

Instructional Design Portfolio




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		Science · Technology · Pedagogy	

About Me

Designing Learning at the Intersection of Science, Technology and Pedagogy

Instructional designer and digital learning specialist with over 20 years of experience designing accessible, learner-centred educational experiences. Combining expertise in Chemistry, Web Design & Content Planning, and Teacher Training, I create digital learning environments that improve accessibility, strengthen curriculum coherence, and support independent learning through evidence-informed instructional design.

 Scientific Expertise	Kingston BSc (Hons) Chemistry University, UK • 2003 <i>Dissertation: Molecular Modelling of Liquid Crystals</i>	Having always been drawn to technology-based solutions my Honours degree was awarded for the use of application software
 Pedagogical Expertise	Qualified Teaching Status Goldsmiths University, UK • 2006 <i>A focus on STEM based projects e.g. Robotics</i>	My passion for technology has stayed within my career periphery including robotics champion and datalogging specialist
 Digital Design Expertise	MA Web Design Greenwich University, UK • 2014 <i>Thesis: Beezyteachers.co.uk</i>	My passion for technology-based solutions led me to creating an online teachers' toolkit application

Core Areas of Practice – Examples below

- **Aligned pedagogy with platform delivery**
 - *Applied instructional design and UX principles to ensure digital learning platforms supported cognitive accessibility, curriculum sequencing, and effective learner interaction.*
- **Created digital curriculum architecture**
 - *Designed interconnected curriculum frameworks integrating external educational resources, retrieval structures, accessibility tools, and responsive delivery systems.*
- **Designed scalable curriculum systems**
 - *Developed reusable curriculum delivery frameworks enabling structured, scalable access to scaffolded digital learning content across multiple learning stages.*
- **Differentiated pathways**
 - *Developed instructional delivery frameworks integrating accessibility, scaffolded progression, retrieval practice, and differentiated learning pathways to support diverse learner needs.*

What I Do

I design accessible, evidence-informed digital learning experiences that combine curriculum architecture, learning experience design, and educational technology to improve learner engagement, independence, and outcomes.

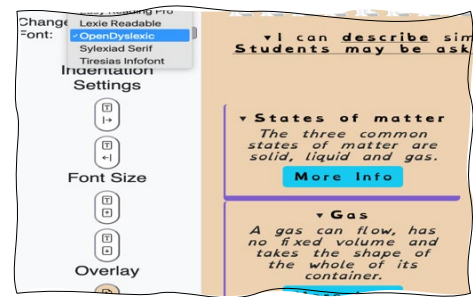
Featured Case Study

EdTech Sample, Accessibility-Driven Learning Design



Learner Centred

Accessibility controls allow learners to personalise font size, overlays, readability settings and navigation.



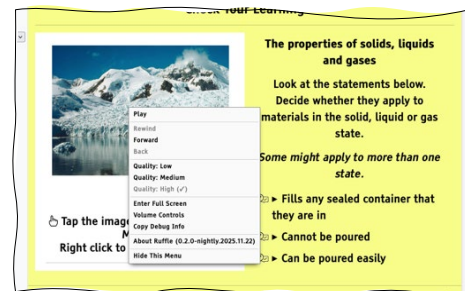
Evidence Informed

Design decisions informed by accessibility principles, learner feedback and usability review.



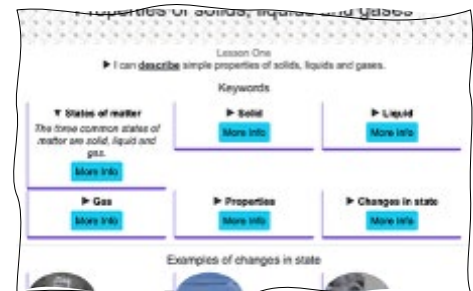
Accessibility Focused

Supports dyslexia-friendly presentation, responsive design and personalised learner controls.



Outcomes Driven

Improves curriculum accessibility, learner independence and engagement with digital content.



Innovation Led

Integrates accessibility technologies and learner-controlled personalisation within a web-based learning environment.

Aligned pedagogy with platform delivery

The platform was built to improve access to curriculum content through inclusive design, with accessibility features that reduce barriers for learners with dyslexia and a wider range of learning needs.

- **Student:** Personalisation controls and preferences are saved to the browser to maintain continuity across sessions
- **Teacher:** Embedded worksheets can be previewed for faster retrieval and smoother lesson pacing



Interactive PDF resources can be previewed directly within the platform, giving teachers faster access to supporting materials and reducing disruption to lesson flow. This creates a more responsive instructional environment in which resources are available at the point of need and can be integrated efficiently into teaching.

Curriculum Architecture

BeezyTeachers, *Curriculum Architecture in Practice*



Learner Centred

Keyword-driven resource discovery supports individual teaching and learning needs.



Evidence Informed

Developed from observed teacher search behaviours and curriculum resource retrieval patterns.



Accessibility Focused

Simplifies access to curriculum resources through structured navigation and reduced search friction.



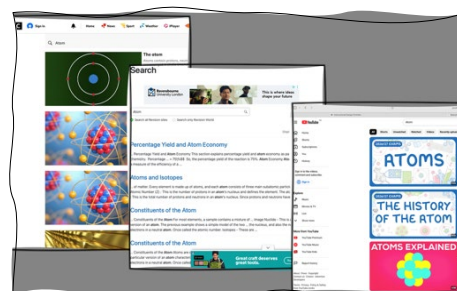
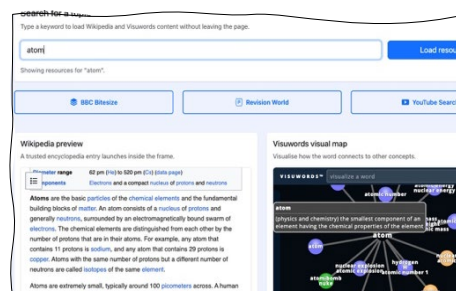
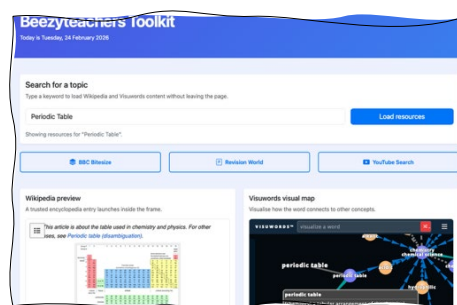
Outcomes Driven

Improves lesson pacing, curriculum coherence and resource discovery efficiency.



Innovation Led

Combines curriculum architecture, keyword indexing and embedded resource pathways into a unified platform.



Created digital curriculum architecture

BeezyTeachers marked an important stage in my transition from classroom practice into instructional design. The platform emerged from observing a consistent pattern in teacher behaviour: colleagues were repeatedly using subject keywords to search across multiple websites in order to locate suitable curriculum resources.

- Retrieval pathways that allowed teachers to use the platform in real time to support pacing, reinforcement, and lesson flow
- Navigation logic shaped by user experience principles, with clear access to high-frequency teaching tools and websites
- Curriculum indexing supported by Visuwords, helping teachers and learners connect keywords to prior, current, and future learning



This project reflects my early development of curriculum architecture, user-centred design, and digitally enabled instructional systems.

Instructional Design Principles

BeezyStudents, Scalable Curriculum Delivery



Learner Centred

Mobile-first design enables flexible access for GCSE learners across devices.



Evidence Informed

Structured around GCSE curriculum sequencing and retrieval practice principles.



Accessibility Focused

Responsive layout, scaffolded content and clear navigation support inclusive curriculum access.



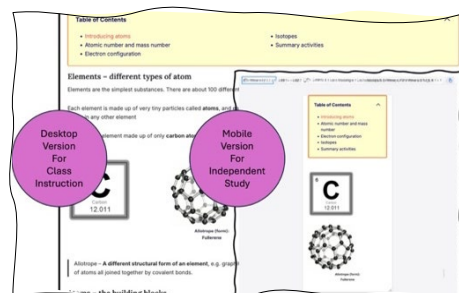
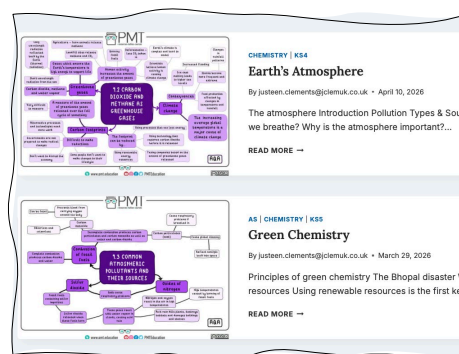
Outcomes Driven

Supports knowledge retention, independent study and GCSE assessment preparation.



Innovation Led

Applies instructional design principles through responsive, mobile-first curriculum delivery.



Designed scalable curriculum systems

In classroom practice, curriculum sequencing often begins as a map for delivery. After reaching the practical limits of PowerPoint as a curriculum delivery tool, I moved into web development to create a scalable and reusable curriculum framework. Using WordPress as my CMS, I developed BeezyStudents as a reusable curriculum delivery framework that provided:

- structured delivery infrastructure for curriculum content
- learner pathways that supported scaffolded progression
- reusable curriculum architecture that could be adapted across topics and learning stages



In this way, BeezyStudents became more than a content repository; it functioned as a scalable digital environment designed to reduce friction, strengthen curriculum coherence, and support independent learning at scale.

Beezy Ecosystem

Green Chemistry, *Enquiry-Based Learning Through Digital Simulation*



Learner Centred

Self-paced learning activities allow learners to explore sustainability concepts independently.



Evidence Informed

Built around established pedagogical approaches including retrieval practice and guided enquiry.



Accessibility Focused

Interactive content and visual representations support understanding of abstract scientific concepts.



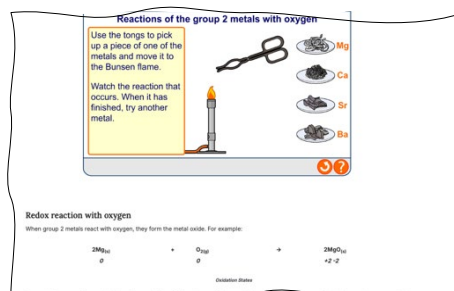
Outcomes Driven

Develops conceptual understanding, sustainability awareness and higher-order scientific thinking.



Innovation Led

Adapts POGIL-inspired enquiry learning through interactive simulations and digital investigation tools.



Differentiated pathways

As an instructional designer, I create differentiated pathways that allow learners to engage with content at an appropriate level of support while still moving towards shared curriculum goals.

- I use UX-informed design decisions to reduce friction.
- I create systems that help learners build deeper understanding of core concepts through clearer navigation,
- Design for structured support, and accessible content presentation.



This design choice helps learners access resources at the point of need while allowing me to combine scaffolded resources, accessibility features, and flexible routes through content within the digital environment.

Impact & Leadership

Supported 21 International Schools

Led cross-school curriculum and digital transformation initiatives spanning 21 international schools, standardising delivery frameworks and supporting consistent learner outcomes at scale.

Improved Adoption

Led digital learning implementation programmes that improved staff engagement with educational technology and embedded more consistent use of digital teaching practices across the school.

Reduced Teacher Workload

Designed curriculum support systems that streamlined lesson preparation, improved resource accessibility, and reduced teacher workload through structured keyword-driven content organisation.

Increased Student Engagement

Increased learner engagement through accessibility-focused digital learning environments supporting personalised interaction, independent study, and mobile-first access.

Improved Curriculum Consistency

Implemented structured curriculum systems supporting aligned teaching, standardised resource delivery, and improved continuity across multiple learning environments.

Implemented Systems across Departments

Coordinated whole-school implementation of digital teaching and assessment platforms, aligning technology usage with curriculum and pedagogical priorities.

Tools & Technologies

Instructional Design

*ADDIE
Retrieval Practice
POGIL
Scaffolded Learning
Universal Design for Learning (UDL)
Curriculum Architecture*

AI-Assisted Design & Prototyping

*ChatGPT
Gemini
Teachermatic
Bootstrap Studio AI*

Digital Design & Development

*Adobe Dreamweaver
Bootstrap Studio
HTML
CSS
WordPress
Responsive Web Design*

Learning Technologies

*Google Workspace for Education
Google Admin
Learning Management Systems
Interactive Digital Resources
Accessibility Technologies*