NEW TECHNOLOGIES, NEW LEARNING EXPERIENCES

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A BRIEF STORY
CHANGE
NEW TECHNOLOGIES,
NEW METHODS OF INTERACTION
NEW TECHNOLOGIES, NEW METHODS OF INTERACTION
NEW TECHNOLOGIES, NEW METHODS OF INTERACTION
NEW TECHNOLOGIES, NEW METHODS OF INTERACTION
NEW TECHNOLOGIES, NEW METHODS OF INTERACTION

Radio  TV  VCR  Video Games
NEW TECHNOLOGIES, NEW METHODS OF INTERACTION

- Radio
- TV
- VCR
- Video Games
- Computers
NEW TECHNOLOGIES, NEW METHODS OF INTERACTION

Radio

TV

VCR

Video Games

Computers

Smartphones / Tablets
VIRTUAL REALITY (VR)
Do you see opportunities for your organization to use VR in the future?

35.5% No
64.5% Yes

Credit: The eLearning Guild
Do you see opportunities for your organization to use AR for learning in the future?

29.2% No
70.8% Yes

Credit: The eLearning Guild

AUGMENTED REALITY (AR)

Credit: Google
ARTIFICIAL INTELLIGENCE (AI)
AND MORE...
AND MORE...
AND MORE...
AND MORE...
AND MORE...
WHAT KINDS OF EXPERIENCES CAN WE CREATE?

KEY THEMES
SCALING UP
USER-CENTERED DESIGN
USER-CENTERED DESIGN
A STUDY ABOUT RESOURCES

Study credit: Baumeister et al., Case Western Reserve University, US, 1998
LEARNING BY DOING
SITUATED LEARNING
JUST-IN-TIME PERFORMANCE SUPPORT
WORKFLOW LEARNING
COLLABORATIVE LEARNING
Intelligent Analytics
IN THE WORKPLACE, JOB PERFORMANCE IS THE GOAL
IN THE WORKPLACE, JOB PERFORMANCE IS THE GOAL
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IN THE WORKPLACE, JOB PERFORMANCE IS THE GOAL

IMPROVED PERFORMANCE

Learning

Just-in-time support

Process improvement
WHAT MAKES FOR A GREAT LEARNING EXPERIENCE?
STORIES: GREAT LEARNING EXPERIENCES
MEMORABLE LEARNING EXPERIENCES
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“My most memorable learning experience was when my sister taught me how to drive a car.”
MEMORABLE LEARNING EXPERIENCES

“My most memorable learning experience was when my sister taught me how to drive a car.”

“My most memorable learning experience was when I learned how to crochet from my aunt.”
MEMORABLE LEARNING EXPERIENCES

“My most memorable learning experience was when my sister taught me how to drive a car.”

“My most memorable learning experience was when I learned how to crochet from my aunt.”

“My most memorable learning experience was from childhood: I had a great soccer coach and great teammates.”
SELECTED COMMENTS ABOUT CORPORATE E-LEARNING EXPERIENCES
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“I always wait until the last possible minute to do my e-learning.”
[financial services Industry]
SELECTED COMMENTS ABOUT CORPORATE E-LEARNING EXPERIENCES

“I always wait until the last possible minute to do my e-learning.”
[financial services industry]

“I click through the pages as fast as possible to get to the test—I just want to get it done.”
[retail industry]
“I always wait until the last possible minute to do my e-learning.”
[financial services Industry]

“I click through the pages as fast as possible to get to the test—I just want to get it done.”
[retail industry]

“E-learning is a waste of my time.”
[high-tech industry]
STORIES: GREAT LEARNING EXPERIENCES
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES

✓ Personal relevance
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES

✓ Personal relevance
✓ Feedback from the environment
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES

- Personal relevance
- Feedback from the environment
- Feedback from a coach
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES

✓ Personal relevance
✓ Feedback from the environment
✓ Feedback from a coach
✓ Feedback from peers
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES

✓ Personal relevance
✓ Feedback from the environment
✓ Feedback from a coach
✓ Feedback from peers
✓ Coaching
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES

✓ Personal relevance
✓ Feedback from the environment
✓ Feedback from a coach
✓ Feedback from peers
✓ Coaching
✓ The opportunity to fail
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES

- Personal relevance
- Feedback from the environment
- Feedback from a coach
- Feedback from peers
- Coaching
- The opportunity to fail
- Freedom to experiment
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES (II)
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES (II)

✓ Learning by doing
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES (II)

✓ Learning by doing
✓ Competition
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES (II)

✓ Learning by doing
✓ Competition
✓ Modeling
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES (II)

✓ Learning by doing
✓ Competition
✓ Modeling
✓ Appreciation by someone else
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES (II)

✓ Learning by doing
✓ Competition
✓ Modeling
✓ Appreciation by someone else
✓ Interaction with a charismatic teacher or expert
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES (II)

✓ Learning by doing
✓ Competition
✓ Modeling
✓ Appreciation by someone else
✓ Interaction with a charismatic teacher or expert
✓ Learner control
POLL RESULTS: CHARACTERISTICS OF GREAT LEARNING EXPERIENCES (II)

✓ Learning by doing
✓ Competition
✓ Modeling
✓ Appreciation by someone else
✓ Interaction with a charismatic teacher or expert
✓ Learner control
✓ Clear relevance between the learning and the real-life task
WHAT CAN WE DO NEXT?
THE OLD MODEL
THE OLD MODEL

Learning Theory

Learning Technologies

Technology
The old model

The NEW model

Learning Theory

Learning Technologies

Technology
THE OLD MODEL

Learning Theory
Learning Technologies
Technology

THE NEW MODEL

Learning Theory
THE OLD MODEL

Learning Theory
Learning Technologies
Technology

THE NEW MODEL

Learning Theory
Technology/Computer Science
THE OLD MODEL

Learning Theory

Learning Technologies

Technology

THE NEW MODEL

Learning Theory

Technology/Computer Science

User Experience Design
THE OLD MODEL

Learning Theory  
Learning Technologies  
Technology

THE NEW MODEL

Learning Theory  
Technology/Computer Science  
User Experience Design  
Cognitive Science
The Old Model

- Learning Theory
- Learning Technologies
- Technology

The New Model

- Learning Theory
- Technology/Computer Science
- User Experience Design
- Cognitive Science

Learning Technologies
A POTENTIAL FUTURE LEARNING EXPERIENCE
Is that the Acropolis?
AI Coach: It is! There were actually a number of buildings known as an acropolis in ancient Greece. The word acropolis means “highest point.” But the Acropolis in Athens, which you recognized, is the famous one and is known as “The Acropolis.”
Did the Acropolis always look the same over the years?
AI Coach: We don’t know much about the architectural appearance of the Acropolis before the Archaic era, which started in the 8th century BC. One major addition was when Peisistratos built an entry gate, or Propylea.
AI Coach: Take a look!
Who was Peisistratos?
Peisistratos was the ruler of ancient Athens during most of the time from 561 BC to 527 BC. He was the son of Hippocrates.
The Acropolis is so much bigger than I imagined!
LEAVING THE VIRTUAL WORLD AND VISITING GREECE TODAY...
Coordinates: 37°58′15″N 23°43′34″E
Location: Athens, Attica, Greece
KEY ELEMENTS OF THIS EXPERIENCE
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✓ Experiential learning, in a (very!) realistic context
KEY ELEMENTS OF THIS EXPERIENCE

✓ Experiential learning, in a (very!) realistic context
✓ Coaching guidance
KEY ELEMENTS OF THIS EXPERIENCE

✓ Experiential learning, in a (very!) realistic context
✓ Coaching guidance
✓ Feedback (from a coach and from peers)
KEY ELEMENTS OF THIS EXPERIENCE

✓ Experiential learning, in a (very!) realistic context
✓ Coaching guidance
✓ Feedback (from a coach and from peers)
✓ Learner control, but the learner is assisted and advised
KEY ELEMENTS OF THIS EXPERIENCE

✓ Experiential learning, in a (very!) realistic context
✓ Coaching guidance
✓ Feedback (from a coach and from peers)
✓ Learner control, but the learner is assisted and advised
✓ An immersive, personalized experience—and we could add more
learning by doing, too!
A POTENTIAL FUTURE TRAINING EXPERIENCE
Hello!
Can I help you find anything?
AI Coach:
Make sure you smile and look friendly!
Hello!
Can I help you find anything?
Hello!
Can I help you find anything?

Customer: Yes! Do you have this in a size “small”? 
Hello! Can I help you find anything?

Customer: Yes! Do you have this in a size “small”?

I'm sure we do! Let me check for you...
PERFORMANCE SUMMARY

AI Coach: You did great! But you need to work a bit more on your facial expressions.

Wording: 95  
Tone: 85  
Facial Expressions: 60  
Overall Customer Satisfaction: 70
KEY ELEMENTS OF THIS EXPERIENCE
KEY ELEMENTS OF THIS EXPERIENCE

✓ Experiential learning, again in a realistic context
KEY ELEMENTS OF THIS EXPERIENCE

✓ Experiential learning, again in a realistic context
✓ Learning by doing, resulting in skill transfer to the job
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✓ Learning by doing, resulting in skill transfer to the job
✓ Coaching guidance
✓ Feedback (from a coach and from peers)
KEY ELEMENTS OF THIS EXPERIENCE

✓ Experiential learning, again in a realistic context
✓ Learning by doing, resulting in skill transfer to the job
✓ Coaching guidance
✓ Feedback (from a coach and from peers)
✓ A realistic, performance-based assessment and evaluation
KEY ELEMENTS OF THIS EXPERIENCE

✓ Experiential learning, again in a realistic context
✓ Learning by doing, resulting in skill transfer to the job
✓ Coaching guidance
✓ Feedback (from a coach and from peers)
✓ A realistic, performance-based assessment and evaluation
✓ Learner control, but the learner is also assisted and advised
KEY ELEMENTS OF THIS EXPERIENCE

- Experiential learning, again in a realistic context
- Learning by doing, resulting in skill transfer to the job
- Coaching guidance
- Feedback (from a coach and from peers)
- A realistic, performance-based assessment and evaluation
- Learner control, but the learner is also assisted and advised
- An immersive, personalized, experience
A JUST-IN-TIME WORKPLACE EXAMPLE: A VETERINARIAN’S OFFICE
AI Coach:
Based on information from the sensors, you might want to check her right back paw to see if she has a cut there.
I think I see a spot on her ear. I’m not sure if I should be concerned about it.
I think I see a spot on her ear. I’m not sure if I should be concerned about it.

Oncologist Colleague: I’d biopsy it just to be safe, but I think it’s not likely to be anything problematic.
KEY ELEMENTS OF THIS EXPERIENCE
KEY ELEMENTS OF THIS EXPERIENCE

✓ Just-in time performance support
KEY ELEMENTS OF THIS EXPERIENCE

✓ Just-in time performance support
✓ Coaching guidance, in real time
KEY ELEMENTS OF THIS EXPERIENCE

✓ Just-in time performance support
✓ Coaching guidance, in real time
✓ The integration of sensors/other technology into the experience
KEY ELEMENTS OF THIS EXPERIENCE

✓ Just-in time performance support
✓ Coaching guidance, in real time
✓ The integration of sensors/other technology into the experience
✓ Real-time collaboration with colleagues
SOMETIMES, INVENTION IS THE MOTHER OF NECESSITY
SUMMARY
NEW LEARNING EXPERIENCES
Design new experiences that make the most of new technologies
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NEW LEARNING EXPERIENCES

✓ Design new experiences that make the most of new technologies
✓ Follow active learning and situated learning principles
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✓ Follow active learning and situated learning principles
✓ Just-in-time learning and performance support are key
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NEW LEARNING EXPERIENCES

✓ Design new experiences that make the most of new technologies
✓ Follow active learning and situated learning principles
✓ Just-in-time learning and performance support are key
✓ Experiences can be immersive, relevant, and personalized, resulting in learner emotionally connecting to the experiences.
SUMMARY
NEW LEARNING EXPERIENCES

✓ Design new experiences that make the most of new technologies
✓ Follow active learning and situated learning principles
✓ Just-in-time learning and performance support are key
✓ Experiences can be immersive, relevant, and personalized, resulting in learner emotionally connecting to the experiences.
✓ In the end, it’s all about the experience!
“Education, which must be revolutionized in the new world, will be revolutionized by the very agency that requires the revolution — the computer....

There will be an opportunity finally for every youngster, and indeed, every person, to learn what he or she wants to learn, in his or her own time, at his or her own speed, in his or her own way....

Education will become fun because it will bubble up from within and not be forced in from without.”

December 31, 1983
Isaac Asimov Predicts the World of 2019
THANK YOU!
I’m happy to discuss any questions and comments!

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