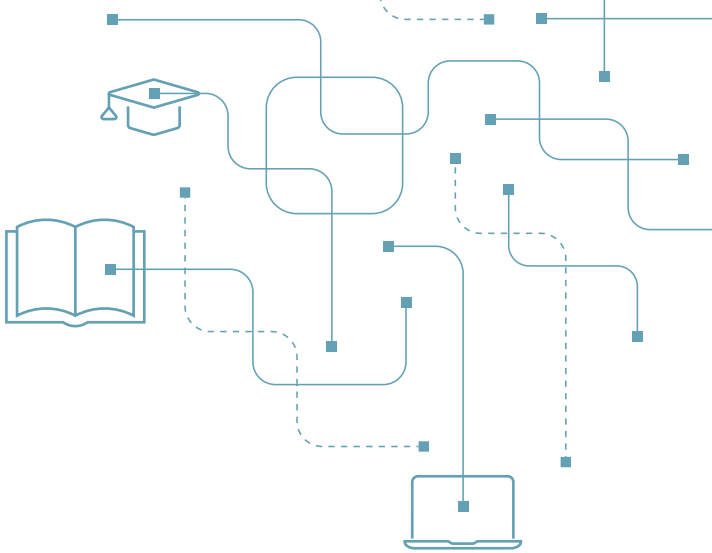
Bridging the hidden learning gap

Designing a digital learning environment that works for everyone

moodle™

Contents



Who is this guide for?

Online learning now reaches more people, in more places, than ever before — and that's a good thing. However, wider access doesn't mean everyone has the same learning experience. In practice, digital learning environments feel different for everyone.

A big part of this experience gap shows up in the everyday realities people bring with them — the devices they use, the time they have, the support around them, and how confident they feel online. We can support **digital equity** — fair access to learning regardless of technology or circumstances — by designing learning environments with those realities in mind.

That's what this guide is all about. In it, we'll help you:

- Understand the hidden gaps in modern learning.
- Design courses that work for real people.
- Use learning management systems effectively to support equity and accessibility.
- Use practical tools and resources to make inclusive learning a reality.

If you're ready to create truly engaging, human-centered programs that resonate with everyone in your organization, this guide is for you.

human-centered *adjective*

/ˈhjuː-mən ˌsen-tərd/

Putting people's needs and experiences at the core of any process, design or innovation.

Example:
Human-centered learning adapts to students' resources, cultures, and strengths rather than expecting students to adapt to the system.

The hidden gap in modern learning

Most learning programs are built with the very best intentions. Teams *want* to create engaging, memorable courses, and they want their learners to feel inspired and to succeed.

However — and without meaning to — we often assume learners have the same access to technology and comfort with digital tools that we do. Even when we try to account for variation, we tend to underestimate just how wide the gap can be.

In fact, people arrive in online learning environments with very different levels of access, confidence, and exposure to digital tools. When those differences aren't accounted for, they can widen gaps in **digital equity**.

digital equity *noun*

/ˈdɪdʒ-ɪ-tl ˈe-kwə-ti/

The condition in which all learners have fair access to the technology, connectivity, skills, and support needed to participate fully in learning.

Example:

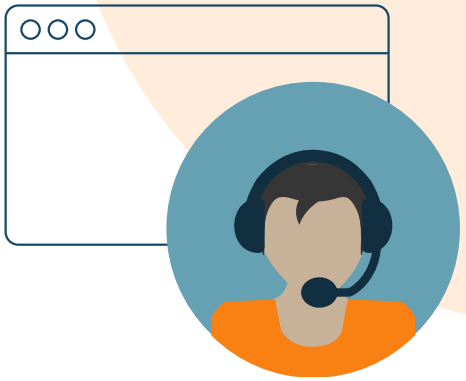
Digital equity means students can engage in learning regardless of their devices, internet connectivity, or previous digital experiences.

Addressing the digital divide

Until recently, most conversations about meeting learner needs in virtual learning environments focused on the **digital divide**: whether people owned devices and had reliable internet or not. That focus made sense — at least initially. After all, without a laptop, tablet, smartphone, or reasonable internet connection, it's very difficult to learn online.

Many organizations have worked hard to address the divide by investing in device programs and connectivity initiatives, and in some places, grants and loan schemes help students purchase laptops. That work is important, but it doesn't go far enough.

Connectivity alone doesn't guarantee an equal learning experience. For example, two learners may both be "online" — but one might have a new device, fast Wi-Fi, and years of virtual learning experience, while the other relies on a shared device, has a slow internet connection, and a limited background in online learning. On paper, both learners have access, but in a practical sense, their digital realities are very different.



So, when we talk about **digital equity**, we mean more than access to the latest laptop and fast internet: we're talking about differences in **digital capital** — and that's the concept we'll introduce next.

"For me, a good online course is learner centered, in that it addresses individual needs and leverages learner experiences and interests. It gives the learner agency, situating them as an active and self-directed participant in the creation of knowledge, and it has a strong teaching presence, regardless of whether a teacher is actually physically present."

Liz Starbuck Greer, Director of Global Sales and Partnerships, Moodle

What is digital capital?

Digital access and experience are both forms of **digital capital**. This concept draws on the thinking of French sociologist Pierre Bourdieu, who identified three types of capital that shape people's opportunities in life: **economic**, **cultural**, and **social**.

digital capital *noun*
/ˈdɪdʒɪtəl ˈkæpɪtəl/

The combination of access, skills, experience, and social support that shapes how effectively a person can use digital tools and participate in online environments.

Example:
After considering differences in digital capital within her class, the instructor made course design changes that helped all learners participate fully.

In digital learning, differences in these three types of capital help explain why individual learners experience the same courses differently:

- **Economic digital capital** includes tangible resources like devices, software, and reliable internet access.
- **Cultural digital capital** reflects skills, confidence, and familiarity with digital tools — knowing how online systems work and how to use them effectively.
- **Social digital capital** comes from networks: people around you who can share knowledge, troubleshoot problems, or model how technology is used in professional settings.

Thinking about digital capital in this way shifts the focus away from individual "ability" and toward designing learning environments that foster digital equity. When learning materials work well for people with limited access, resources, or digital experience, they tend to work better for everyone.

Learners start from different places

People engage with online learning along a spectrum shaped by resources, previous experience and support — and those conditions can change over time.

Limited digital capital	Moderate digital capital	Robust digital capital
• Limited or shared device access	• A single, basic device	• Multiple personal devices
• Inconsistent connectivity	• Reliable but basic connectivity	• Strong, stable connectivity
• Unfamiliar learning platforms	• Some experience with digital learning	• High familiarity with LMSs and digital tools
• Little informal tech support	• Occasional support available	• Supportive, tech-savvy networks

Designing courses for *people*

If you're reading this, chances are you already care deeply about your learners — whether they're students, employees, or members of the public. You want them to feel engaged, supported, and confident as they learn. That commitment matters, and you're in the right place.

This section is about building courses that work for **real people**, across a wide range of digital realities. Digital equity is the end goal, and to get there, we must begin by making courses accessible so that learners with different abilities can fully participate in them.

"A useful way to approach course design is to think about learners working within real-world constraints — patchy internet, older devices, or completing activities in shared public spaces. When you design with those realities in mind, the learning experience works better for everyone."

Lauren Goodman,
Head of Solutions Marketing, Moodle

learning design *noun*

/ˈlɜːrnɪŋ dɪˈzaɪn/

The practice of thoughtfully designing learning experiences so they are clear, engaging and effective for people with different needs, contexts and ways of learning.

Example:
Thoughtful learning design helped the course feel welcoming and easy to navigate for everyone.

We must go further, though: we also need to recognise that people bring different levels of access, experience, confidence, and support into learning environments. The challenge, then, is to create engaging courses that work well for **all learners**.

Start with accessibility

Accessibility is often the most concrete place to begin. When courses are designed with a wide range of needs in mind, they become clearer, easier to follow and more usable for all learners — not just those with diagnosed disabilities.

accessibility *noun*

/əkˌsɛs.əˈbɪl.ə.ti/]

The practice of designing content, environments, or tools so that people with a wide range of abilities, needs and circumstances can access and use them effectively.

Example:

Designing courses with accessibility in mind can help learners engage with materials using screen readers, captions, keyboards, and other assistive tools.

Helpful frameworks include the **POUR principles**, which provide the foundation for widely used accessibility standards like the **Web Content Accessibility Guidelines** (WCAG):

- **Perceivable:** Learners can access the information in more than one way (for example, text alternatives for audio and video).
- **Operable:** Learners can navigate and interact with content using different inputs (keyboard, mouse, screen reader).
- **Understandable:** Content is clear, consistent, and predictable.
- **Robust:** Content works well across devices, browsers, and assistive technologies.

In practice, accessibility might look like this:

Learner need	Design approaches that help
Hearing impairments	Captions and transcripts for audio and video.
Vision impairments	Clear headings, alt text for images, high contrast.
Motor impairments	Keyboard navigation, simple layouts.
Cognitive or learning differences	Plain language, consistent structure, chunked content.

"Accessibility works best when it's part of the design process from the beginning, not something added on later. By choosing that approach, you will create a course that people can engage with in ways that work for them."

Laura Bizzey,
Graphic Designer, Moodle

This isn't an exhaustive list. Many accommodations and assistive tools aren't visible, and learners may use them only when needed. A well-designed learning management system (LMS) should prompt people to make good choices when it comes to digital accessibility — for example, providing alt text for every image you upload.

One practical way to gauge how well your learning platform supports accessibility is to check its **Voluntary Product Accessibility Template** (VPAT), which outlines how the LMS meets accessibility standards. Platforms with a strong VPAT have accessibility built in by design, supporting educators and helping them meet standards as they build courses. A current VPAT is a **non-negotiable requirement** for any LMS and should be readily available from the vendor, preferably on its website.

It's worth noting that in many countries and learning environments, accessibility isn't optional. Standards like **WCAG** exist to ensure learning materials meet legal and ethical requirements — but they also make learning smoother and more humane overall.

Apply Universal Design for Learning

CAST Universal Design for Learning (UDL) Guidelines™ offer a broader approach that builds on accessibility — and they're worth applying whenever you build a new course or refresh an existing program. First used in schools and universities, UDL is all about designing learning experiences that work across learner backgrounds, contexts and levels of motivation — principles that apply just as well in corporate, nonprofit, and public sector settings.

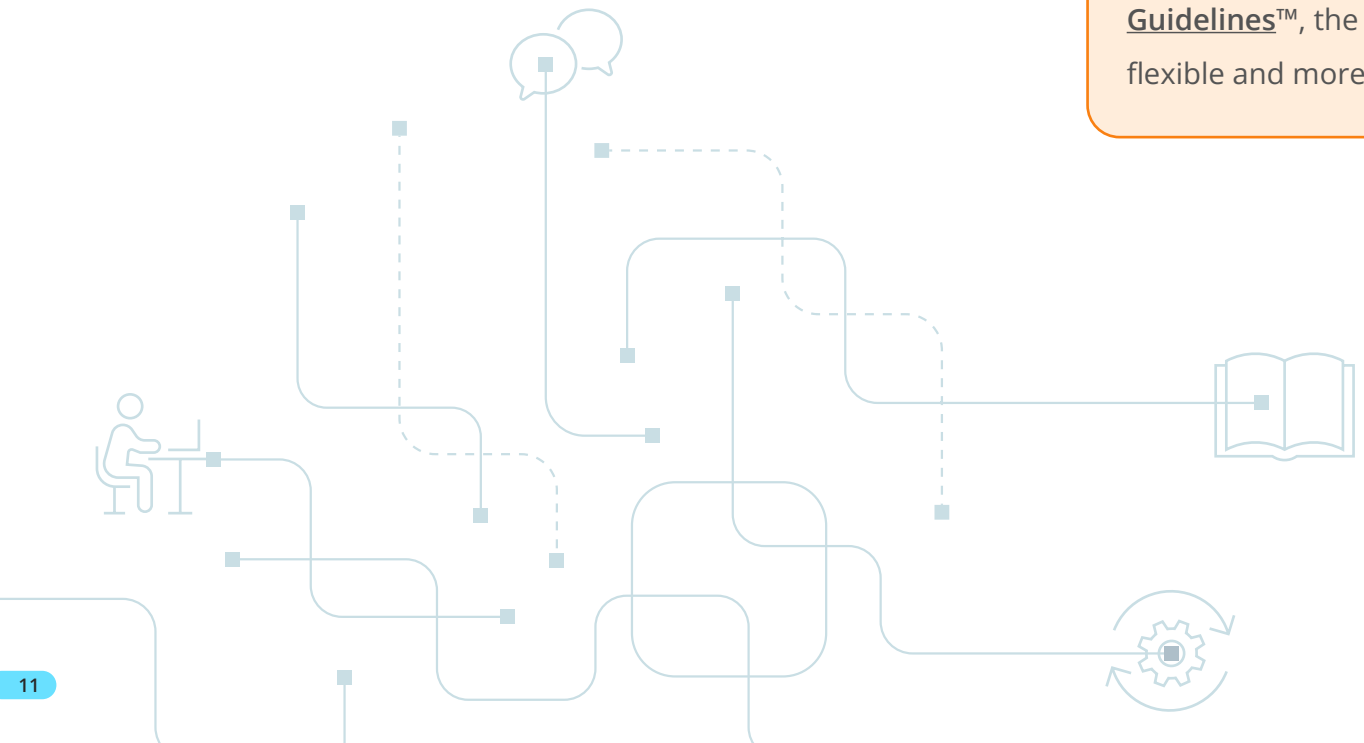
Universal Design for Learning (UDL) *noun*

/ˌjuːnɪˈvɜːrsəl dɪˈzaɪn fɔːr ˈlɜːrnɪŋ/

A learning design framework designed by CAST that guides the creation of flexible learning experiences by offering multiple ways for learners to engage with content, understand information, and demonstrate learning.

Example:

By applying CAST Universal Design for Learning Guidelines™, the course became clearer, more flexible and more engaging for everyone.



The goal of UDL is **learner agency** — the framework is designed to help us build learning experiences that give people different ways to learn, and various ways to demonstrate their learning. In other words, multiple means of engagement, representation, and action and expression.

learner agency *noun*

/ˈlɜːrnər ˈeɪdʒənsi/

A learner's ability to make meaningful choices about how they engage with learning — including how they access information, participate in activities, and demonstrate what they know — based on their needs, goals, and the learning context.

Example:

By offering different ways to complete an assignment, the course supported learner agency and made it easier for people to show what they'd learned in a way that worked for them.

None of these principles require advanced technology — either for the instructor or the learner. Instead, many involve making small design choices that collectively build a more approachable, fair learning environment.

"When a learner enters a physical classroom, they instinctively know what to do — where to sit, where to look, how to ask a question. In a digital space, teachers have to create those cues intentionally, and that effort makes all the difference in how comfortable and confident that learner feels."

Kate Bengtson, Project Manager, Moodle Services

Everyday UDL: A simple design check

Use this checklist when building or reviewing a course. You don't need to check every box — the goal is progress, not perfection.

1. Engagement

Does this course feel relevant and supportive?

- [ ] I explain why this learning matters and how it connects to real goals.
- [ ] Learners have some choice in how they engage or move through content.
- [ ] Activities feel practical, not abstract.
- [ ] Course pages are clean and focused.
- [ ] There are moments to pause, reflect, or see progress.
- [ ] Feedback or check-ins happen before the end of the course.

2. Representation

Is the content easy to understand in different ways?

- [ ] Key ideas are shared in more than one format (text, video, audio, etc.).
- [ ] Videos and audio include captions or transcripts.
- [ ] Language is clear, with key terms explained.
- [ ] Content is broken into short, manageable sections.
- [ ] Important points are easy to spot.
- [ ] Examples reflect different kinds of people, roles, and contexts.
- [ ] Materials work across devices and bandwidths.

3. Action and expression

Can learners show what they've learned in ways that work for them?

- [ ] Learners can demonstrate understanding in more than one way, where possible.
- [ ] Tasks are broken into clear steps.
- [ ] I provide examples or models whenever possible.
- [ ] Instructions are specific and easy to follow.
- [ ] Tools support planning, progress, or time management.
- [ ] Feedback helps learners improve, not just finish.

A quick gut check

If this course works for someone who is:

- [ ] New to online learning.
- [ ] Short on time.
- [ ] Using an older or shared device.

...it will likely work better for everyone.

That's Universal Design for Learning in practice — small choices that make learning clearer, fairer, and more human.

Practical learning design principles anyone can use

Good learning design begins with care and intention. Rather than relying on assumptions or habits, effective design considers how learners experience the course as a whole — how they interact with content, with you as the educator, and with each other.

Inclusive design and e-learning principles encourage us to build learning environments that support connection, understanding, and participation, not just information-delivery, and that remain clear, engaging, and flexible for people with many different experiences and needs.

Find out more about Moodle Learning Design

Here are a few simple, research-informed principles you can include in any learning design project:

Create interest early. Start with a clear connection to learners' real work or goals — a question, example, or scenario that helps learners see why the content matters and sparks curiosity.

Provide guided practice and feedback. Give learners short opportunities to apply ideas with guidance and feedback so they feel confident progressing. This supports understanding and keeps momentum going.

Keep instructions clear and intuitive. Use plain language, consistent layouts, and simple navigation. Reducing unnecessary cognitive load helps learners focus on *what they're learning*, not on figuring out how the course works.

Build in reflection and closure. Make space for learners to reflect on what they've learned — and summarise key ideas before moving on. This helps consolidate knowledge and builds confidence.

Design for multiple ways to engage and express understanding. Include a mix of activities (discussion, practice, reflection, multimedia) so learners can interact in the ways that work best for them. This is a core part of inclusive design and Universal Design for Learning.

Set clear, measurable objectives. Be clear about what learners should be able to do by the end of the activity or course — and how you plan to assess progress. Doing this can help learners focus and understand what success looks like in context.

These principles are both practical *and* easy to apply — whether you're designing your first course or redesigning an existing one. They help learners stay motivated, supported, and clear about expectations: essential ingredients for meaningful learning.

Supporting learners throughout the course

Designing great learning experiences is only part of the story: learners also need *ongoing support* to stay engaged and succeed.

support *noun*

/səˈpɔːrt/

The structures, tools, and human interactions that help people participate fully, stay engaged, and make progress — especially when things feel unfamiliar or overwhelming.

Example:

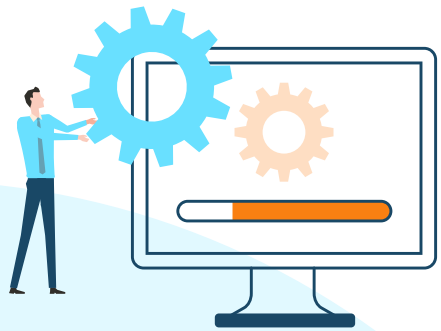
In this course, support meant step-by-step guidance, early practice activities, and a facilitator who checked in when learners went quiet.

Acknowledge the human side of learning. Life happens. Learners arrive with many pressures and stressors, and thoughtful design and communication can help ease that load. Respond to emails promptly, be visible in discussion areas, and offer timely feedback: these small acts build trust and encourage participation.

Be intentional about presence. Learners feel more supported when instructors or facilitators are consistently present. So, welcome contributions, affirm progress, and step in early when questions or struggles arise.

Keep technology supportive. Choose tools that are easy to learn and use consistently throughout the course. Embed instructions and examples so learners don't have to guess how a tool works. Short videos or annotated screenshots can demystify technology and reduce anxiety.

Offer low-stakes practice with technology. Introduce tools early with activities that let learners practice without pressure. This builds confidence and smooths the path for more complex tasks later on.



All of these practices contribute to an environment where learners know they matter and feel more positive about their unique abilities. Good support — designing conditions where learners can engage deeply, manage their progress, and feel confident in their learning journeys — goes a long way toward closing the hidden learning gap.

"I like to record a short course tour video to show learners how to navigate the site and find help. I also find that including a video of myself adds a personal touch (Social Presence) while clearly guiding the learner through the layout (Teaching Presence). That way, learners see a real person, know where they are, and understand how to get help, right from the start."

Carli Cockrell,
Learning Designer,
Moodle Services

How learning management systems help

Learning management systems (LMSs) help educators create high-impact courses that feel engaging and genuinely resonate with learners. Used with care, they can help create learning environments where more people can fully participate — regardless of their previous experience, ability or access to technology.

The suggestions below focus on how learning management systems shape learning at scale. While individual courses play an important role, the system determines whether clarity, accessibility, and support are consistent across experiences. When LMS design adapts to real learner conditions, it becomes a key mechanism for closing the hidden learning gap.

learning management system *noun*

/ˈlɜːnɪŋ ˈmænɪdʒmənt ˈsɪstəm/

A digital platform used to create, deliver, organise, and track learning experiences, bringing together course content, activities, communication, and progress tracking in one place.

Example:

The team used their learning management system to share materials, collect assignments, and give learners a clear sense of progress throughout the course.

Create clear course structures that help learners feel confident

Well-structured courses reduce cognitive load and help learners focus on learning, rather than navigation. For instance, simple tools like section summaries, labels and consistent activity layouts make it easier to show learners what matters, what comes next, and how to get started.

Best practices:

- Add a brief introduction at the start of each section so learners know what it's about and what's expected of them.
- Keep layouts consistent so learners don't have to relearn the interface each week.
- Put key dates, tasks, and resources in predictable places.

cognitive load *noun*

/ˈkɒg.nɪ.tɪv ləʊd/

The amount of mental effort required to understand and work through information during a task or learning activity.

Example:

Clear layouts and shorter lessons helped reduce cognitive load and made the course easier to follow.

Give learners more than one way to engage with content

LMSs make it easier to offer content in multiple formats — for instance, text, video, audio, interactive activities and external tools — without creating separate courses. This flexibility helps learners choose the format that works best for them.

Best practices:

- Pair videos with captions and transcripts.
- Offer key content in more than one format where possible.
- Use built-in authoring tools to break information into manageable chunks.

Choose familiar tools that make learning feel easier

Learning platforms are most effective when they make tasks easier, not more difficult. A well-designed LMS reduces the need for extra tools by supporting discussions, assessments, feedback and reflection in one place.

Best practices:

- Use a small, consistent set of tools throughout the course.
- Embed instructions directly into activities so learners don't have to search for help.
- Provide low-stakes practice activities to help learners get comfortable early.

Help learners see their progress and stay motivated

Seeing progress — and getting feedback along the way — helps learners feel motivated and supported. A good LMS makes this easier through completion tracking, feedback tools, and clear ways to indicate progress.

Best practices:

- Configure activity completion so learners can see what they've done and what's next.
- Use formative feedback to guide improvement, not just evaluate performance.
- Celebrate milestones with badges or certificates when appropriate.

motivation *noun*

/ˌmoʊ.təˈveɪ.ʃən/

The drive or reason that encourages someone to start, continue, and persist in an activity, especially when effort or focus is required.

Example:

Clear goals, timely feedback, and visible progress can boost learner motivation and help people stay engaged throughout a course.

"Nothing keeps someone going like realizing, 'Hey — I'm actually getting somewhere.' When learners can see their progress and get a little guidance along the way, motivation stops being something you have to manufacture — it starts building on its own."

Amy Tessitore,
Director — Global Services Delivery, Moodle

Listen to learners and keep improving as you go

Finally, LMSs make it easier to listen to learners and adjust courses over time. Surveys, feedback activities, and analytics offer insight into what's working and where learners might be struggling.

Best practices:

- Ask for feedback early, not just at the end of a course.
- Watch participation patterns to spot disengagement early.
- Treat course design as an ongoing process, not a one-time build.

Support learning beyond perfect conditions

Learning doesn't always happen at a desk with strong Wi-Fi. Modern LMSs allow people to continue learning while traveling, working shifts, using shared devices, or grappling with unstable connectivity. They do this by making materials accessible to learners at times and in formats that work for them.

Best practices:

- Enable mobile access so learners can engage on phones or tablets.
- Make key content available for offline use where possible.
- Keep file sizes reasonable to support limited bandwidth.
- Design activities that don't require long, uninterrupted sessions to complete.

When learners can make progress even under less-than-ideal conditions, learning feels more realistic — and more humane.

Use AI thoughtfully, with human control

AI can support learning design and delivery — but only when it's used intentionally and transparently. A well-designed LMS should give you control over **when**, **where**, **how**, and **why** AI is used, so it supports learners rather than overwhelming or surveilling them.

Best practices:

- Choose where AI is applied (for example, drafting content, summarising discussions, or supporting feedback).
- Be clear with learners about when AI is involved and how it's being used.
- Use AI to reduce busywork for instructors and designers, not to replace human judgment or connection.
- Avoid one-size-fits-all automation that removes choice or context.
- Review and adjust AI use over time based on learner needs, outcomes, and trust.

With the right controls in place, AI can make learning experiences clearer, more accessible, and more consistent — without taking agency away from learners or educators.

Use data to measure *and* improve learning

Learning management systems don't just deliver content — they also provide insight into how learners are actually experiencing a course. Participation data, completion patterns, and assessment results can help you spot friction early and respond with support.

Best practices:

- Review engagement and completion data to see where learners slow down or drop off.
- Use reports to identify content that may need clarification or restructuring.
- Intervene early when learners disengage, rather than waiting until the end.
- Treat analytics as feedback on your course design, not just learner performance.

Used thoughtfully, LMS data helps teams move from guesswork to informed design, and from reactive fixes to proactive support.

Useful tools and resources

Accessibility standards and guidance

- Web Content Accessibility Guidelines (WCAG) 2.2

  The global standard for digital accessibility, covering perceivable, operable, understandable, and robust content.

- W3C Web Accessibility Initiative (WAI)

  Plain-language guidance, tutorials and tools for building accessible digital content.

- VPAT (Voluntary Product Accessibility Template) overview

  Explains how vendors document accessibility compliance and what to look for when evaluating platforms.

Universal Design for Learning (UDL)

- CAST – Universal Design for Learning Guidelines

  The authoritative source for UDL principles, with clear explanations and examples.

- Universal Design for Learning (UDL) Principles for Workplace Training

  An in-depth look at how UDL supports more inclusive learning in a corporate environment.

- Universal Design for Learning: Out of the classroom and into the corporate world

  Explores how UDL principles support better workplace learning experiences.

Digital equity and digital inclusion

- National Digital Inclusion Alliance (NDIA)

  Research and frameworks on access, skills, devices, and support — useful for understanding digital equity beyond connectivity.

- OECD – Bridging the Digital Divide

  High-level research on structural inequities that shape access to digital learning.

"When we build accessible courses, we build a system where more learners succeed. We remove the stigma of needing "accommodations." We stop expecting people to adapt to an exclusionary system and start designing systems that adapt to every learner."

Scott Anderberg,
CEO, Moodle

Inclusive and effective learning design

- Community of Inquiry (CoI) Framework

  A widely used framework for online learning experiences that emphasises the development of social, cognitive and teaching presence.

- Understanding Bloom's Taxonomy

  A practical framework for writing clear, measurable learning objectives and aligning assessments.

- Mayer's 12 Principles for Multimedia Learning

  Evidence-based guidance for using text, visuals, and audio effectively without overloading learners.

Practical tools for course creators

- WAVE Web Accessibility Evaluation Tool

  A simple tool for checking accessibility issues in web-based content.

- Brickfield Education Labs

  Guidance to help organizations identify and fix accessibility issues in digital learning content.

- Plain Language Guidelines (U.S.)

  Helpful for reducing cognitive load and improving clarity in instructions and course materials.

- Web AIM Color Contrast Checker

  A free online tool that tests whether foreground and background colour combinations meet accessibility standards.

Learning platforms and other resources

- Moodle Academy – Inclusive Teaching and Learning

  Free courses on accessibility, UDL and learner-centered design (useful even beyond Moodle).

- Learning Checkup: Smarter ways to review, refine, and renew your LMS

  Review your LMS and create a clear action plan for building a stronger, more effective learning environment.

Bridging the hidden learning gap

Designing learning that works for everyone starts with small, thoughtful choices. When courses are built to be accessible and easy to follow for learners with different levels of digital capital — including access to technology, prior experience and available support — everyone benefits.

By keeping digital equity, accessibility, and human-centered design in mind from the start, you can create a shared approach to course building that carries forward into every new program. Over time, this becomes part of how your team works — a reliable, repeatable way to design learning that respects people's realities and removes unnecessary barriers before they appear.

If you need support putting these ideas into practice, we're here to help. Whether you're exploring Moodle solutions for the first time or looking to get more from an existing site, our team of experts can work with you to create learning experiences that truly resonate with all learners.

Let's build learning that works — for everyone.

Speak to a learning expert

moodle™