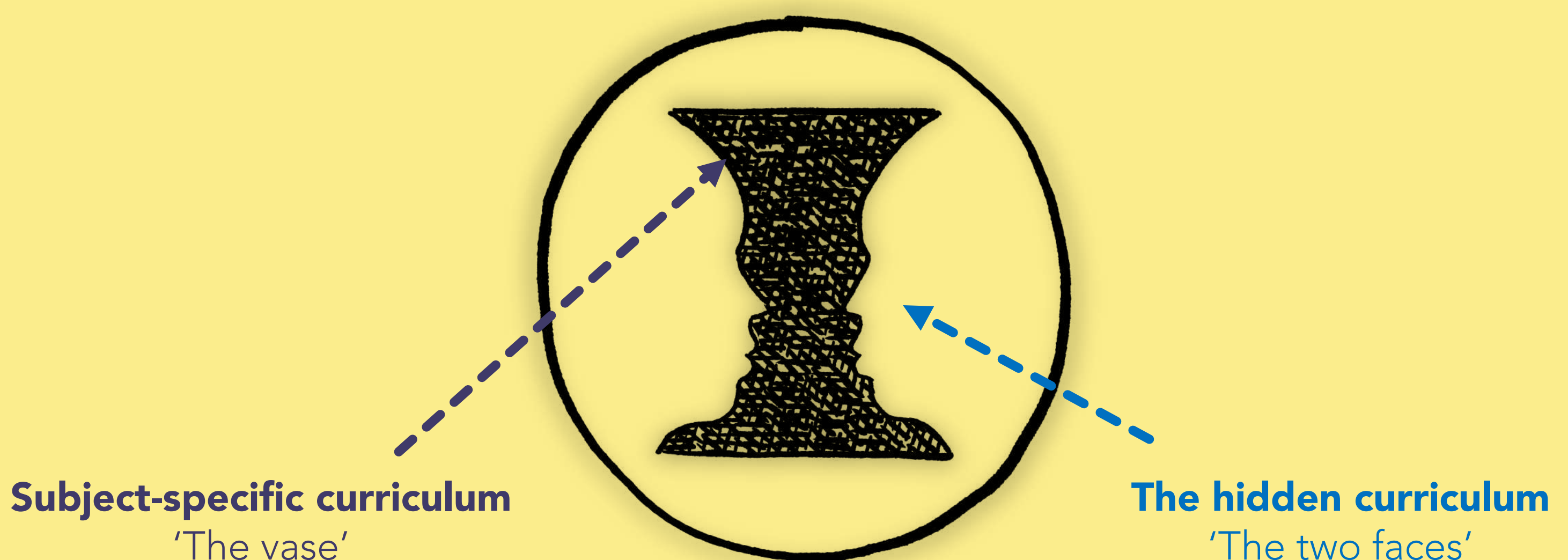
Stage 3: Use a 'doing first' approach

Apprenticeships thrive on experiential learning, where real workplace challenges create natural demand for knowledge.

Prioritising authentic experiences over abstract instruction helps apprentices develop deeper understanding through active engagement with practical problems.

Doing first: leading with experience

A 'doing first' approach engages learners more effectively by immersing them in problem-solving before formal instruction. This aligns with Kolb's experiential learning cycle, where concrete experience leads to reflective observation, followed by abstract conceptualisation, and finally active experimentation.

Rather than passively receiving information, apprentices begin with authentic challenges. These enable them to reflect on their attempts, connect their experiences to theoretical concepts during instruction, and then apply their new understanding to increasingly complex situations.

This cyclical process creates meaningful context for learning and develops adaptive expertise.

How productive failure improves learning

Research on "productive failure" (Sinha and Kapur, 2021) revealed a 20% learning gain for conceptual knowledge and transfer when learners tackled problems before receiving formal instruction.

This approach works well in apprenticeships because it mirrors real workplace learning - trying something challenging, making mistakes, and then receiving guidance that makes sense because you've experienced the problem first-hand.

Unlike typical classroom training where concepts often feel abstract and disconnected from reality, productive failure creates genuine need for knowledge.

When apprentices grapple with authentic tasks before instruction, they develop a clearer understanding of what they don't know. This makes them more receptive to teaching, and helps them remember the information better because it directly addresses gaps they've personally experienced. This approach helps bridge the common disconnect between off-the-job training and actual workplace requirements.

Stage 4: Create a spiral of development

Our own experiences of designing and delivering effective apprenticeships have revealed four core attributes that learners require to succeed in the workplace. These attributes represent the foundation of workplace readiness and require repeated practice to strengthen and develop. The attributes are:

- **Agility:** The capacity to swiftly adapt, learn, and effectively navigate diverse and complex situations

- **Innovation:** Generating and implementing original ideas to address challenges and create meaningful solutions

- **Holistic Problem-Solving:** Integrating knowledge from multiple disciplines to comprehensively address complex challenges

- **Principled Action:** Making ethical decisions and taking responsible steps in ambiguous or morally complex scenarios

The spiral development cycle

Jerome Bruner's 'spiral' approach to curriculum design learning design provides an ideal model for developing these attributes because:

- Knowledge develops naturally through active engagement

- Confidence builds through supported risk-taking

- Skills emerge through authentic challenge

- Understanding deepens through iteration

When combined with a "doing first" approach, a spiral of development is created. This enables learners to engage with increasingly complex scenarios while using the same core processes of engagement, experimentation, connection, and refinement.

The spiral development cycle
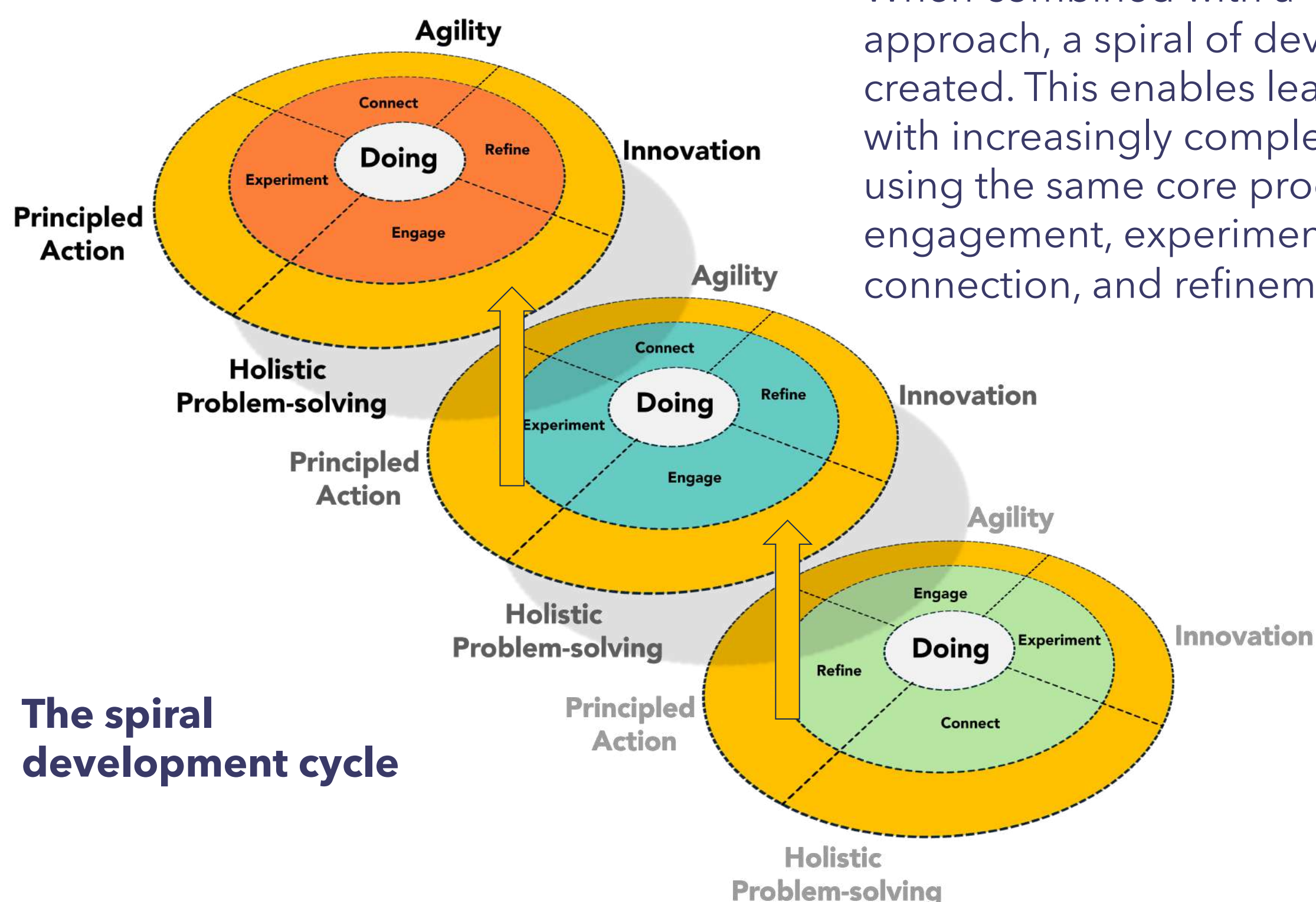
Stage 5: Develop realistic scenarios

The Scenario stage creates learning experiences based on authentic situations that mirror the complexity of real practice. Scenario-based learning creates consequence-free zones where apprentices can make high-stakes decisions typically reserved for experienced professionals.

This protected space allows apprentices to experience the genuine cognitive and emotional challenges of professional judgment without real-world repercussions, accelerating both their development of decision-making capabilities and professional identity.

Case study: IOSphere Data Accelerators

When IOSphere identified that technically skilled data analysts lacked workplace capabilities, they partnered with Ding Learning to develop an immersive scenario-based program.

To model the complexities of the workplace, we created "Prism," a fictional e-commerce company with authentic characters, organisational challenges, and stakeholder dynamics. Learners worked as junior analysts addressing complex business problems that required both technical skills and professional judgment.

The scenario intentionally incorporated ambiguous requirements, competing priorities, and stakeholder management challenges—elements typically absent from technical training but essential for workplace success.

This approach revealed and addressed the hidden curriculum of professional practice that formal training often misses.

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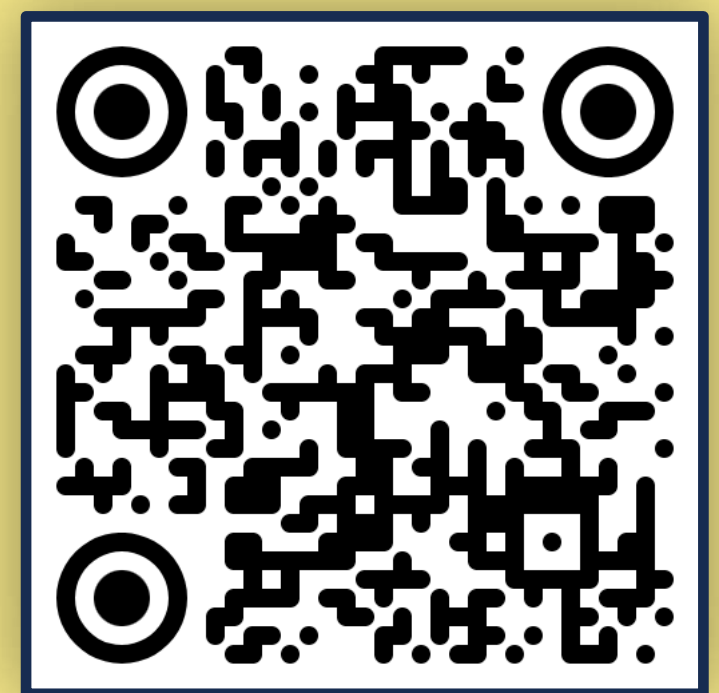
View the full case study

Rapid learning
Converted learners from novices to workplace ready in just 10 weeks

Differentiated offer
Immersive learning made their product stand out in the market

Increased confidence
Client was able to expand offer to different business sectors

Stage 6: Assess functioning knowledge

The final stage involves focusing assessment and feedback on functioning knowledge. Assessment shapes learning, directing apprentices' effort and attention. Aligning assessment with workplace capabilities rather than theoretical knowledge ensures apprentices develop the functioning knowledge employers actually need.

The feedback gap

Off-the-job training often struggles to effectively assess the professional behaviours required to be effective in the workplace. Traditional assessment methods like projects and written assignments can evaluate declarative knowledge but fail to capture essential workplace capabilities such as adaptability, stakeholder management, and professional judgment.

This misalignment creates a significant gap where apprentices receive minimal formative feedback on precisely the professional behaviours that will determine their workplace effectiveness.

Without meaningful assessment of these behaviours, they remain underdeveloped despite their critical importance to employers.

Scenario-based assessment

Constructive alignment demands that learning objectives, activities, and assessment work together coherently to develop functioning knowledge. Scenario-based assessment makes visible the otherwise hidden aspects of professional practice, allowing coaches to observe and provide feedback on behaviours that would be inaccessible in traditional settings.

When apprentices navigate realistic workplace scenarios, their decision-making processes, communication approaches, and problem-solving strategies become observable – and assessable.

This enables targeted feedback that develops functioning knowledge: the ability to appropriately apply skills in variable and unpredictable contexts.

Conclusion

The hidden value in apprenticeships

UK apprenticeships represent a vital pathway for developing workplace talent. However, too many apprentices experience "fragmented training with limited connection to their day-to-day work." (Ofsted, 2021)

Ding's methodology helps providers transform off-the-job training to deliver structured workplace experiences. Our approach produces versatile professionals with the agility, innovation capacity, problem-solving abilities, and ethical reasoning that today's workplaces require.

As AI and automation reshape industries, it is these uniquely human characteristics that will drive productivity and innovation. Reimagining apprenticeships as dynamic pathways that develop adaptable professionals — not just technically skilled workers — will create a powerful engine for economic growth.

Transforming apprenticeships to cultivate these capabilities represents one of the most strategic investments we can make in the UK workforce to improve lives and increase performance.
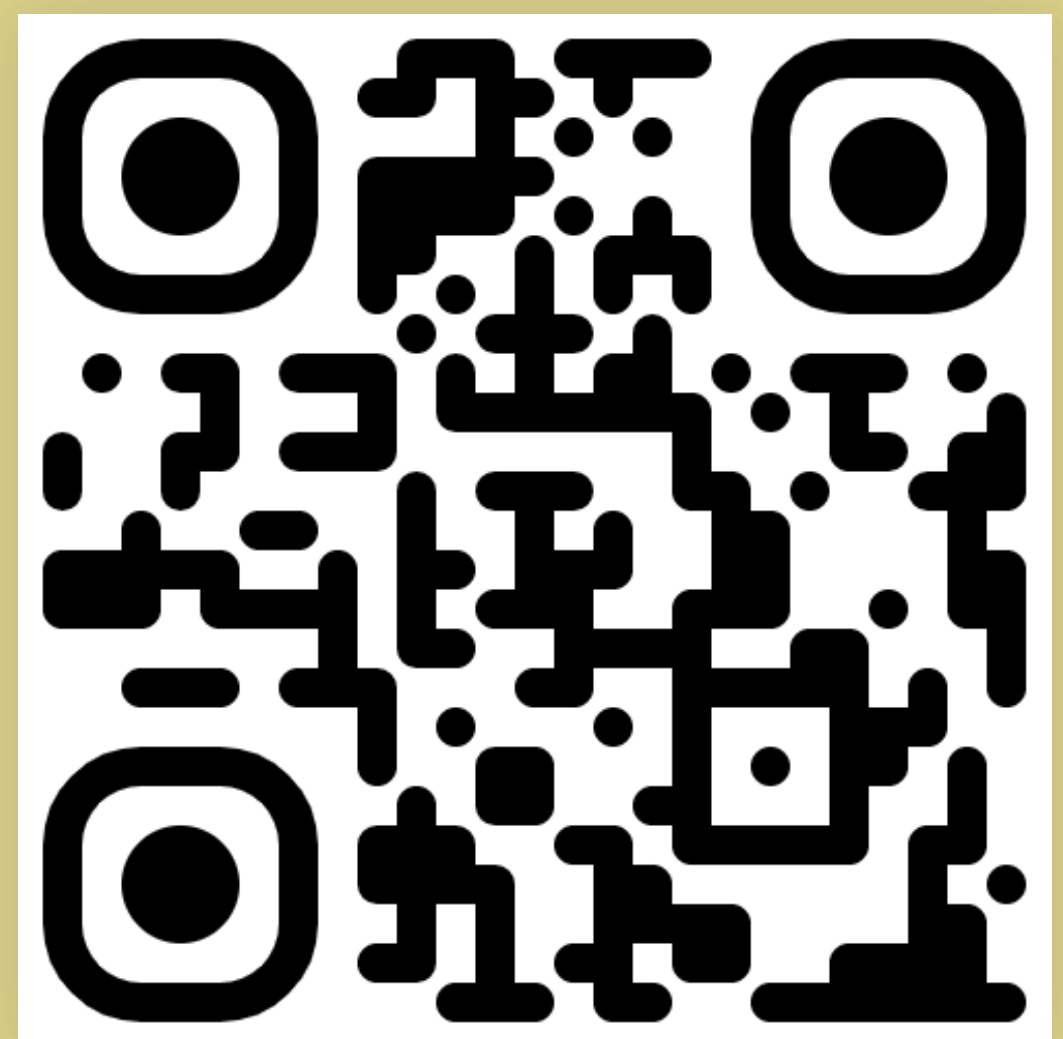
About Ding Learning

Ding Learning partners with organisations to create impactful learning experiences that transform lives.

We specialise in scenario-based learning design that bridges the gap between education and employment by fostering workplace competencies, skills, and behaviours.

Our collaborative approach helps clients develop learning solutions that prepare learners for the complex challenges of today's rapidly evolving workplace.

Visit ding.global to talk with us.

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