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ACTION RESEARCH PROJECT

**How can we improve cognitive accessibility
in Virtual Learning Environments?**

IDENTIFY Context

Transition from residential teaching to a fully online MA Graphic Design

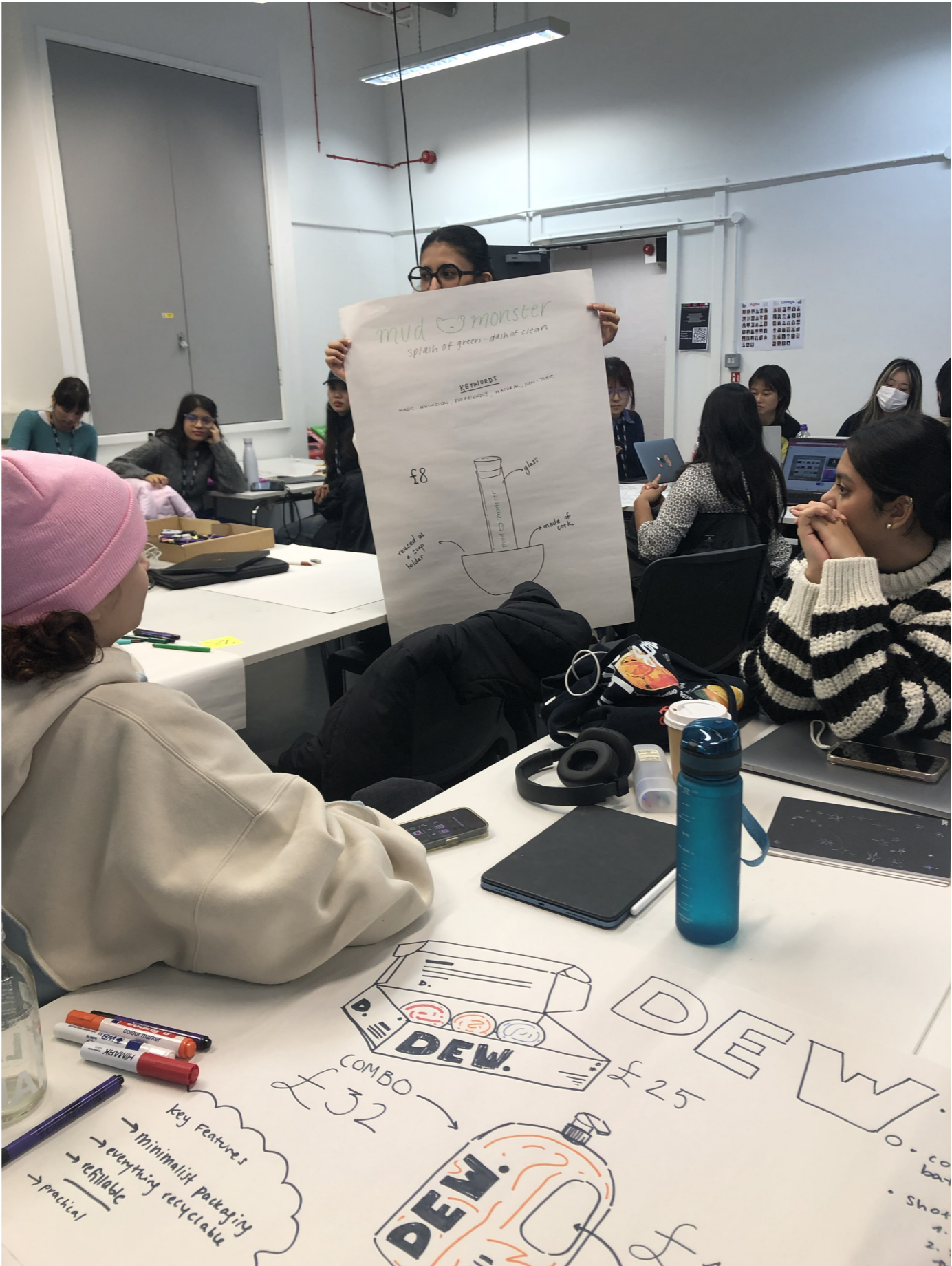
Learning mediated almost entirely through Moodle

Online learning is experienced differently, not just where it happens

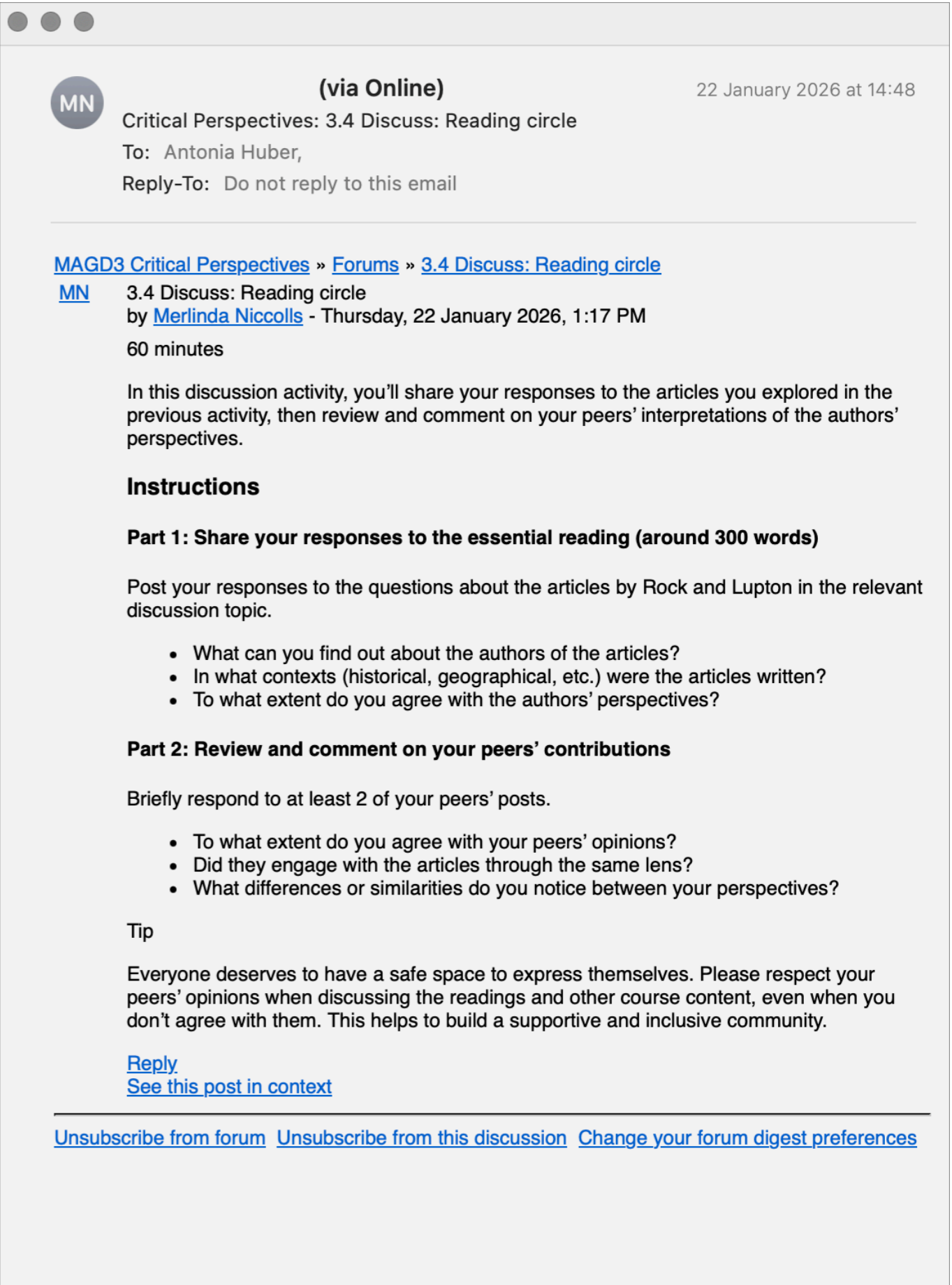
Loss of physical studio culture and informal peer learning

The platform effectively shapes both learning experience and pedagogy

Expanded in Blog Post 1



In-person group crit session on the MA Graphic Branding and Identity at London College of Communication (Huber, 2024).



Email notification from the Moodle discussion forum for the MA Graphic Design (Online) (Huber, 2026).

IDENTIFY Rationale

Studio culture supports experimentation, and trust through shared physical presence

Entering a physical studio produces a clear cognitive and social transition into practice

These conditions are not automatically replicated online

Online learning environments fragment this transition across multiple locations

Online studio pedagogy depends on conditions that platforms may or may not support

Reference

Orr, S. and Shreeve, A. (2017) *Art and design pedagogy in higher education: knowledge, values and ambiguity in the creative curriculum*. London: Routledge.

Expanded in Blog Post 1



Source: Orr and Shreeve (2017), *Art and design pedagogy in higher education*. Routledge.

“Studio as ‘a state of mind’ demands that learners engage in collaborative and community learning, using available spaces, whether physical, online, inside or outside the university.” (Orr, 2017)

IDENTIFY > PLAN Research Focus

Research questions developed through teaching context and reflection

Focus on cognitive accessibility in fully online design education

Framed through both pedagogical practice and platform design

Investigation into structure, navigation and experience of digital learning environments

Reference

Gray, C. and Malins, J. (2004) *Visualizing research: A guide to the research process in art and design*. Aldershot: Ashgate.

Expanded in Blog Post 2

Pedagogical approach

How do educators understand and approach cognitive accessibility when designing online learning experiences?

Platform design

How do the design structures of Virtual Learning Environments and alternative platforms support or constrain clarity, navigation, and cognitive accessibility?

IDENTIFY > PLAN Social Justice

Platform design shapes who can participate confidently

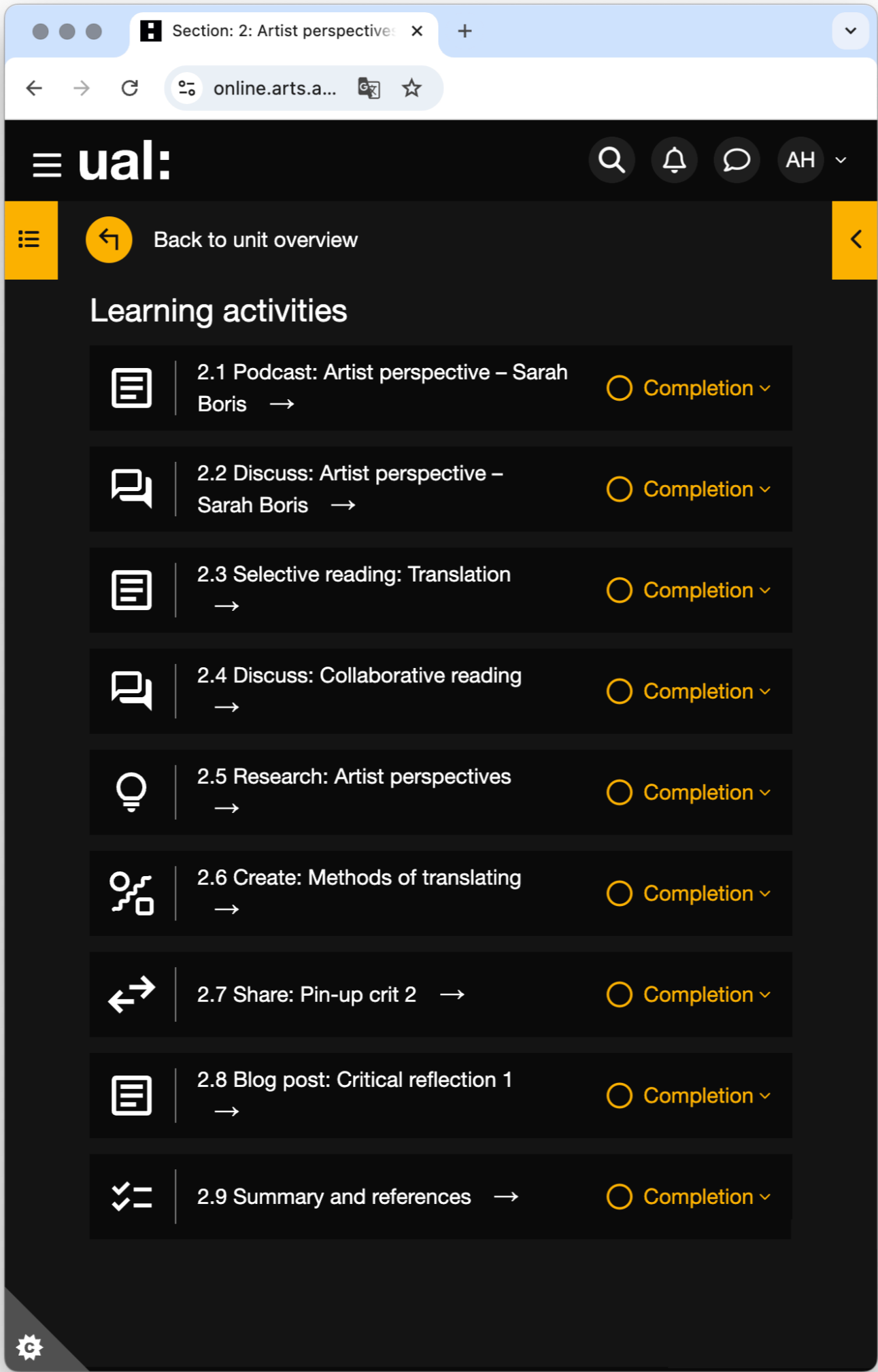
Cognitive accessibility unevenly affects students with diverse learning, caring, and working contexts

When systems lack clarity, responsibility shifts from institutional design to individual student resilience

Cognitive accessibility a social justice issue, not a neutral technical choice

Reference
Selwyn, N. (2014) *Distrusting Educational Technology: Critical Questions for Changing Times*. Abingdon, UK: Routledge.

Expanded in Blog Post 1 and 5



Screenshot of a weekly learning sequence within the MA Graphic Design (Online) course, within the Moodle Virtual Learning Environment (Huber, 2026).

“The application of digital technology in educational settings is almost always an unequal affair.”
(Selwyn, 2014)

ACT Research methods + data collection

Small-scale action research situated within my teaching context

Research focus shifted from student to educator perspectives due to institutional positioning and access constraints

Semi-structured interviews and open-ended questionnaire

Interview questions developed iteratively through tutor and peer feedback

Reference
Kemmis, S. and McTaggart, R. (1988) *The action research planner*. Geelong: Deakin University.

Expanded in Blog Post 3

Own use

1. How do you feel about online learning environments in general?
2. What helps you most when navigating or building a course site online?
3. Are there any features or layouts that you find confusing or difficult to use?
4. How do you decide which digital platforms to use when teaching or sharing materials?

Student use

5. How do you think the design of a platform affects how students learn or engage?
6. In your view, what makes an online learning space clear, accessible, and easy to understand for students?

General

7. Have you seen any particularly effective examples (at UAL or elsewhere) where an online space really supports learning well?
8. If you could change one thing about Moodle or another platform, what would it be and why?

1. What kind of digital learning platforms are you using in your teaching? (assisted technologies)
2. How do you feel about online learning environments in general?
3. How do you decide which digital platforms to use when teaching or sharing materials?
4. In your view, what makes an online learning space clear, accessible, and easy to understand for students?
5. If you could change one thing about Moodle or another platform, what would it be and why?

What are your general thoughts or experiences of online learning environments such as Moodle or similar platforms?

How do you decide which digital platforms to use when teaching or sharing materials?

In your view, what makes an online learning space clear, accessible, and easy to understand for students?

If you could change one thing about Moodle or another platform, what would it be and why?

Visual summary of the iterative development of semi-structured interview questions through tutor and peer feedback (Huber, 2025).

Transcript 2
[Anonymised], [Date removed], [Time removed]

[Researcher] started transcription

[Researcher] 0:03
It because. She stops transcription. It does it today. At the same time. Yeah. I feel bad because I'm not doing my best work at the moment because I'm so in my move still, but I think it will be right.

Transcript 1
[Anonymised], [Date removed], [Time removed]

[Researcher] started transcription

[Researcher] 0:03
Bigger into smaller. So the first question is what are your general thoughts and or experiences of online learning environments such as small and similar platforms?

[Participant 1] 0:05
Yeah. Umm. I think it's a good one way transmission tool. So Moodle I think is. I mean I teach. I teach low residency course, if it's not on Moodle it's not a thing. Because we only teach 2 hours a week live, and that's purely discussion based. So essentially because my students could be sitting down to work at 2:00 AM, they need everything in front of them. And so Moodle is like the point of truth. I think and they, you know, they really praise that actually, but it takes quite a lot to get me to working in that way. I think, you know, you have to have a good head for like information hierarchy. And how to lay things out? The system itself doesn't afford nice design choices like you can't. You can't make sometimes, like a table is the way to go. Say for example, for kind of certain information, you can't really make a decent looking table in Moodle without HTML.

[Researcher] 1:11
Yeah.

[Participant 1] 1:23
Like NCSS knowledge, if I'm honest, so it's kind of that's always a bit of a ball like we've got good digital learning coordinators. So that recently I've worked with mine on a template to make things look a bit less Moodle. And a bit

image, isn't it?

ut it. And it's just like

, there would be more ment of. Moodle itself, but ust have to show we know nake it tiny. So it's only four

an open-ended semi and it's just going to be a

online learning s about those? Yeah.

forms.office.com

Improving Cognitive Accessibility in Virtual Learning Environments

Action Research Project – PgCert Academic Practice in Art and Design – Antonia Huber

When you submit this form, it will not automatically collect your details like name and email address unless you provide it yourself.

* Required

1. What are your general thoughts or experiences of online learning environments such as Moodle or similar platforms? *

Enter your answer

2. How do you decide which digital platforms to use when teaching or sharing materials? *

Enter your answer

3. In your view, what makes an online learning space clear, accessible, and easy to understand for students? *

Enter your answer

4. If you could change one thing about Moodle or another platform, what would it be and why? *

Screenshot of anonymised interview transcripts and Microsoft Forms questionnaire design used to collect qualitative staff responses (Huber, 2025).

ACT Research methods + data collection

Visual artefact review conducted alongside interviews and questionnaire data

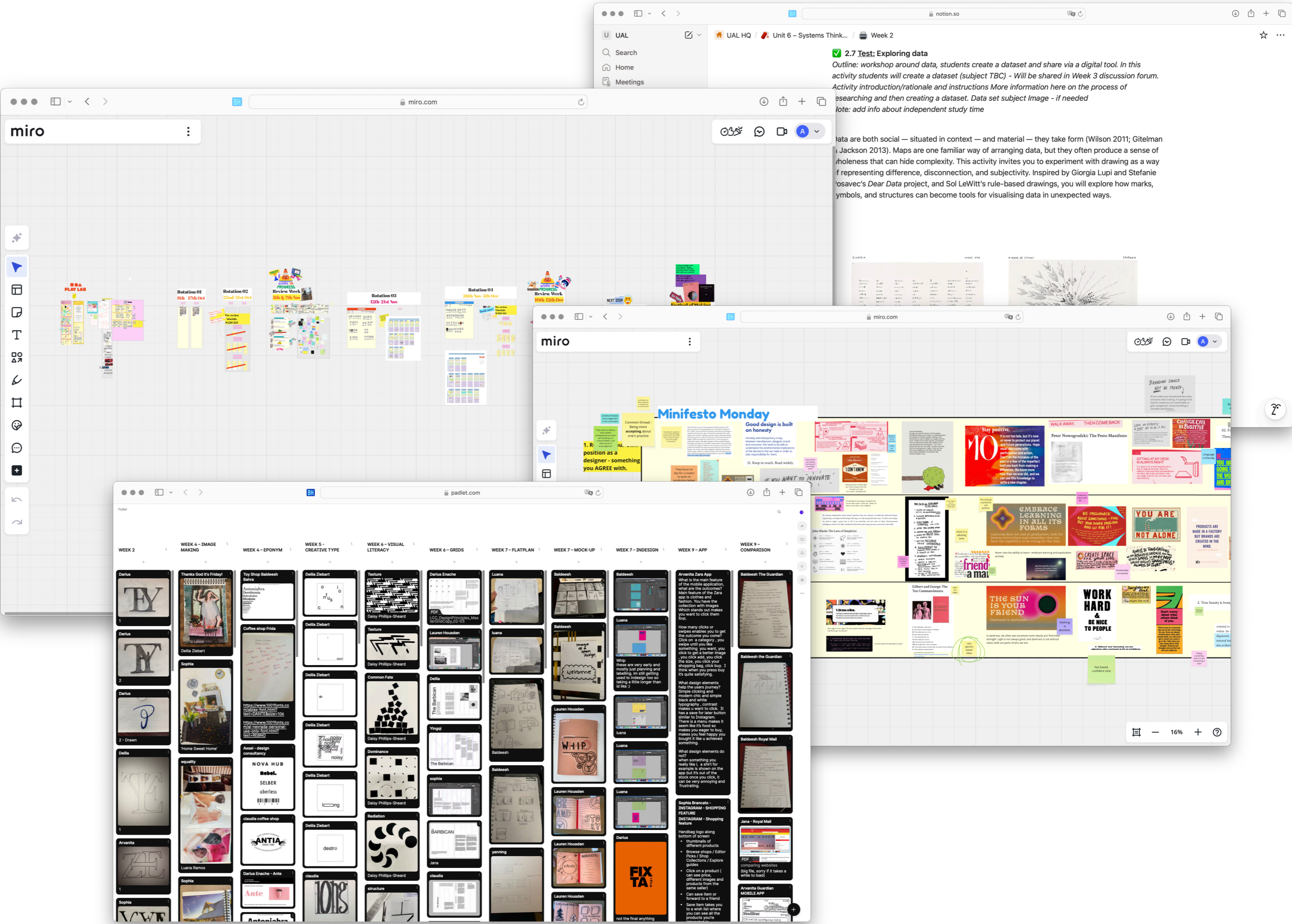
Artefacts collected to understand why educators supplement or pivot platforms for pedagogic reasons

Comparative review of Moodle and alternative platforms (Miro, Padlet, Notion)

Focus on interface structure, navigation, and modes of content organisation

Reference
Bowen, G. A. (2009) *‘Document analysis as a qualitative research method’*, Qualitative Research Journal.

Expanded in Blog Post 3



Screenshot of visual artefact review comparing Moodle and alternative digital platforms (Huber, 2025).

OBSERVE

Analysis + interpretation

Reflexive thematic analysis acknowledging that different methods produced different depths and qualities of insight (richer interview data alongside more concise questionnaire responses)

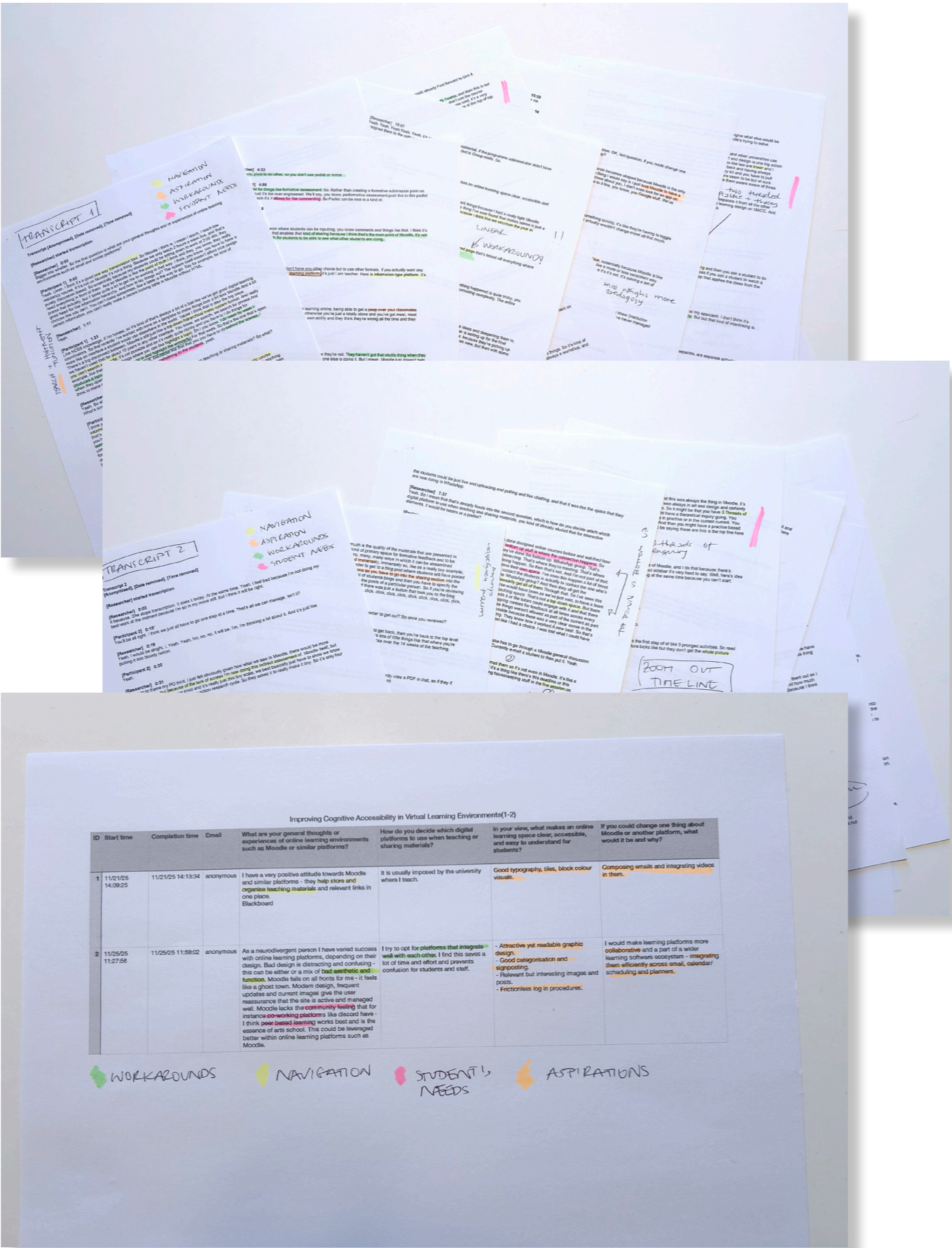
Visual clustering in Miro supported pattern recognition across data sources

Themes were constructed through interpretation of emphasis, and relevance rather than frequency alone

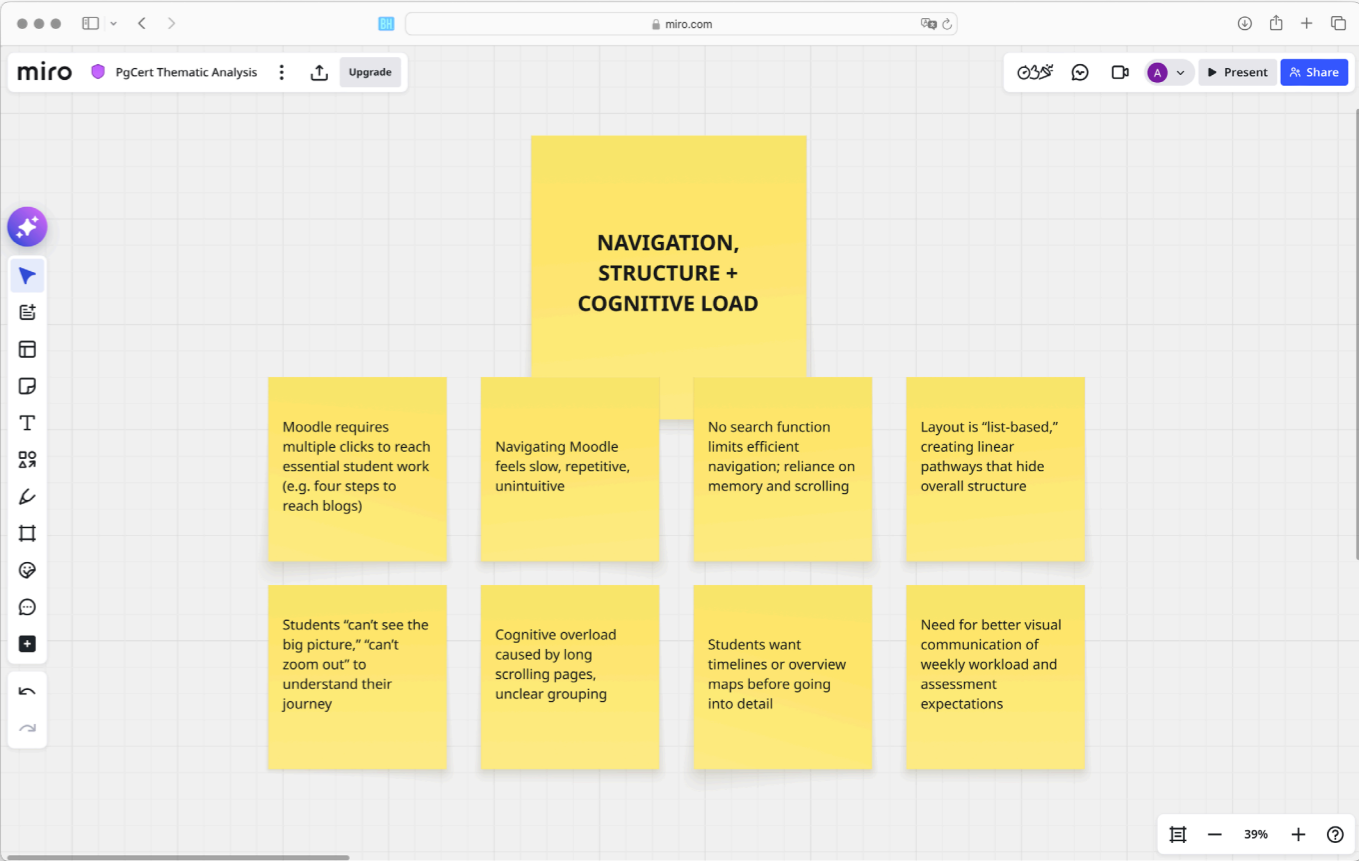
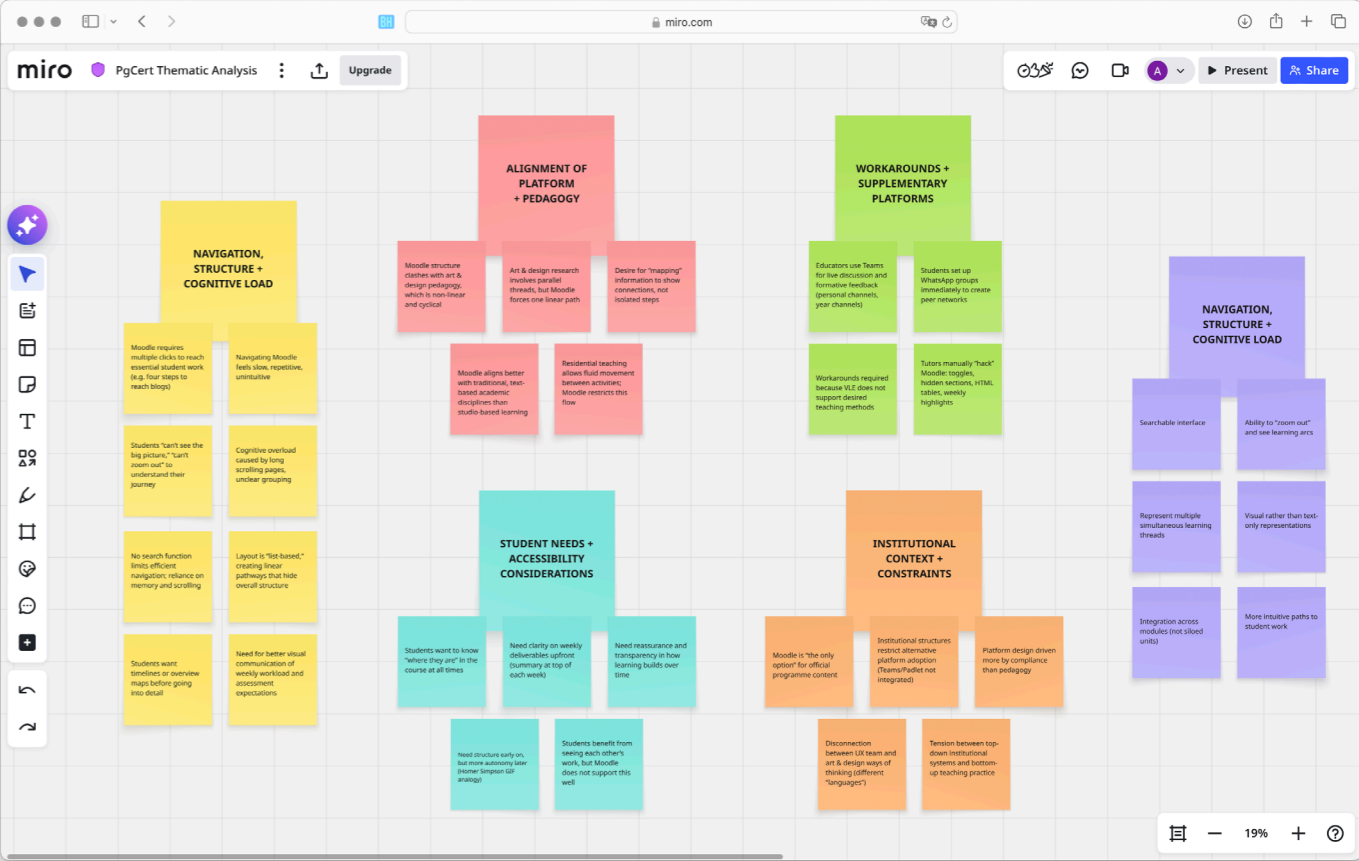
“Themes do not emerge from the data; they are generated by the researcher through engagement with the data.”(Braun and Clarke, 2021)

Reference
Braun, V. and Clarke, V. (2021) *Thematic analysis: a practical guide*. London: Sage.

Expanded in Blog Post 4



Visual summary of the iterative development of semi-structured interview questions through tutor and peer feedback (Huber, 2025).



Screenshot of anonymised interview transcripts and Microsoft Forms questionnaire design used to collect qualitative staff responses (Huber, 2025).

OBSERVE

Analysis + interpretation

The artefact review analysed how platform structure, hierarchy, and visual organisation influenced orientation, navigation, cognitive load

Investigation also revealed the pedagogic approaches enabled by each platform

AI-supported indicative weighting used after thematic analysis to visualise relative prominence of themes

Artefact Analysis				
Feature	Moodle	Miro	Padlet	Notion
Navigation	Linear, list-based	Spatial canvas	Board layout	Database / multi-view
Search	None	Yes	Limited	Excellent
Peer visibility	Low	High	High	Medium
Cognitive load	High	High	Low	Medium
Supports multiple threads?	No	Yes	Yes	Yes
Best use case	Official content	Mapping journeys	Sharing work	Information architecture

Screenshot of artefact analysis comparing Moodle with alternative digital platforms (Huber, 2025).

Theme	Interview 1	Interview 2	Questionnaire	Artefacts
Navigation & cognitive load	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
Workarounds	<div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	<div><div></div></div>	<div><div></div><div></div></div>
Alignment of pedagogy & platform	<div><div></div><div></div></div>	<div><div></div><div></div></div>	—	<div><div></div><div></div><div></div></div>
Accessibility	<div><div></div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div><div></div></div>
Institutional constraints	<div><div></div></div>	<div><div></div><div></div></div>	<div><div></div></div>	<div><div></div><div></div></div>

Screenshot of an indicative thematic weighting matrix across interviews, questionnaire responses, and artefact analysis using AI. (Huber, 2026).

REFLECT Insight

Reflection revealed a structural tension between studio pedagogy and platform design

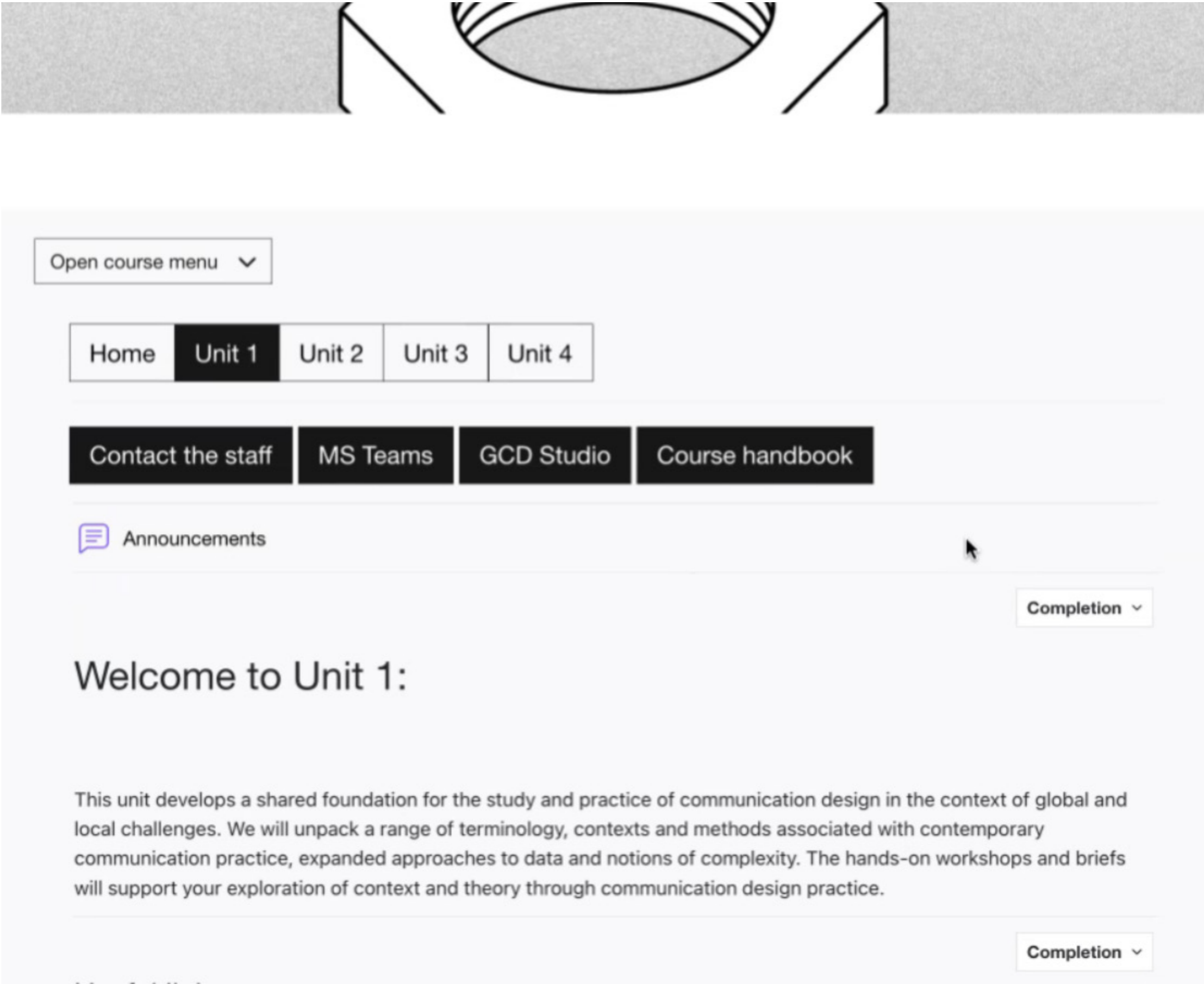
Art and design learning operates through layered, iterative, and non-linear processes

Moodle’s present-centred logic made it difficult for students to perceive learning as a continuous journey

As a result, educators enacted additional pedagogical labour to restore coherence, orientation, and trust

Reference
Biggs, J. and Tang, C. (2011) *Teaching for quality learning at university*. 4th edn. Maidenhead: Open University Press.

Expanded in Blog Post 5



Screenshot of an anonymised educator-generated workaround within Moodle, introducing a coded navigation bar to enable students to “zoom out” and view multiple units simultaneously (Huber, 2025).

REFLECT

Re-planning

Re-planning focused on improving orientation, and expectation-setting

Two modest but targeted interventions were introduced:

- 1. a weekly “Prepare for the week” overview clarifying purpose and deliverables
- 2. a visual learning arc diagram during live sessions to support “zooming out”

The aim was not to redesign Moodle, but to reframe how learning is signposted

Expanded in Blog Post 5

↶

Back to week overview

Industry Focus / 2: Design heroes / 2.1 Prepare for the week

2.1 Prepare for the week

○ Mark as done

🕒 60 minutes

This week is all about inspiration. You'll build a vision board to visualise your future career path and choose your design hero for Project 1: Designer Critical Review.

Key learning activities this week

- Develop your vision and explore how vision boards help map meaningful career paths.
- Create your vision board and connect your values and goals through visual planning.
- Structure your critical review and plan your approach for Project 1.
- Research design heroes and compare your shortlisted designers' ethics and values.
- Analyse their work and examine key projects/self-initiated work.
- Choose your design hero and select 1 designer/studio for your critical review.

Your key outputs this week

- Vision board as a visual representation of your career goals and values.
- Process blog reflections (multiple posts for feedback).
- Sharing activity in which you'll discuss what makes designers successful (200 – 300 words).
- Design hero selection for Project 1.

Preparing for your Live session

Before the session

Take 10 – 15 minutes to:

- look back at last week's activities and check for new discussions you'd like to join
- review responses to your posts to see what peers have shared on your work
- prepare questions or observations, noting anything you'd like to discuss with your tutor(s)
- bring notes or questions to the Live session.

Discussion starter: Your design inspiration

To prepare for meaningful discussion about design heroes and career inspiration, consider sharing your response to this question in the general [discussion](#) before the Live session:

"Who is one designer, studio, or creative professional that inspires you, and what specific aspect of their work or approach resonates with your own goals?"

This could relate to:

- their creative approach or style
- their values and ethics
- their career path or impact
- their approach to collaboration or clients.

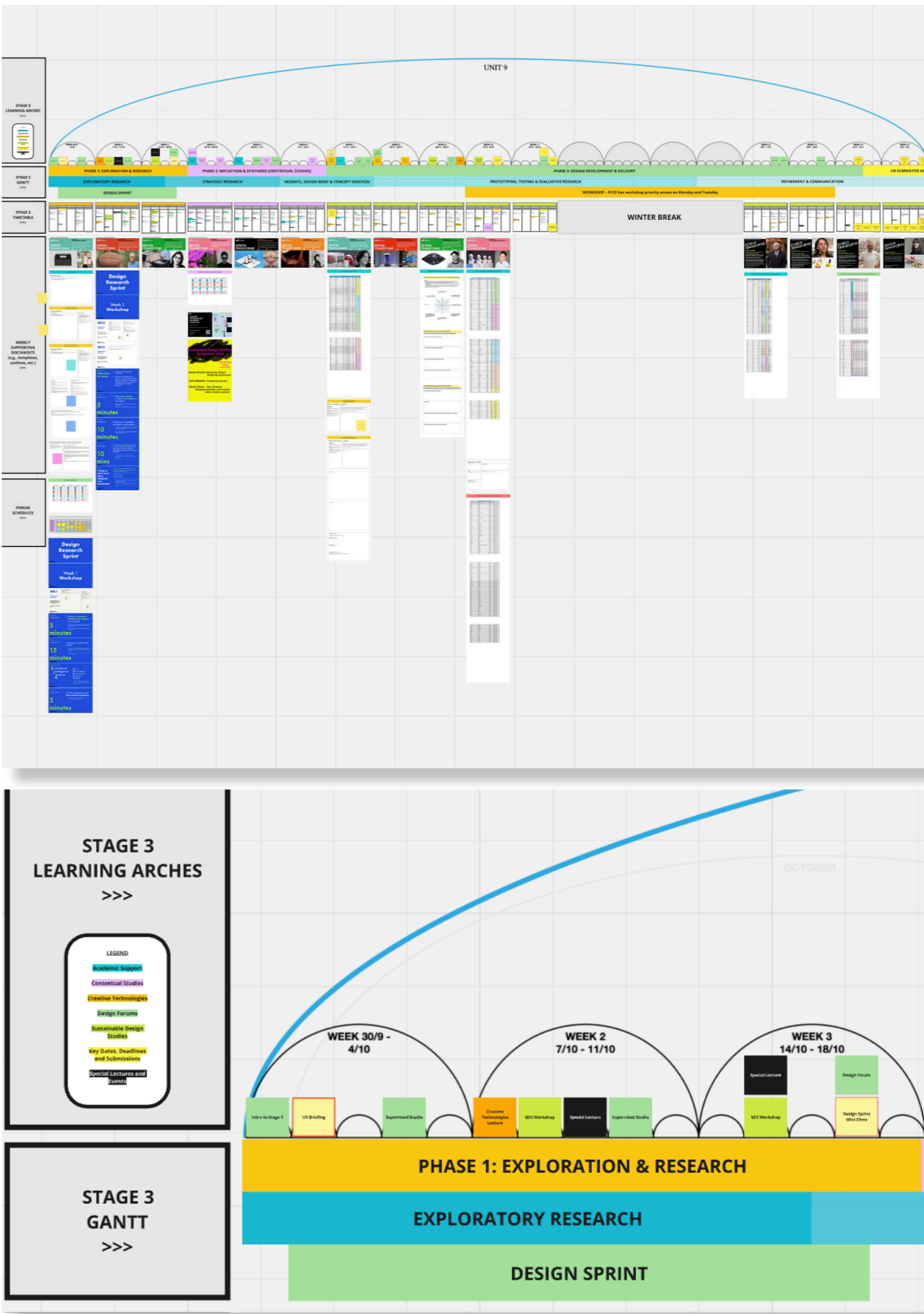
Sharing these inspirations will help us:

- build on diverse creative perspectives during the Live session
- learn from each other's design heroes and role models
- create connections between personal values and professional goals
- establish a foundation for this week's critical thinking about success in design.

In the next activity, you'll explore how vision boards can help you map out a meaningful and authentic career path.

2.2 Developing your vision →

Screenshot of a Moodle page from the MA Graphic Design (Online), illustrating the new activity to support student orientation and reduce cognitive load (Huber, 2026).



Screenshot of an anonymised Miro board visualising a full unit structure through an arc-based diagram to help students' orientation and overview. (Huber, 2026).

REFLECTING ON ARP

How my project evolved

- Focus shifted from platform critique toward understanding how educators navigate cognitive accessibility within institutional constraints

What worked / what didn't

- Combining interviews, questionnaire responses, and artefact review allowed rich triangulation of perspectives
- Small sample size limited breadth and reinforced the need for depth over generalisation

Blocks and how they were addressed

- Access to student data and platform limitations
- Shifting the research lens toward educator perspectives and focusing on navigational clarity rather than system change

Looking forward

- Aim to embed clearer orientation, learning arcs, and signposting as core pedagogical responsibilities within online design education

REFERENCES

Biggs, J. and Tang, C. (2011) *Teaching for quality learning at university*. 4th edn. Maidenhead: Open University Press.

Bowen, G. A. (2009) 'Document analysis as a qualitative research method', *Qualitative Research Journal*.

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