

From the Screen, with Love: Enhancing Social Presence through an AI-afforded Bichronous Pedagogy

Will Zhao (University of Waterloo)
Lina Ba (University of Bath)
Ai-Jou Pan (Nanyang Technological University)

85th Academy of Management Annual Meeting - Teaching and Learning Conference

Copenhagen, Denmark, July 27, 2025

CITATION GUIDANCE:

To cite the AOM-TLC poster presentation:

Zhao, W., Ba, L., & Pan, A-J. (2025, July). From the Screen, with Love: Enhancing Social Presence through an AI-afforded Bichronous Pedagogy. Poster presented at the Teaching and Learning Conference, 85th Academy of Management Annual Meeting, Copenhagen, Denmark.

To cite this companion document:

Zhao, W., Ba, L., & Pan, A-J. (2025). From the Screen, with Love: Enhancing Social Presence through an AI-afforded Bichronous Pedagogy. Poster companion document, Teaching and Learning Conference, 85th Academy of Management Annual Meeting, Copenhagen, Denmark.

DOCUMENT NOTE:

Companion document for the interactive poster "From the Screen, with Love: Enhancing Social Presence through an AI-Afforded Bichronous Pedagogy" presented at AOM 2025 TLC (Interactive Poster Session, July 27, 2025). The interactive poster session submission to AOM underwent peer review; this companion provides extended implementation details and is accessible through the QR code on the poster. Current version: Ver20250703.

From the Screen, with Love: Enhancing Social Presence through an AI-afforded Bichronous Pedagogy

Abstract

This project introduces an AI-afforded bichronous pedagogy of care designed to enhance social presence among students in online management education. Anchored in compassion and leveraging both synchronous and asynchronous modalities, this approach addresses the persistent engagement gap between online and face-to-face learning through AI-enhanced team coaching. The pedagogy supports collaborative learning through key developmental milestones, including the creation of care-centered team contracts and the completion of collaborative projects. Drawing from experiences in an online Organizational Behavior course, this project demonstrates how a strategic blend of AI coaching nudges, instructor-led real-time check-ins, and empathy-driven AI prompts design fosters community, improves team accountability, and supports student well-being. This project equips management educators with concrete strategies to incorporate AI as an "assistant coach" within bichronous course designs, enabling more inclusive, supportive, and humanized online learning environments. We provide detailed implementation guidance, sample prompts, and lessons learned from practical application.

Keywords: management education, artificial intelligence, bichronous learning, social presence, team coaching, online pedagogy

Introduction

Today's higher education institutions across the globe find themselves under increasing pressure to offer more entirely online learning courses and programs (Joshi, 2022; Lennon, 2021). Indeed, even before the Covid-19 pandemic, scholars had argued that the online mode of course delivery was here to stay (Kentnor, 2015). In the business education context, this acceleration toward online education has created unprecedented opportunities alongside persistent pedagogical difficulties in creating engaging, supportive learning environments (Mintzberg, 2004). Research consistently reveals a significant engagement gap between face-to-face and online students, with virtual learners experiencing lower participation rates, weaker peer connections, and reduced retention (Bettinger et al., 2017; Bettinger & Loeb, 2017). These issues become particularly acute in organizational behavior courses, where developing collaborative teamwork and leadership competencies requires sustained interpersonal interaction traditionally associated with in-person environments.

Social presence, defined as "the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships" (Short et al., 1976: 65), has been well-established as critical for student engagement and learning outcomes (Bowers & Kumar, 2015; Richardson et al., 2017). A fundamental challenge for management educators is creating conditions that simultaneously foster social presence and develop practical team skills within virtual environments that inherently limit nonverbal communication and spontaneous interaction.

To address this challenge, we present a practical implementation framework that bridges the gap between technological possibility and pedagogical need through the strategic integration of artificial intelligence (AI) tools with traditional instructor coaching. Our solution centers on bichronous learning environments—defined as the intentional combination of synchronous and asynchronous

online learning activities (Martin et al., 2020) – enhanced by AI-afforded support mechanisms. Rather than replacing human connection, our pedagogy leverages publicly available AI tools to provide continuous guidance during asynchronous periods while preserving the irreplaceable value of human coaching during synchronous sessions.

Theoretical Foundation and Pedagogical Rationale

Our approach synthesizes three complementary theoretical frameworks that together provide a robust foundation for AI-enhanced collaborative learning. Social presence theory (Short et al., 1976) offers fundamental insights into interpersonal connection within mediated environments. Bichronous learning design (Martin et al., 2020) provides the structural framework for strategically combining synchronous and asynchronous activities. Finally, pedagogy of care (Burke & Larmar, 2021) supplies the philosophical orientation that prioritizes empathetic connection and student well-being in educational practice.

Online learning environments create substantial barriers to community formation through reduced nonverbal cues, asynchronous communication delays, physical separation (Rovai, 2002), and miscommunications between peers (Zembylas, 2008) who are often "faceless" (Chyung, 2001; Porras et al., 2021). Much of the extant literature has pointed to the importance of developing and maintaining a strong social presence for online learners so as to alleviate their alienation (Bowers & Kumar, 2015). Indeed, meta-analytic evidence demonstrates that enhanced social presence correlates with improved learning outcomes, increased satisfaction, and higher retention rates in online courses (Richardson et al., 2017).

That said, creating authentic social presence in virtual team-based learning requires intentional pedagogical design. One approach that has shown promise for enhancing social presence is what Martin et al. (2020) termed "bichronous learning", i.e., the strategic combination of synchronous and asynchronous online learning activities, which has been argued to leverage the immediate interaction benefits of real-time sessions while providing the flexibility and reflection opportunities of asynchronous work. Nevertheless, bichronous learning creates temporal gaps that can undermine social presence for teams. The periods between synchronous sessions often lack adequate support for team dynamics, conflict resolution, and relationship maintenance. Without continuous guidance, student teams may develop dysfunctional patterns or fail to address emerging issues effectively, ultimately diminishing the collaborative learning experience.

Burke and Larmar (2021) advocate for an "online pedagogy of care" that prioritizes empathetic connection and student well-being in virtual learning environments. This approach recognizes that effective education extends beyond content delivery to encompass emotional support and community building. In team-based courses, care-centered approaches encourage students to support each other's learning and personal development while fostering psychological safety for authentic communication. The integration of AI tools into the bichronous pedagogy offers unique opportunities to scale empathetic support without diminishing human connection. By positioning AI as providing structured guidance for routine team maintenance while preserving human coaching for complex interpersonal situations, educators can create more comprehensive support systems that address both the cognitive and emotional dimensions of collaborative learning.

Implementation Framework: The Three-Phase Model

Our approach treats AI as an assistant coach rather than a replacement for human guidance, maintaining the fundamental importance of human connection in educational experiences. This AI-

afforded bichronous pedagogy operates through a flexible implementation model designed to accommodate students across multiple time zones while maintaining care-centered community building.

Core Design Principles

The framework recognizes that truly global online education requires systems that support both synchronous connection and asynchronous continuity without disadvantaging any participants. Some foundational principles that guide implementation include:

- **Time Zone Equity:** No student should be systematically disadvantaged by their geographical location. Multiple synchronous options and robust asynchronous support ensure all students have access to equivalent coaching and community experiences.
- **Cultural Responsiveness:** AI prompts and coaching approaches accommodate diverse communication styles, cultural backgrounds, and educational expectations while maintaining consistent learning objectives.
- **Flexible Participation:** Students who engage with AI coaching can interact meaningfully and in a guided fashion with their team, even when they are unable to attend all synchronous coaching sessions by the instructor.

Phase 1: Inclusive Team Contracting and Socialization

The first phase addresses the foundational challenge of relationship building in distributed environments. Traditional team formation assumes shared temporal availability, but online cohorts require more sophisticated approaches that build relationships across geographical and cultural boundaries.

Multimodal Team Building

- **Technology-Mediated Introductions:** Students practice introducing themselves and discussing team expectations with each other asynchronously before live team interactions
- **Asynchronous Compatibility Mapping:** AI-facilitated assessment of working preferences, time zone availability, and cultural communication styles
- **Synchronous Meetups:** Students are encouraged to hold multiple brief synchronous meet-ups among themselves rather than lengthy group meetings.

Contract Development

Building on these initial connections, teams develop contracts that explicitly address time zone challenges, cultural differences, and care practices across geographical boundaries. Below is a sample AI prompt for team contracts:

"We are a group of students working on ...[members' relevant yet anonymized information]... Generate a team contract template for a (globally) distributed team that addresses: 1) communication norms across different time zones and cultural contexts, 2) equitable participation strategies when not all members can attend synchronous sessions, 3) cultural sensitivity protocols for giving feedback and resolving conflicts, 4) support mechanisms for teammates facing different personal or professional pressures, and 5) strategies for maintaining team cohesion despite physical separation."

Implementation Timeline

In general, the first phase unfolds according to the following timeline:

- **Initial Formation:** Asynchronous compatibility assessment with flexible synchronous introduction sessions

- Contract Development: Collaborative document creation (working with AI on pre-provided templates), with multiple check-in opportunities across time zones
- Refinement: Team setup refinement through team discussion and AI-generated feedback prompts
- Individual Reflection: Personal reflection on using AI-generated prompts for team formation

Phase 2: Bichronous Delivery with Continuous AI Support

Having established strong foundational relationships and agreements, the core of our model involves strategically positioning AI tools to provide continuous support during asynchronous periods while preserving human coaching for synchronous sessions. This phase represents the heart of our approach, creating a sustainable rhythm of support that maintains team cohesion across temporal gaps inherent in online learning.

Instructor Role During Synchronous Sessions

During real-time sessions, instructors focus on activities that require human judgment, contextual understanding, and immediate response to complex interpersonal dynamics:

- Debrief team experiences and connect them to the course content
- Address complex interpersonal difficulties requiring contextual judgment and empathy
- Facilitate discussion of AI-generated insights and recommendations
- Provide guidance for situations where AI recommendations may be inappropriate or insufficient

Sample Instructor Coaching Questions

Conflict Prevention and Resolution: "Reflecting on your team interactions this week: 1) What communication patterns have emerged in your team discussions? 2) Were there moments of tension or disagreement, and how were they addressed? 3) What feedback do you have for teammates that you haven't yet shared? 4) How might you adjust your communication approaches to better support each team member's contributions?"

Course Content Integration: "Connect your current team experience to course concepts: 1) What organizational behavior theories help explain your team's current dynamics? 2) How does your team's development align with or differ from established team development models? 3) What leadership behaviors have you observed within your team? 4) How might the concepts we've studied improve your team's effectiveness?"

AI Support During Asynchronous Periods

Complementing the human-centered synchronous sessions, during independent work periods, teams utilize structured AI-generated prompts to:

- Maintain awareness of team member well-being and capacity
- Identify emerging conflicts before they escalate into relationship-damaging disputes
- Connect ongoing team experiences to the course content
- Provide frameworks for difficult conversations and constructive feedback delivery
- Track team development patterns and suggest evidence-based improvements

Phase 3: Meta-Learning and Continuous Improvement

The final phase involves explicit reflection on the AI integration experience itself, helping students develop a sophisticated understanding of human-AI collaboration while enabling continuous pedagogical refinement.

Meta-Learning Integration

- Dedicated synchronous session examining AI's impact on teamwork and collaborative learning
- Structured comparison of AI versus human coaching effectiveness across different situations
- Exploration of workplace implications for AI-supported team management and leadership development

Assessment Integration

- Reflection assignments examining AI coaching experiences and their impact on team development
- Evaluation of students' ability to critically assess AI recommendations and adapt them to context
- Longitudinal tracking of changes in social presence and team competencies and human-AI collaboration skills

Practical Implementation Guidance

Translating our theoretical framework into practice requires careful attention to both technological infrastructure and pedagogical execution. This section provides concrete guidance for educators seeking to implement AI-afforded bichronous pedagogies in their own contexts.

Technology Requirements and Tool Selection

A key principle underlying our approach is accessibility. Our approach prioritizes accessibility and immediate implementation using publicly available AI tools without requiring institutional investment in specialized platforms or custom development.

Recommended Tool Combinations

To support the implementation model above, we recommend the following tool ecosystem:

- ChatGPT Plus for prompt generation and team coaching guidance
- Microsoft Teams or Zoom for synchronous coaching sessions
- Miro or similar collaborative platforms for documentation and partial teamwork
- Learning Management System scheduling for automated prompt delivery and peer feedback

Prompt Development and Customization

Effective AI coaching requires carefully designed prompts that are specific, actionable, and aligned with course learning objectives while maintaining focus on both task accomplishment and relationship development.

Prompt Design Principles

Drawing from prior implementation experience, effective prompts should adhere to the following principles:

- Specificity: Frame concrete questions rather than general check-ins
- Actionability: Include guidance for applying insights to immediate team improvement
- Theoretical Integration: Connect team experiences to course concepts and established theory
- Care Orientation: Emphasize mutual support and well-being alongside performance

- Cultural Sensitivity: Consider diverse communication styles and cultural preferences

Sample Prompts

Early Team Development: *"Your team is in the forming stage of development. Reflect individually and then discuss: 1) What assumptions are you making about your teammates' skills and working styles? 2) What concerns do you have about this collaboration that you haven't yet voiced? 3) How might you contribute to creating psychological safety for authentic communication? 4) What ground rules would help your team navigate differences effectively?"*

Mid-Project Checkpoint: *"As your team progresses through the storming and norming phases: 1) What conflicts or tensions have emerged, and how have you addressed them? 2) What patterns do you notice in how decisions are made? 3) Who has taken on which roles, and is this distribution working effectively? 4) What adjustments might improve your team's collaborative effectiveness?"*

Pre-Deadline Support: *"With your deadline approaching: 1) How is stress affecting your team dynamics? 2) What specific support do individual team members need to complete their contributions successfully? 3) How might you maintain quality standards while showing compassion for different circumstances? 4) What have you learned about managing time and expectations in virtual collaboration?"*

Integration with Learning Management Systems

Successful implementation requires seamless integration with existing institutional and course infrastructure to minimize technological barriers for both instructors and students while maintaining pedagogical coherence.

Recommended LMS Integration Strategies

To facilitate smooth adoption, we recommend the following integration approaches:

- Schedule AI prompts as assignment reminders with clear instructions
- Create dedicated discussion spaces for AI-facilitated reflection within team project modules
- Provide explicit guidelines for when to rely on AI coaching versus seeking peer or instructor guidance
- Integrate AI coaching experiences into existing reflection assignments

Student Onboarding

Given the novelty of AI-supported learning for many students, onboarding in the following ways is recommended:

- Include a comprehensive AI tool orientation in the course introduction materials
- Provide a dedicated kickoff session for AI integration
- Establish clear guidelines for appropriate AI use and limitations
- Create protocols for escalating issues beyond AI coaching capabilities

Discussion and Future Directions

The AI-afforded bichronous pedagogy of care presented in this session offers management educators a promising approach to enhancing online collaborative learning environments. Our implementation experience across three graduate student cohorts demonstrates that thoughtful AI integration can provide valuable supplementary support when designed within a care-centered pedagogical

framework. However, we acknowledge that effectiveness may vary significantly across student populations, cultural contexts, and institutional settings.

The implications of our work extend beyond immediate pedagogical concerns. As management education continues evolving in response to changing student needs and technological capabilities, approaches like ours offer one pathway for exploring productive human-AI collaboration in educational contexts. The practical guidance provided in this session enables informed decision-making about AI integration while contributing to broader conversations about technology's role in higher education. Yet, significant research gaps remain. For instance, further empirical research is needed to establish the effectiveness of AI-supported versus traditional team coaching approaches. Also, longitudinal research is essential to understand the long-term implications of AI-mediated peer relationships and collaborative learning experiences.

From a practical standpoint, educators considering the adoption of AI-afforded bichronous pedagogies need navigate several key considerations that merit attention. Institutional support for faculty development in AI tool integration appears critical for successful implementation. Instructors require training not only in technical tool usage but also in redesigning pedagogical approaches to leverage AI effectively while maintaining human-centered educational values. Furthermore, questions of academic integrity and authentic assessment become more complex when AI tools are integrated into collaborative learning experiences. Clear guidelines and ethical frameworks are needed to help students navigate appropriate versus inappropriate uses of AI assistance in team-based assignments.

Looking toward the future of management education, as our field continues refining these approaches, we emphasize that the fundamental work of developing effective, ethical leaders remains essentially human. However, thoughtfully designed AI integration can enhance educators' capacity to support this critical developmental process in increasingly digital educational environments.

References

- Bettinger, E. P., Fox, L., Loeb, S., & Taylor, E. S. (2017). Virtual classrooms: How online college courses affect student success. *American Economic Review*, 107(9), 2855–2875.
- Bettinger, E. P., & Loeb, S. (2017). Promises and pitfalls of online education. *Evidence Speaks Reports*, 2(15), 1-4.
- Bowers, J., & Kumar, P. (2015). Students' perceptions of teaching and social presence. *International Journal of Web-Based Learning and Teaching Technologies*, 10(1), 27–44.
- Burke, K., & Larmar, S. (2021). Acknowledging another face in the virtual crowd: Reimagining the online experience in higher education through an online pedagogy of care. *Journal of Further and Higher Education*, 45(5), 601–615.
- Chyung, S. Y. (2001). Conducting learner analysis to adjust online instruction for your faceless learners. In *Proceedings of the 17th Annual Conference on Distance Teaching and Learning*. University of Wisconsin-Madison.
- Joshi, M. S. (2022). Holistic design of online degree programmes in higher education – a case study from Finland. *International Journal of Educational Management*, 36(1), 32–48.
- Goleman, D. (1998). *Working with emotional intelligence*. Bantam Books.
- Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., Stadler, M., Weller, J., Kuhn, J., & Kasneci, G. (2023). ChatGPT for good?

- On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 102274.
- Kentnor, H. E. (2015). Distance Education and the Evolution of Online Learning in the United States. *Curriculum and Teaching Dialogue*, 17(2).
- Lennon, C. (2021). How Do Online Degrees Affect Labor Market Prospects? Evidence from a Correspondence Audit Study. *ILR Review*, 74(4), 920–947.
- Martin, F., Polly, D., & Ritzhaupt, A. (2020, September 8). Bichronous online learning: Blending asynchronous and synchronous online learning. *EDUCAUSE Review*. <https://er.educause.edu/articles/2020/9/bichronous-online-learning-blending-asynchronous-and-synchronous-online-learning>
- Mintzberg, H. (2004). *Managers, not MBAs: A hard look at the soft practice of managing and management development*. Berrett-Koehler Publishers.
- Richardson, J. C., Maeda, Y., Lv, J., & Caskurlu, S. (2017). Social presence in relation to students' satisfaction and learning in the online environment: A meta-analysis. *Computers in Human Behavior*, 71, 402–417.
- Rovai, A. P. (2002). Building sense of community at a distance. *The International Review of Research in Open and Distributed Learning*, 3(1).
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. John Wiley & Sons.
- Zembylas, M. (2008). Adult learners' emotions in online learning. *Distance Education*, 29(1), 71-87.

Contributions and Acknowledgments

Will Zhao (UWaterloo) led all project aspects, including conceptualization, methodology, implementation, analysis, and manuscript writing. **Lina Ba** (UBath & WTBU) contributed to manuscript development and editing. **Ai-Jou Pan** (NTU) served as a teaching assistant during one iteration of the implementation and contributed to final manuscript editing and the poster. **WZ** thanks the graduate students for their engagement in the course and participants in the paper development workshop at the EGOS Strategy-as-Practice (SAP) Community Day 2025 (Athens, July 2, 2025) for comments on an associated manuscript. This current work is part of a larger program that emerged from a teaching innovation initiative led by **WZ** at UWaterloo, which was partially supported by a LITE Grant from the University's Centre for Teaching Excellence and a UW/SSHRC Exchange Grant.