ILR School

AI Applications in Talent Management: Opportunities, Challenges, and Future Directions

Part 2: Talent Development

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About me



Brad Bell · 1st

William J. Conaty Professor of Strategic Human Resources, Director of the Center for Advanced Human Resource Studies at ILR School

Ithaca, New York, United States · Contact info

- **I've been doing this a long time:** 25+ years studying HR and technology at work
- **This is what I study:** Focus on learning and development
- **This is what I spend much of my time on now:** The future of the HR function

Agenda

Overview
The explosion of AI in talent development

What the research says
Insights into the impact of AI on development

Open discussion
Q&A, opinions, experience, etc.



Explosion of AI in Talent Development

HR Tech Market Map – Selected Public and Privately Held Companies



Talent Acquisition

andela, Beamery, breezy, Bullhorn, CLEARCO, clovers, Codility, Criteria, eightfold.ai, employ, engin, fetcher, fountain, Gem, greenhouse, HackerRank, harver, Hired, HireVue, hireEZ, icims, JobAdder, Leena AI, LEVER, PARADOX, phenom, PLUM, recruitee, RIVAL, sapia, seekout, SOVA, SPARK HIRE, TURING, workable, workstream

HRIS/Payroll

alight, Asure, ADP, bambooHR, Bright, dayforce, congruity, deel., employmenthero, factorial, gusto, HiBob, Insperity, INTUIT, isolved, Justworks, Multiplier, onpay, papaya global, PATRIOT, PAYCHEX, paycom, Paycor, PayFit, paylocity, RIPPLING, Square, TANDEM, trinet, wave

HCM/LMS

15five, 360Learning, awardco, BetterUp, betterworks, BIZ LIBRARY, Bonusly, CoachHub, Cornerstone, coursera, Culture Amp, degreed, EPIGNOSIS, FOND, kudos, Lattice, Leapsome, meQ, motivosity, OpenSesame, peoplestrong, Perceptyx, Quantive, seekout, skillsoft, torch, UDACITY, udemy, WORKRAMP, worktango, XYLEME

Large ERP

Acumatica, Deltek, EPICOR, IFS, infor, Microsoft, ORACLE, PLEX, Sage, SAP, servicenow, UNIT4, VISMA, workday

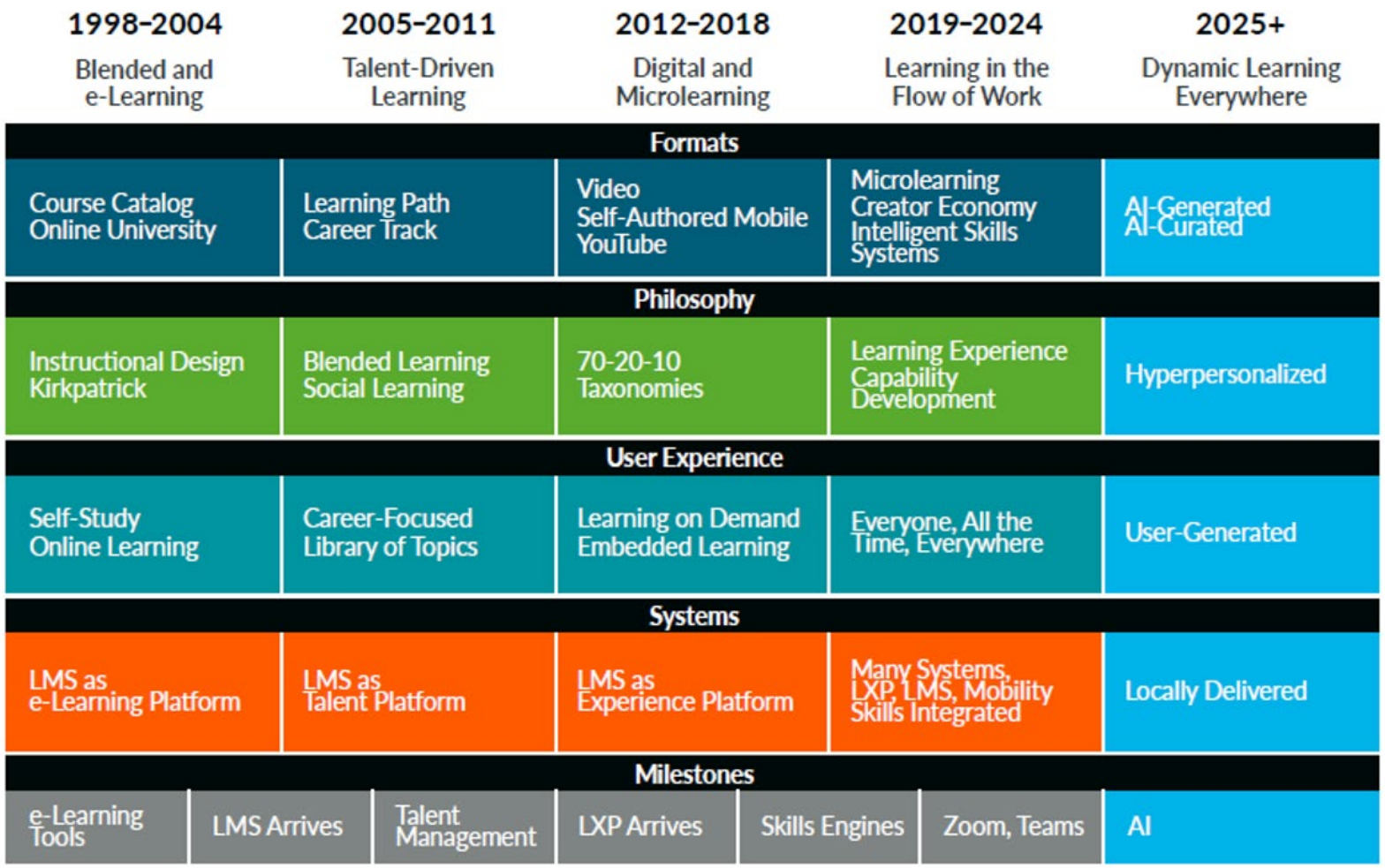
Reshaping Talent Development

Potential Use Cases of AI in Talent Development

- Hyper-Personalized Learning Paths
- Accelerated Content Creation and Delivery
- Replacing Training with Knowledge Tools (e.g., chatbots, intelligent agents)
- Automate Administrative Tasks (e.g., compliance tracking)
- Scaling Traditionally High-Touch Initiatives (e.g., coaching)

Reshaping Talent Development

Figure 1: The Evolution of Corporate L&D



LMS (Learning Management System), LXP (Learning Experience Platform)
Source: The Josh Bersin Company, 2025

Current Reality

AI investments trigger decreased training budgets

Most HR executives say AI tools can replace some learning, and many companies are good with sacrificing skill development to fund AI investment.

Published Aug. 10, 2026

Companies are pouring billions into AI and cutting training budgets. It's a losing strategy

By **Wendi Safstrom** Follow

March 17, 2026, 4:30 AM ET

AI is spreading fast across workplaces. Training doesn't often keep pace.

What the research says

AI Assistance Effects

GENERATIVE AI AT WORK*

ERIK BRYNJOLFSSON
DANIELLE LI
LINDSEY RAYMOND

The Quarterly Journal of Economics (2025), 889–942. https://doi.org/10.1093/qje/qjae044.
Advance Access publication on February 4, 2025.

Examined the effects of a generative AI-based conversational assistant using data from 5,172 customer-support agents

Findings

- Access to AI assistance increases worker productivity by 15% on average
- Substantial heterogeneity across workers

Greatest productivity gains observed among less experienced and lower-skilled workers

- AI assistance improves the experience of work

Customers are more polite and less likely to ask to speak to a manager

AI Assistance Effects

Task Expansion with Generative AI:
Experimental Evidence on Middle-Skilled, Early-Career Workers*

Hanna Brosch[a] Christina Langer[b] Philipp Lergetporer[c] Sandra Mueller[d]
Harald Pfeifer[d,c] Nele Tschoepe[d]

[a] University of Erlangen-Nuremberg, [b] ifo Institute, Stanford Digital Economy Lab, [c] Technical University of Munich, [d] Federal Institute for Vocational Education and Training, [e] ROA at Maastricht University

Examined the effects of AI access on the productivity and learning of 673 final-year IT apprentices at German vocational schools

Findings

- AI raises productivity substantially across all task types
- AI increases productivity by 26-31% on tasks beyond apprentices' formal training

Gains largest on tasks where performance without AI is lowest

- The productivity gains do not come at the cost of understanding

No evidence that AI reduces comprehension; improved subsequent comprehension on several tasks

https://www.iza.org/publications/dp/18999/task-expansion-with-generative-ai-experimental-evidence-on-middle-skilled-early-career-workers

AI Assistance Effects

DOES AI ASSISTANCE ENHANCE OR ERODE EXPERTISE? EVIDENCE FROM A THREE-MONTH FIELD EXPERIMENT IN PATENT DRAFTING

David Autor
Tanya Rodchenko
Josh Martin
Zanna Iscenko
Scott Strand
David Pearl
Melissa Ferere

Working Paper 35720
http://www.nber.org/papers/w35720

Examined the effects of access to an AI drafting assistant on the performance and learning of 133 patent lawyers

Findings

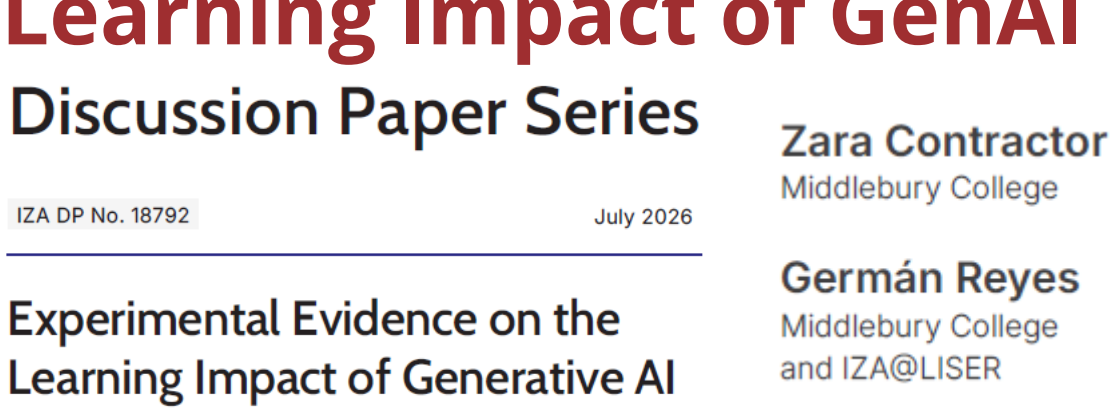
- AI access raised the quality of work delivered at 10 and 90 days

Greatest gains observed among more junior lawyers

- After three months, all subjects redlined an existing patent application without AI
- Lawyers who previously had AI access outperformed controls

But the learning gain was concentrated entirely among senior lawyers; junior lawyers showed no average gain

Learning Impact of GenAI


Discussion Paper Series

IZA DP No. 18792 July 2026

Experimental Evidence on the Learning Impact of Generative AI

Zara Contractor
Middlebury College

Germán Reyes
Middlebury College
and IZA@LISER

Conducted a randomized experiment to examine how generative AI affects learning among a sample of undergraduates

Findings

- **AI access raises immediate test scores.** Students with AI access scored 0.27 standard deviations higher on immediate assessments of factual and conceptual understanding
- **Gains in test scores persist one week later.** Students with earlier AI access scored higher on tests given a week later without the aid of AI.
- **Higher order skills show improvement after AI access is removed.** Higher order skills as assessed by writing open-ended essays did not change when students had AI access but demonstrated improvement one week later when students write unaided.
- **Delayed gains in higher order skills depended on how AI was used.** Delayed gains in essay quality were observed for augmentation users (who used AI to explain concepts) but not for automation users (who used AI to do the work for them – i.e., to generate text).

https://www.iza.org/publications/dp/18792/experimental-evidence-on-the-learning-impact-of-generative-ai

AI Tutoring

scientific reports



OPEN

AI tutoring outperforms in-class active learning: an RCT introducing a novel research-based design in an authentic educational setting

Greg Kestin[1,3], Kelly Miller[2,3], Anna Klales[1], Timothy Milbourne[1] & Gregorio Ponti[1]

Examined college students' learning and perceptions when content is presented through an AI-powered tutor compared to an active learning class

Findings

- **Students learned significantly more in less time when using the AI-powered tutor.** Learning gains for those using the AI-tutor were more than double those in the active learning class even though they spent about 18% less time on task,
- **Students using the AI-powered tutor reported a more positive learning experience.** Students using the AI-tutor reported higher levels of engagement and motivation. Overall enjoyment and reported growth mindset were comparable across groups.

AI Adoption and Learning

The Generative AI Learning Penalty:
Evidence from Chinese Secondary Education*

David Strömberg† Victor Lei‡ Yanhui Wu§

June 2026

Examined how AI adoption impacted the homework productivity and learning of 26,811 Chinese students in grades 7-12

Findings

- **Generative AI dramatically boosts homework productivity.** After six months of use, homework scores rise by 18% and completion time per assignment decreases from 64 to 45 minutes.
- **Generative AI hurts exam scores.** Students' scores in monthly exams drops 20% within six months of initial AI adoption.
- **Generative AI also hurts long-run learning.** After two years of AI adoption, students' scores on college and high school entrance exams drops 18% and 24% respectively.
- **The learning penalty is driven primarily by those whose behavior is consistent with homework outsourcing.** Those who use AI to automate vs. augment their homework experience the greatest decrements.

A Few Takeaways

- **Productivity gains ≠ learning gains**

- **Productivity gains from AI access are likely to be most pronounced among those who are less experienced and lower skilled, but learning gains may be greatest among those who possess foundational expertise**

- **The effects of AI on longer-term and high order learning depends on how it is used (augmentation vs. automation)**



What do you think?

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Thank you!

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