ASCILITE 2026

The Future is Connection:

Collaboration, Creativity and Compassion in a Digital Society

A case study of wellbeing-centred learning design in Massive Open Online Courses (MOOCs)

Kumudu Amarawardhana

University of New South Wales

As higher education increasingly embraces fully online and scalable learning environments, concerns regarding digital fatigue, distraction, social isolation, disengagement, and learner wellbeing have become more prominent. Recent studies suggest that online learning environments are most effective when they support not only cognitive outcomes but also emotional, social, and motivational needs. This paper presents a case study of the redesign of UNSW Canberra's two massive open online courses (MOOCs). Using compassion as a guiding design lens, the case demonstrates how emerging Coursera capabilities, such as AI-supported dialogue items, role play activities, authentic assessments, and facilitated discussion opportunities, were intentionally implemented to address known challenges in online learning. The paper also analyses how this design intervention was intentionally aligned with wellbeing-centred learning design principles. Preliminary course analytics following redesign provide encouraging indicators, including increased learner engagement and improved completion rates across both MOOCs. While these outcomes do not establish causal relationships between individual interventions and learner behaviour, they suggest that wellbeing-centred learning design may positively contribute to learner participation and persistence in large-scale online learning environments. The study highlights the potential of compassion as a practical design lens for creating more supportive, inclusive, and learner-centred digital learning experiences.

Keywords: Compassion, digital technology, lifelong learning, MOOCs, online learning, wellbeing

Introduction

The global expansion of online learning has improved access, flexibility, and opportunities for lifelong learning. Massive open online courses (MOOCs) now serve millions of learners worldwide and play an increasingly important role in professional education and workforce development (Levin, 2024). Yet scale alone does not guarantee meaningful learning.

Research increasingly highlights unintended consequences of digital learning environments, including fatigue, cognitive overload, distraction, reduced satisfaction, social disconnection, and diminished wellbeing (Agrawal & Krishna, 2025; An et al., 2025; Hari Rajan et al., 2024; Le Cunff et al., 2025). Online learners frequently report challenges associated with self-regulation, motivation, and belonging (Akpen et al., 2024; Hari Rajan et al., 2024; Le Cunff et al., 2025).

Traditional MOOCs have often been criticised for promoting passive consumption through recorded lectures and automated quizzes. While these models have played a significant role in expanding access to education globally, they have also attracted criticism for promoting passive content consumption and providing limited opportunities for authentic practice, social interaction, and personalised support (Agrawal & Krishna, 2025; Loh et al., 2024). These limitations have been associated with lower engagement, learner isolation, and reduced satisfaction in some online learning contexts.

The concept of compassionate technology offers an alternative perspective. Compassion involves recognising human struggle and intentionally acting to alleviate it. In digital environments, this requires technologies and learning designs that support wellbeing, agency, inclusion, and social connectedness rather than merely delivering content (Day et al., 2021). Importantly, compassion does not imply lowering academic standards. Instead, it involves creating learning environments that enable learners to succeed despite complex personal, professional, and geographical circumstances (Day et al., 2021; Gougou, 2024). Compassionate digital education shifts the design focus from content transmission to learner experience. Recent literature identifies

several interconnected dimensions of learner wellbeing, discussed further under key principles and concepts (Agrawal & Krishna, 2025; Gougou, 2024; Stalmach et al., 2025).

This paper presents a practical response to the challenges posed to MOOCs by redesigning UNSW Canberra's two MOOCs delivered through Coursera platform, as a case study to demonstrate compassion in digital education.

Key principles and concepts

As online learning expands across higher education and professional development, there is increasing recognition that effective digital learning environments must support learner wellbeing, engagement, and inclusion alongside academic success. Accordingly, the redesign of the MOOCs was guided by the following key principles and concepts.

Compassion in digital education

Compassion in digital education extends beyond supportive communication or positive learning experiences. Drawing on the concept of compassionate technology, compassion involves recognising human struggle and intentionally taking action to alleviate it (Day et al., 2021). Within educational contexts, this requires learning environments that actively support learner wellbeing, participation, agency, inclusion, and success, particularly in situations where learners may experience fatigue, uncertainty, isolation, or competing personal and professional commitments. Compassionate digital learning therefore focuses not only on what learners need to know, but also on how learning environments can support learners as individuals (Killingback et al., 2025).

Learner-centred design

Learner-centred design places learners' goals, needs, motivations, experiences, and contexts at the centre of educational decision-making. Rather than focusing primarily on content transmission, learner-centred approaches seek to create meaningful learning experiences that support engagement, autonomy, relevance, and success (Pysarchyk, 2024). Such approaches are particularly important in online learning environments, where learners are often required to self-regulate their learning while navigating multiple personal and professional responsibilities. In this context, compassionate design and learner-centred design are closely aligned because both seek to understand and respond to the realities of learners' experiences (Shehata et al., 2024).

Dimensions of learner wellbeing

Drawing on contemporary literature on online learning, learner wellbeing, and compassionate pedagogy, five interconnected dimensions of learner wellbeing were identified as guiding principles for the redesign of the MOOCs (Agrawal & Krishna, 2025; Gougou, 2024; Stalmach et al., 2025). These principles and their relevance to online learning are described in Table 1.

Table 1.
Five dimensions of learner wellbeing principles and their relevance to online learning

Wellbeing principle	Description	Relevance to online learning
Cognitive wellbeing	Managing cognitive load, fatigue, and distraction.	Supports sustained engagement and reduces learner burden (Hari Rajan et al., 2024; Loh et al., 2024).
Emotional wellbeing	Supporting confidence, resilience, and self-reflection.	Encourages motivation, self-efficacy, and learner growth (Ge, 2025; Stalmach et al., 2025).
Social wellbeing	Fostering belonging, connection, and participation.	Reduces isolation and strengthens learning communities (Loh et al., 2024).

Wellbeing principle	Description	Relevance to online learning
Equity and inclusion	Supporting participation across diverse learner circumstances.	Promotes equitable access and meaningful engagement (Gougou, 2024).
Learner agency and self-regulation	Supporting autonomy, choice, and ownership of learning.	Enables learners to direct and manage their learning experiences (Agrawal & Krishna, 2025).

Case study: Redesigning UNSW Canberra MOOCs

UNSW Canberra offers two MOOCs through the Coursera platform: Introduction to Systems Engineering and Requirements Writing. These courses support professional learning and workforce development by providing flexible, self-paced learning opportunities to a diverse global audience. Designed for learners from varying professional backgrounds and levels of experience, the courses aim to develop foundational capabilities in systems engineering and requirements engineering while maintaining accessibility for large-scale enrolments.

While MOOCs have significantly expanded access to education, they have also been associated with challenges including passive content consumption, learner disengagement, social isolation, limited opportunities for authentic practice, and declining motivation over time. These challenges can be particularly pronounced in asynchronous learning environments where learners must independently manage their learning while balancing professional, personal, and educational commitments. Such issues are increasingly recognised as important considerations for learner wellbeing and success in digital education.

In response to these challenges, the two MOOCs underwent a comprehensive redesign process as part of a collaborative initiative between UNSW Canberra and Coursera. The objective extended beyond updating course content and sought to enhance learner engagement, participation, and overall learning experience through the introduction of emerging Coursera learning capabilities. Guided by the principles of cognitive wellbeing, emotional wellbeing, social wellbeing, equity and inclusion, and learner agency, the redesign aimed to create more interactive, authentic, and learner-centred learning experiences while preserving the scalability and flexibility that characterise MOOCs. This case study explores how compassion was operationalised through wellbeing-centred learning design by intentionally aligning learning design interventions with identified learner challenges in large-scale online learning environments.

The redesign process was framed around the five dimensions of learner wellbeing principles discussed earlier. Rather than viewing compassion as an inherent characteristic of technology, this study conceptualises compassion as a deliberate design intention reflected in the choices made to address known learner challenges in online environments. Table 2 summarises the wellbeing principles that informed the redesign, the learner challenges they sought to address, the corresponding learning design interventions implemented within the MOOCs, and their intended compassionate outcomes.

Table 2.
Mapping wellbeing principles to learning design interventions

Wellbeing principle	Learner challenge addressed	Learning design intervention	Intended compassionate outcome
Cognitive Wellbeing	Digital fatigue, cognitive overload, passive content consumption.	Shorter instructional segments, structured learning pathways, reflective prompts, applied practice activities.	Reduce learner burden, maintain engagement, and support sustained participation.
Emotional wellbeing	Uncertainty, reduced confidence, limited opportunities for self-reflection and feedback.	AI-supported dialogue items and role play activities (psychologically safe spaces), instant feedback, reflection activities, authentic learning tasks.	Foster confidence, encourage reflection, and support learner growth in a psychologically safe environment.

Wellbeing principle	Learner challenge addressed	Learning design intervention	Intended compassionate outcome
Social wellbeing	Social isolation, disengagement, limited peer interaction.	Discussion forums, community-based discussions, collaborative knowledge sharing activities.	Strengthen connection, belonging, and learner engagement.
Equity and inclusion	Diverse learner needs, varying professional experience, geographical and personal constraints.	Flexible participation pathways, self-paced learning, multiple forms of engagement, authentic assessments.	Promote equitable access, participation, and learner success.
Learner agency and self-regulation	Motivation challenges, passive participation, self-regulation difficulties.	Dialogue-based activities, role play activities, decision-making tasks, self-directed learning opportunities.	Enhance autonomy, active participation, self-regulation, and ownership of learning.

Collectively, these interventions illustrate how learner wellbeing principles were translated into concrete learning design decisions within the two MOOCs. Importantly, compassion was not embedded in the technology itself, but in how the technology was intentionally used to reduce learner barriers, support participation, foster confidence, and create opportunities for meaningful engagement. The redesign process leveraged emerging Coursera capabilities to address identified learner challenges. Dialogue items and role play activities were designed to create psychologically safe spaces where learners could learn through mistakes, engage in reflection, build confidence, and develop self-regulation skills without fear of judgement. Discussion activities strengthened connection and belonging, while flexible participation pathways supported inclusion and learner agency. A few examples from a MOOC are shown in Figure 1. In this way, compassion was operationalised as a learner-centred design intention embedded throughout the learning experience, rather than as an inherent property of the technology itself.

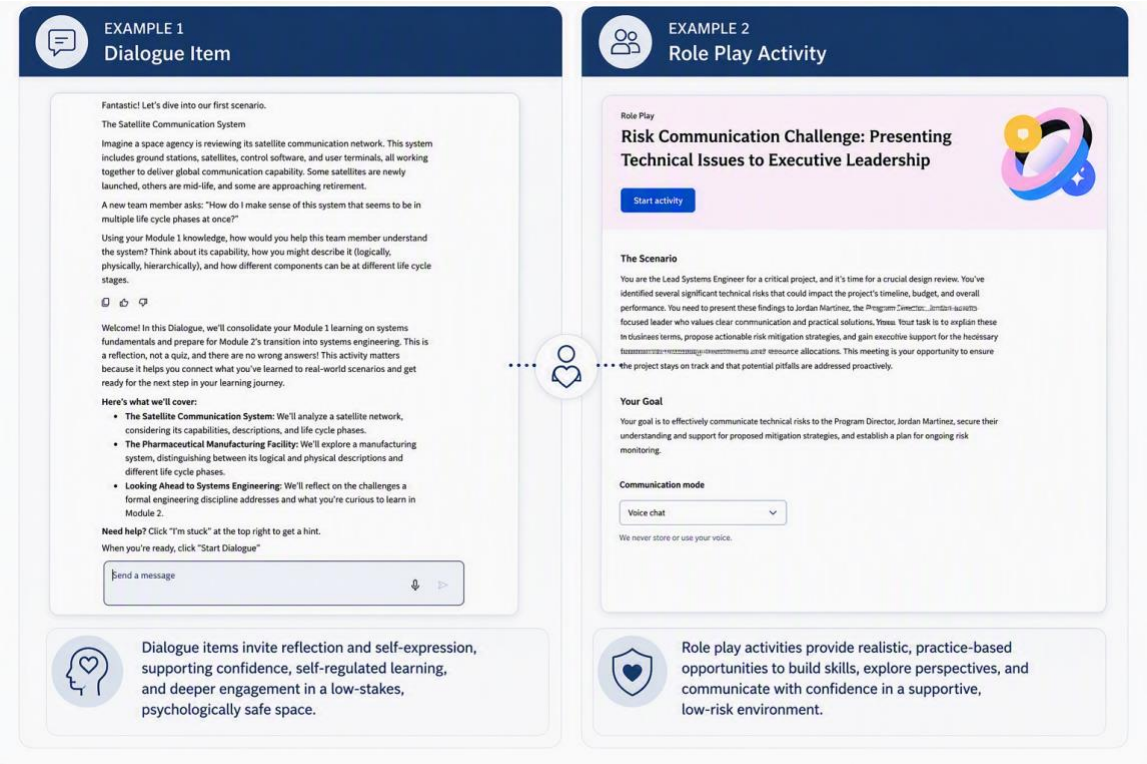


Figure 1. Examples of learning design intervention

Preliminary Coursera analytics comparing pre- and post-redesign performance provide encouraging indicators of impact across both MOOCs. Figure 2 shows consistent improvements in learner engagement and persistence following redesign. Completion rates increased across successive quarters for both courses, while active participation rates rose markedly, indicating that a greater proportion of enrolled learners progressed into meaningful engagement with the learning experience. Enrolment patterns remained stable or improved,

suggesting sustained learner interest alongside the redesigned learning experience. Although these data do not permit attribution of outcomes to specific design interventions, they provide preliminary evidence that the wellbeing-centred redesign may be positively influencing learner participation, engagement, and course completion.

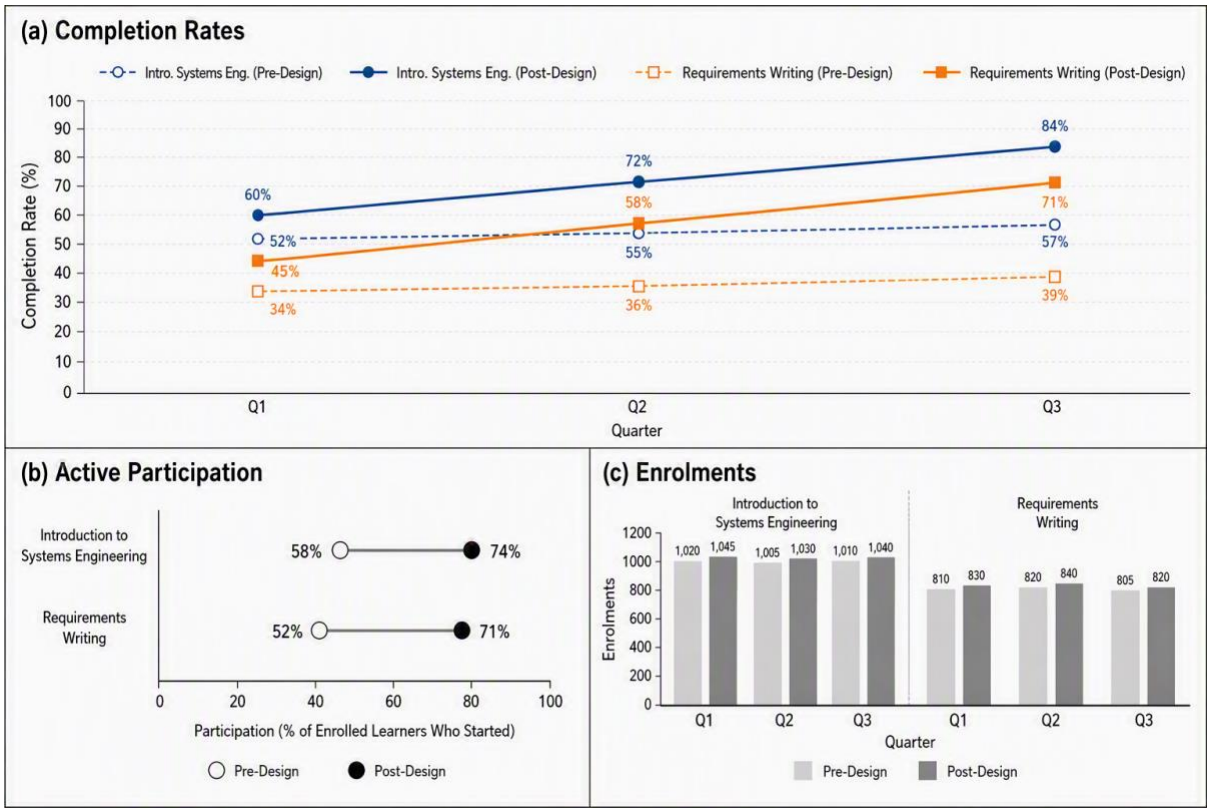


Figure 2. Preliminary analytics comparing pre- and post-redesign performance

Discussion

A key insight emerging from this case study is that compassion in digital education is not determined by the technology itself, but by the pedagogical intentions that shape its use. Dialogue items, role play activities, discussion forums, and other Coursera capabilities are not inherently compassionate. Rather, they become mechanisms for compassionate practice when they are deliberately designed to address learner challenges and support wellbeing, participation, confidence, and success.

The redesign of the two MOOCs was informed by the recognition that online learners often encounter cognitive overload, fatigue, uncertainty, social isolation, and competing personal and professional demands. Consequently, wellbeing considerations were positioned as explicit design requirements rather than supplementary learner support mechanisms. This resulted in learning experiences that sought to reduce learner burden, create psychologically safe opportunities for reflection and authentic practice, strengthen belonging and connection, and provide greater flexibility and agency.

The case study demonstrates that compassionate learning design involves more than increasing interactivity or adopting new technologies. Instead, it requires a deliberate focus on learners' experiences, circumstances, and potential barriers to participation. In this context, compassion was operationalised through learner-centred design decisions that made learning more accessible, supportive, inclusive, and engaging while preserving the scalability and flexibility of the MOOC model.

More broadly, the findings suggest that wellbeing need not be treated as separate from learning design. Rather, it can be embedded directly into the design of learning experiences through intentional choices that support cognitive, emotional, and social dimensions of learning. As higher education increasingly embraces

digital technologies and artificial intelligence, these findings highlight the potential for compassion to serve as a practical design lens for creating more supportive and inclusive online learning environments.

Limitations

This paper presents a design-focused case study of the redesign of two MOOCs and does not seek to establish causal relationships between specific learning design interventions and learner outcomes. Although preliminary Coursera analytics indicate improvements in learner engagement and completion rates following redesign, the available data do not allow attribution of these improvements to individual interventions such as dialogue items, role play activities, or community-based discussions. Multiple factors may contribute to learner behaviour, including learner characteristics, enrolment patterns, external circumstances, and broader platform influences.

Furthermore, technology-enabled learning design alone cannot address all determinants of learner wellbeing. Learners' experiences may also be influenced by workload pressures, motivation, digital access, prior educational experiences, personal circumstances, and institutional support structures. Compassionate learning design should therefore be viewed as one component of a broader ecosystem of learner support rather than a complete solution to wellbeing challenges in online education.

Future research will extend the preliminary analytics presented in this study through learner surveys, course reviews, interviews, discussion analysis, and additional platform data. Particular attention will be given to understanding how learners experience dialogue items, role play activities, and community-based interactions, and whether these interventions contribute to increased confidence, engagement, belonging, and perceived wellbeing. Such evidence will be important in evaluating the relationship between compassionate learning design and learner outcomes in large-scale online learning environments.

Conclusion

As online learning continues to expand across higher education and professional development, there is increasing recognition that learner wellbeing, engagement, and belonging are critical components of successful digital learning environments. This case study examined the redesign of UNSW Canberra's two MOOCs through the lenses of compassion, learner-centred design, and five interconnected dimensions of learner wellbeing: cognitive wellbeing, emotional wellbeing, social wellbeing, equity and inclusion, and learner agency and self-regulation.

The findings demonstrate that compassion can be operationalised as a deliberate learning design strategy rather than as a feature of technology itself. Through the intentional alignment of learner wellbeing principles with emerging Coursera capabilities, the redesign sought to address common challenges associated with online learning, including cognitive overload, uncertainty, social isolation, disengagement, and barriers to participation.

Preliminary course analytics provide encouraging evidence following redesign, with both MOOCs showing improvements in learner engagement and completion rates. While further research is required to understand the contribution of specific interventions and their impact on learner wellbeing, the findings suggest that wellbeing-centred learning design may positively contribute to learner participation, engagement, and persistence in large-scale online learning environments.

The primary contribution of this study is the demonstration of how compassion can be translated from a conceptual aspiration into concrete learning design decisions within scalable online education. Rather than treating wellbeing as separate from teaching and learning, the case study illustrates how wellbeing considerations can be embedded directly into course design to support confidence, reflection, belonging, inclusion, and learner agency.

As digital learning environments increasingly incorporate artificial intelligence and other emerging technologies, the challenge is not simply how to scale learning, but how to scale meaningful and supportive

learning experiences. In this regard, compassion offers a practical and evidence-informed design lens for creating more inclusive, engaging, and learner-centred online education.

Acknowledgements

The author gratefully acknowledges Eric Datta and Anuradha Kalabi from Coursera for their ongoing support and partnership throughout the redesign of UNSW Canberra's MOOCs. Their expertise, collaboration, and willingness to share ideas contributed significantly to the exploration of innovative approaches to compassionate and learner-centred online learning design. The shared experience and learning journey throughout the redesign process were invaluable in shaping the perspectives presented in this paper, particularly regarding the design of engaging and authentic learning experiences, and the thoughtful integration of emerging digital learning capabilities within large-scale online learning environments. The author also sincerely thanks them for providing the preliminary course analytics data that informed the evaluation of the redesign and strengthened the evidence base presented in this study.

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