

Faculty Development A Primer



COLLEGE OF MEDICINE
AND LIFE SCIENCES

THE UNIVERSITY OF TOLEDO

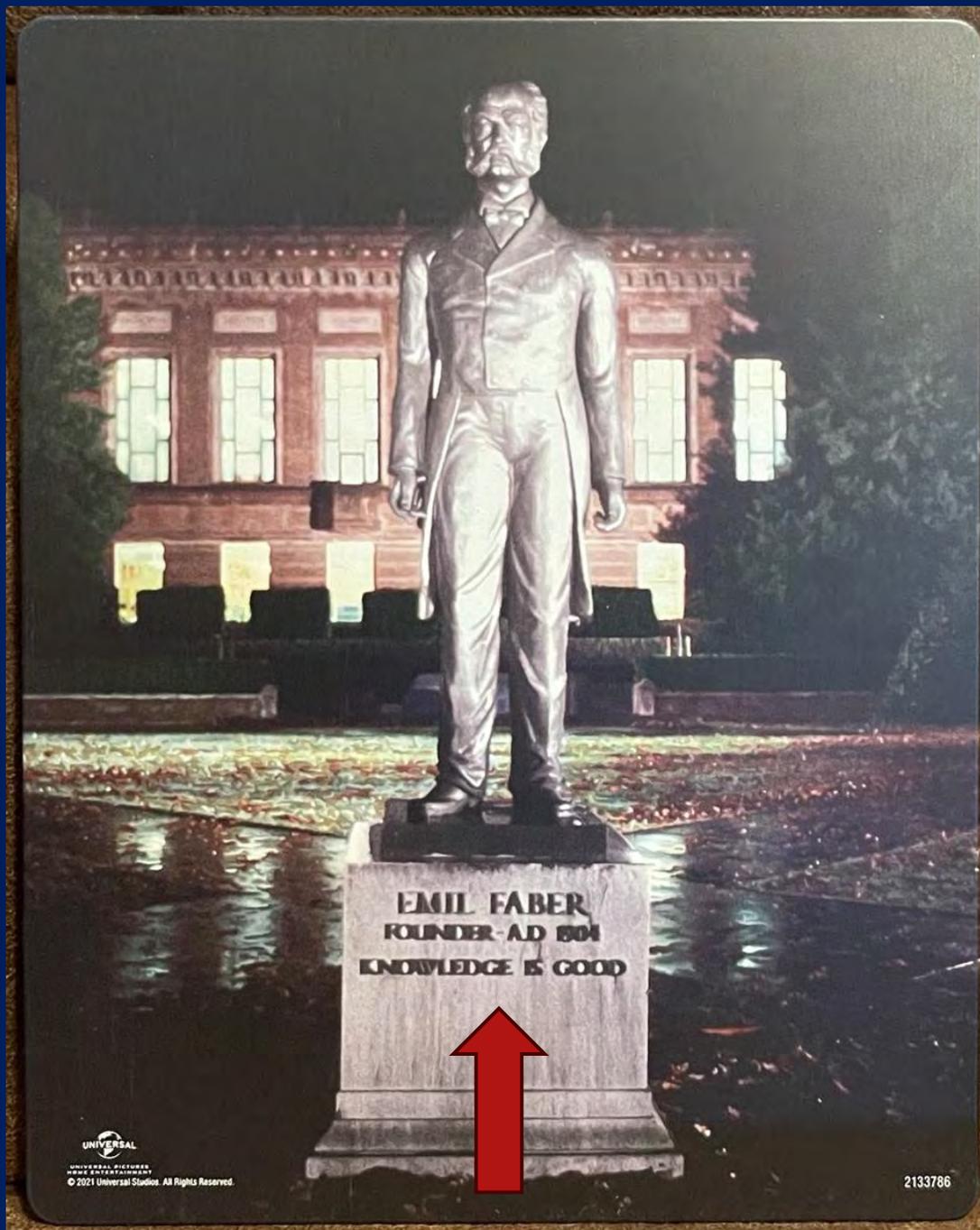
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Lifelong learning

A construct for faculty development

ERIC R. CARLSON, DMD, MD, EdM, FACS





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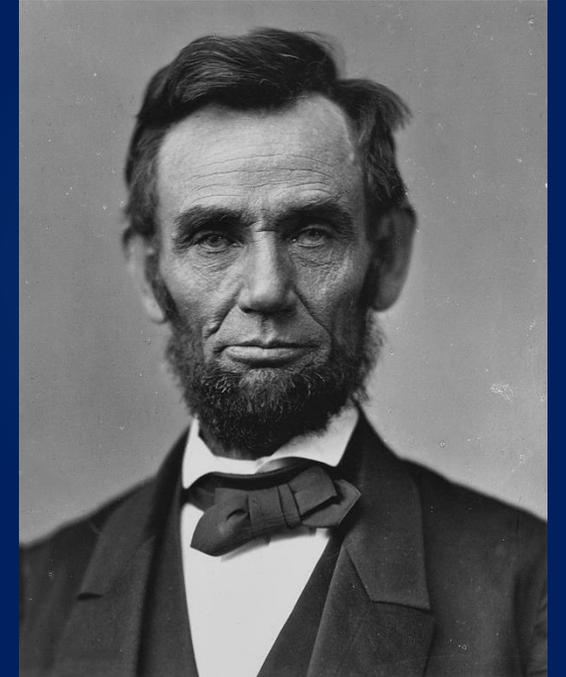
“The hardest conviction to get into the mind of a beginner is that the education upon which he is engaged is not a college course, not a medical course, but a life course, for which the work of a few years under teachers is but a preparation.”

Sir William Osler



“I don’t think much of a man who is not wiser today than he was yesterday.”

Abraham Lincoln

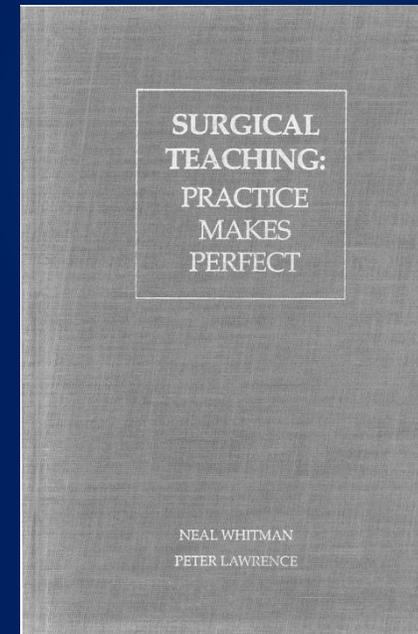




Adult learning theory

Adult learning theory

- Adults prefer to **apply** what they learn shortly after learning it.
- Adults prefer learning **practical concepts and principles** rather than facts.
 - Adults like to establish **their own learning objectives**.
- Adults like to receive **feedback** to help them evaluate their own performance.



Learning

Learning is an element of human personal and professional development that occurs in a variety of **informal** and **formal** contexts.

- *Informal learning*
 - *Meaning making*
- *Formal learning*
 - *Adult learning*
 - *Lifelong learning*

Informal learning



Meaning making occurs when we construct the meaning of events and experiences that are a part of and shape our existence in that **thinking** and **reflecting** is all that is required to accomplish this type of learning.

Experiential learning

Informal learning

Our *meaning making* exemplifies *informal learning* that develops through an interpretive lens by which we create the meaning of our experiences.

*“We don’t see things the way they are,
we see things the way we are.”*

Anais Nin



Constructive development theory of adult learning



Emphasizes the organizational structure of an adult's meaning making process rather than the contents of that system.

Metacognition

The distinction between pedagogy and andragogy

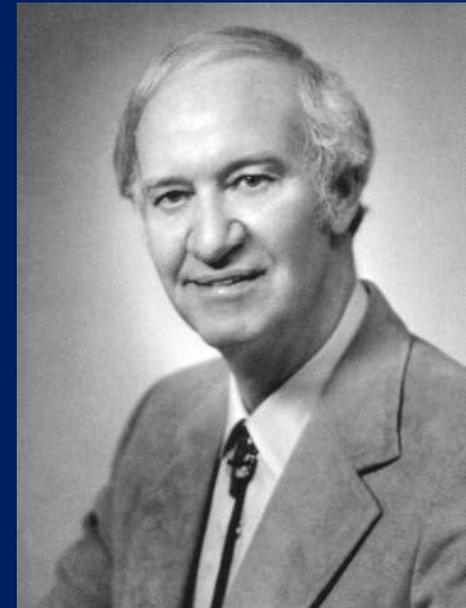
Adult learners

- Move from dependency to increasing *self-directedness* as they mature and can direct their own learning.
- Draw on their accumulated reservoir of *life experiences* to aid learning.
- Are ready to learn when they assume new social or life roles.
- Are problem-centered and wish to *apply new learning immediately*.
- Are motivated to learn by *internal*, rather than external factors.

Formal learning - Adult learning

Malcom Knowles- the quintessential figure in adult education

- *Andragogy* – adult learning theory
- Based on 5 essential paradigms regarding adult learners that are **distinct** from the paradigms of child learners on which traditional *pedagogy* is based.
 - Self-concept
 - Experience
 - Readiness to learn
 - Orientation to learning
 - Motivation to learn





Co-regulated learning

Resident experiential learning

Common phrases, such as “page me if you need me,” resulted in approximately 50% of residents reporting they would “rarely” or “never” call and another 41% reporting that they would only “sometimes” call their attending physician.

Self-regulated learning

“Page Me if You Need Me”: The Hidden Curriculum of Attending-Resident Communication

LAWRENCE LOO, MD
NISHANT PURI, MBBS
DANIEL I. KIM, MD
ANAS KAWAYEH, MD
SAMUEL BAZ, MD
DOUGLAS HEGSTAD, MD

Loo L, Puri N, Kim DI et al: “Page me if you need me”: The hidden curriculum of attending-resident communication. J Grad Med Educ 3:340-5, 2012.

Resident experiential learning

Self regulated learning – an interactive metacognitive ability involving multiphase processes to direct one's own cognitions and behavior according to internal standards and/or goals and environmental influences.

- Preparatory preliminary phase
- Performance or task completion phase
- Appraisal or self-reflection phase

Models of Self-regulated Learning: a review

MINNA PUUSTINEN & LEA PULKKINEN

Department of Psychology, University of Jyväskylä, PO Box 35 (Agora), 40351 Jyväskylä, Finland

Puustinen M, Pulkkinen I: Models of self-regulated learning: A review. Scand J Edu Res 45: 269-86, 2001.

Resident experiential learning

Self-regulated learning

Preliminary phase

- Task analysis and goal setting
- Self-motivation beliefs
- Outcome expectations



Performance phase

- Self control
- Self instruction
- Metacognitive monitoring



Self-reflection phase

- Self-judgment
- Self-evaluation
- Self-reflection



A Review of Self-regulated Learning: Six Models and Four Directions for Research

*Ernesto Panadero**

Pandero E: A review of self-regulated learning: Six models and four directions for research. Front Psychol 8: 422, 2017.

Co-regulated learning



- Transitional process in a learner's acquisition of regulated learning within which learners and faculty share a common problem-solving plane.

Co-regulated learning

- **Self-regulated learning** inevitably occurs in graduate medical education – on call activities when personalized supervision does not exist.
 - The incorporation of **co-regulated learning** promotes proper education of residents, effective faculty development of teachers, and patient safety..



Carlson ER, Tannyhill RJ: A foundational framework for andragogy in oral and maxillofacial surgery IV: Co-regulated learning. J Oral Maxillofac Surg 77: 1529-31, 2019.

Metacognition

- Thinking about thinking.
- An essential skill in critical thinking and self-regulated lifelong learning.
 - Skills are required since they are used to monitor and regulate reasoning, comprehension, and problem solving.
 - Its role in clinical decision making is important as it is a means to address what to learn, when to learn, and how to learn.

American Journal of Pharmaceutical Education 2017; 81 (4) Article 78.

REVIEW

Strategies for Improving Learner Metacognition in Health Professional Education

Melissa S. Medina, EdD,^a Ashley N. Castleberry, PharmD, MAEd,^b Adam M. Persky, PhD^c

^a University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma

^b University of Arkansas for Medical Sciences College of Pharmacy, Little Rock, Arkansas

^c Eshelman School of Pharmacy, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

Medina MS, Castleberry AN, Persky AM: Strategies for improving learner metacognition in health professional education. *Am J Pharma Ed* 81: 1-14, 2017.

Subject - object theory of adult learning

SUBJECT

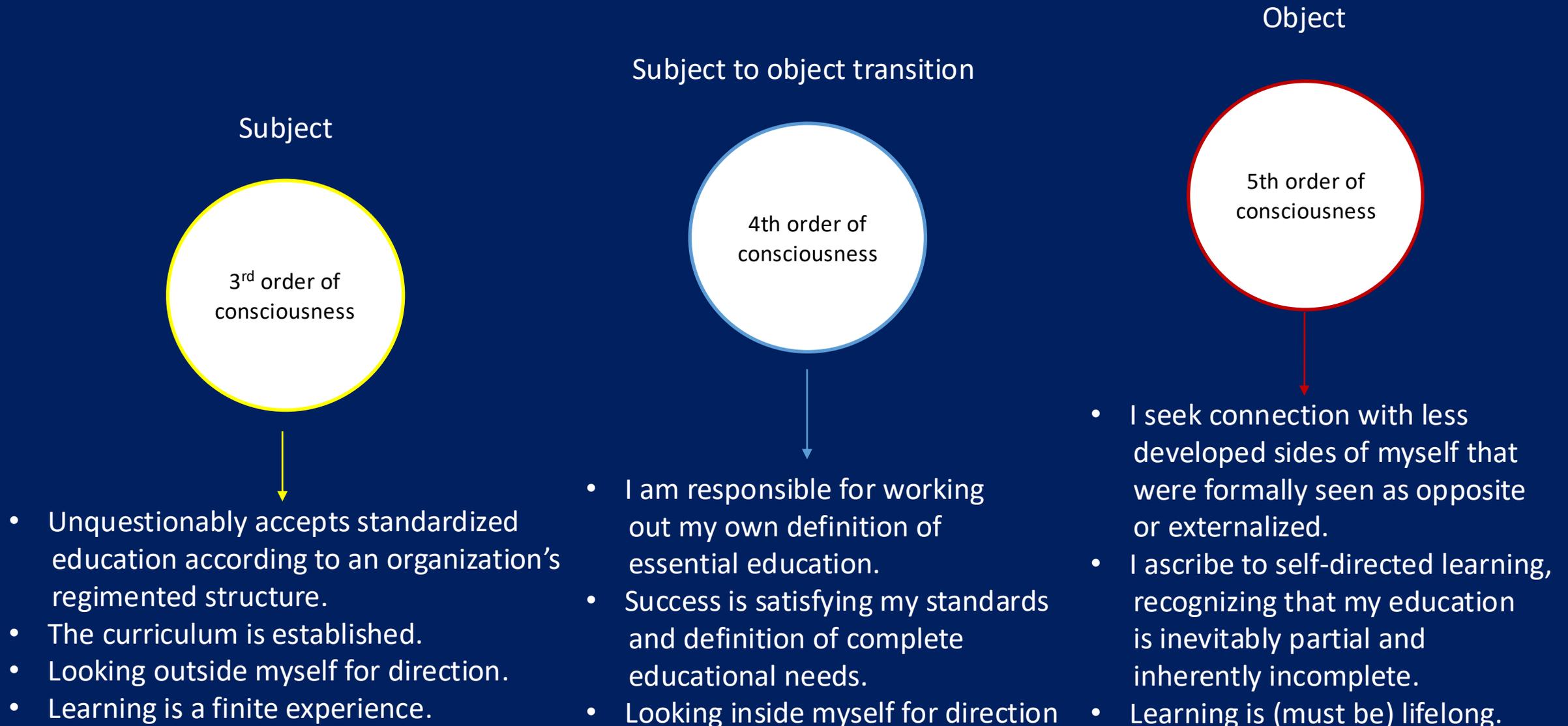
That which we unquestionably assume to be true, something with which we are fused, and therefore something we are unable to reflect or question.



OBJECT

Something that is separate or distinct from oneself, and something that we can organize and potentially change.

Adult learning → lifelong learning



Lifelong learning

“In a world in which computers are becoming twice as fast, or half as expensive every two years, in which the volume of scientific knowledge grows exponentially, the lifespan of knowledge decreases and the importance of continuous learning increases in proportion. To earn a living, you need to learn a living.”

Federico Mayor
Director-General of the United Nations Educational,
Scientific and Cultural Organization
November 1994



Osher Lifelong Learning Institutes

OSHER
LIFELONG
LEARNING
INSTITUTE

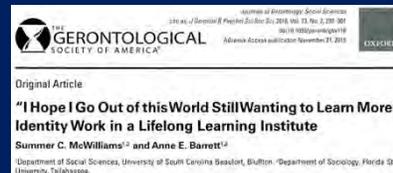
Since 2001 Bernard Osher has made grants from The Bernard Osher Foundation to launch OLLI programs at 120 universities and colleges throughout the United States. Osher Lifelong Learning Institutes offer noncredit courses with no assignments or grades to adults over the age of 50.



Osher Lifelong Learning Institutes

“What constitutes the lifelong learner identity, and how is this identity constructed and signified?”

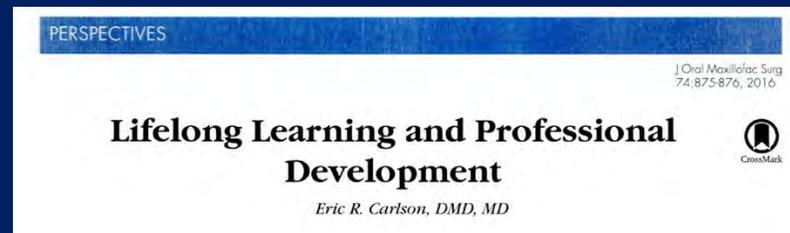
- Engagement in a formal activity – education, that is not only highly culturally valued but also connected with youth.
- Involvement enabled holding the “lifelong learner” identity, a self-perception as an older adult enthusiastically participating in education for its intrinsic value.
- Members framed this identity as central to not only their current but also their past and future lives.



McWilliams SC, Barrett AE: “I hope I go out of this world still wanting to learn more”: Identity work in a lifelong learning institute. *J Gerontol B Psychol Sci Soc Sci* 73: 292-301, 2018.

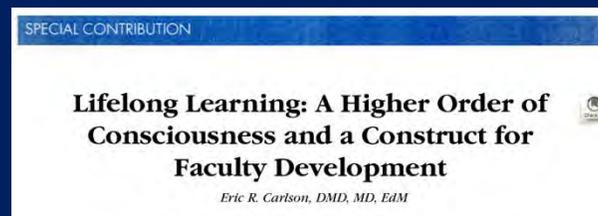
Lifelong learning vs. adult learning

“Lifelong learning is more than adult education that often is restricted to providing people with opportunities to engage in learning activities in their adult life. In contrast, the challenge for lifelong learning is to fundamentally rethink learning, teaching, and education for the information age in an attempt to change mindsets. Lifelong learning requires the engagement of learners of all ages in acquiring and applying knowledge and skills in the context of authentic, self-directed issues.”



Lifelong learning

“A continuously supportive process that stimulates and empowers individuals to acquire all the knowledge, values, skills, and understanding they will require throughout their lifetimes and to apply them with confidence, creativity, and enjoyment in all roles, circumstances, and environments.”



Lifelong learning

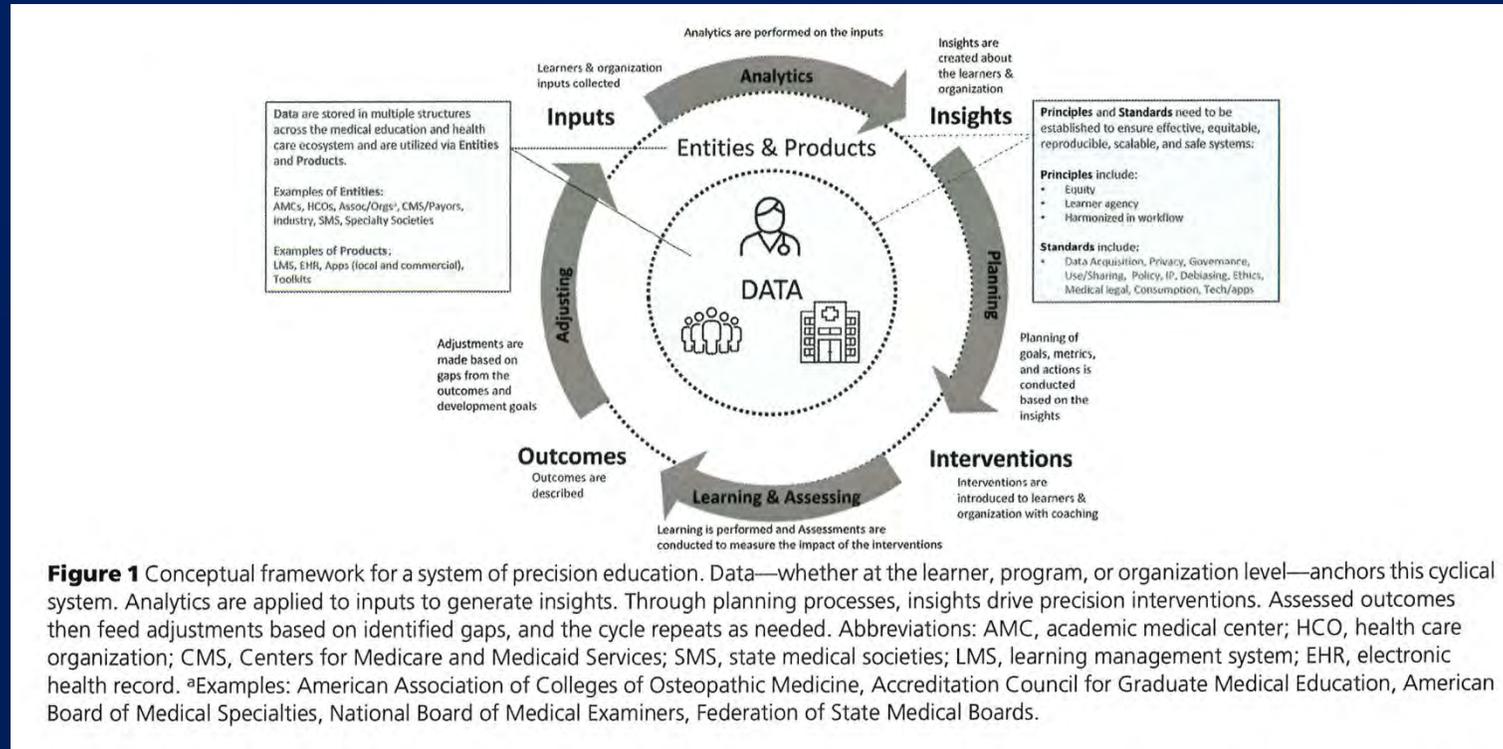
“PE is the system that uses data and technology to transform lifelong learning by improving personalization, efficiency, and agency at the individual, program, and organization levels.”

Precision Education: The Future of Lifelong Learning in Medicine

Sanjay V. Desai, MD, Jesse Burk-Rafel, MD, MRes, Kimberly D. Lomis, MD, Kelly Caverzagie, MD, Judee Richardson, PhD, Celia Laird O'Brien, PhD, John Andrews, MD, Kevin Heckman, MBA, David Henderson, MD, Charles G. Prober, MD, Carla M. Pugh, MD, PhD, Scott D. Stern, MD, Marc M. Triola, MD, and Sally A. Santen, MD, PhD

Lifelong learning

- Leveraging data from all those touched by medical education
- Trainees
 - Practicing MDs
 - Health systems
 - Patients



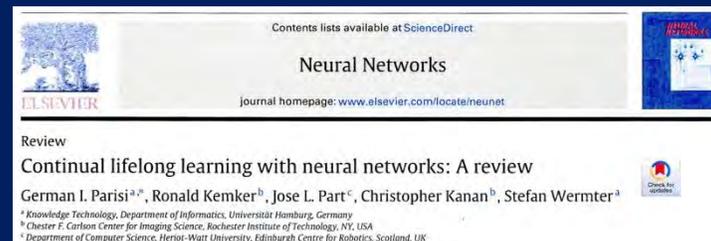
- Microlevel learners
- Mesolevel medical schools
- Macrolevel health systems

Precision Education: The Future of Lifelong Learning in Medicine

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Neurophysiologic basis for lifelong learning

- As humans, we have an astonishing ability to adapt by effectively acquiring knowledge and skills, refining them on the basis of novel experiences, and transferring them across multiple domains.
- Lifelong learning in the brain is mediated by a rich set of neurophysiological principles that regulate the stability-plasticity balance of the different brain areas and that contribute to the development and specialization of our cognitive system on the basis of our sensorimotor experiences.



Personal history

- Inborn capabilities
- Childhood experiences
- Job and educational experiences

Competitive drive

- Level of standards
- Desire to do well
- Self-confidence in competitive situations

Lifelong learning

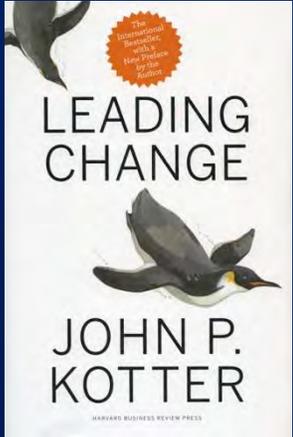
- Willingness to seek new challenges
- Willingness to reflect honestly on successes and failures

Skills and abilities

- Knowledge
- Leadership skills
- Other skills

Competitive capacity

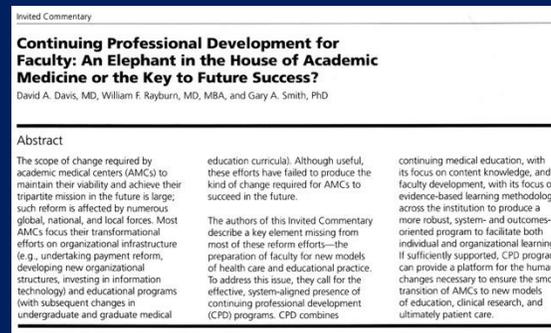
- Capability of dealing with an increasingly competitive and fast-moving environment



Lifelong learning = faculty development

Most academic medical centers focus their transformational efforts on organization infrastructure (e.g., undertaking payment reform, developing new organizational structures, investing in information technology) and education programs (with subsequent changes in undergraduate and graduate medical education curricula). Although useful, these efforts have failed to produce the kind of change required for academic medical centers to succeed in the future.

Continuing professional development = continuing medical education (content knowledge) and faculty development (evidence-based learning methodologies).



Davis DA, Rayburn WF, Smith GA: Continuing professional development for faculty: An elephant in the house of academic medicine or the key to future success? Acad Med 92: 1078-1081, 2017.

Lifelong learning = faculty development

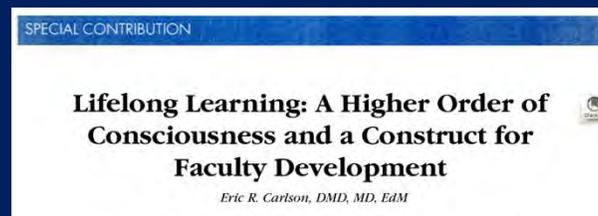
Most faculty development initiatives focus on knowledge and skill acquisition rather than the awakening or strengthening of professional identity. To achieve excellence in teaching and learning, faculty members need to embrace their identities as teachers and be supported in doing so by their institutions and by faculty development.



Steinert Y, O'Sullivan PS, Irby DM: Strengthening teachers' professional identities through faculty development. *Acad Med* 94: 963-968, 2019.

Lifelong learning → faculty development

- Continuous
- Supportive
- Stimulating and empowering
 - Self-directed
 - Applied



Lifelong learners

Traits

- Curious
- Venturesome and creative
- Innovative
- Motivated to learn
- Confident in ability to learn from others, share what they know, and accept feedback
- Willingness to make and learn from mistakes
- Persistent
- Flexible in thinking
- Methodical and disciplined
- Logical and analytical
- Reflective and self-aware
- Responsible and accountable for work

Lifelong learners

Skills

- Well-developed communication skills
- Self-directed learning skills
- Information seeking and retrieval skills
- Higher order thinking skills
- Metacognitive skills
- Able to work as a change agent
- Able to share knowledge

Rule 1. Cultivate lifelong learning as a “style of thinking” that concentrates on fundamental principles rather than on facts.

EDITORIAL

Ten Simple Rules for Lifelong Learning, According to Hamming

Thomas C. Erren^{1*}, Tracy E. Slanger¹, J. Valérie Groß¹, Philip E. Bourne², Paul Cullen³

¹ Institute and Policlinic for Occupational Medicine, Environmental Medicine and Prevention Research, University Hospital of Cologne, Cologne, Germany, ² Office of the Director, The National Institutes of Health, Bethesda, Maryland, United States of America, ³ Medizinisches Labor Münster, Münster, Germany

Erren TC, Slanger TE, Grob JV et al: Ten simple rules for lifelong learning, according to Hamming. PLoS Comput Biol 11(2): e1004020, 2015.

Rule 2. Structure your learning to ride the information tsunami rather than drown in it.

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Rule 3. Focus on the future but
don't ignore the past.

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Rule 4. Look for the personal angle.

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Rule 5. Learn from the successes of others.

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Rule 7. Use trial and error to find the style of learning that suits you.

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Erren TC, Slanger TE, Grob JV et al: Ten simple rules for lifelong learning, according to Hamming. PLoS Comput Biol 11(2): e1004020, 2015.

Rule 8. No matter how much advice you get and how much talent you possess, it is still you who must do the learning and put in the time.

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Rule 9. Have a vision to give you a general direction.

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Rule 10. Make your life count: struggle for excellence.

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Benefits of lifelong learning

- Assists to sharpen natural talent
 - Unlocks the intellect
- Builds an inquisitive, curious mind
 - Enhances intelligence
- Makes the world a superior place
 - Helps us espouse to adjust
 - Helps in finding sense in life
- Keep us occupied as energetic members of society
- Helps us make new friends and start new associations
- Lifelong learning leads to an enriching life of self-fulfillment

MEDICAL EDUCATION

Cultivating Lifelong Learning Skills During Graduate Medical Training

RAJIV MAHAJAN,[‡]DINESH KUMAR BADYAL,[#]PIYUSH GUPTA AND ^{*}TEJINDER SINGH

From Department of Pharmacology, Adesh Institute of Medical Sciences & Research, Bathinda, Punjab; Departments of

[‡]Pharmacology and ^{}Pediatrics, Christian Medical College, Ludhiana, Punjab; and [#]Department of Pediatrics, University College of Medical Sciences, New Delhi; India.*

Mahajan R, Badyal DK, Gupta P, Singh T: Cultivating lifelong learning skills during graduate medical training. *Indian Pediatrics* 797-804, 2016.

Strategies for lifelong learning

- Identify individual learning styles
 - Set learning goals
- Adopt reinforcing teaching-learning methods
 - Time management
 - Application

MEDICAL EDUCATION

Cultivating Lifelong Learning Skills During Graduate Medical Training

RAJIV MAHAJAN,[‡]DINESH KUMAR BADYAL,[#]PIYUSH GUPTA AND *TEJINDER SINGH

From Department of Pharmacology, Adesh Institute of Medical Sciences & Research, Bathinda, Punjab; Departments of

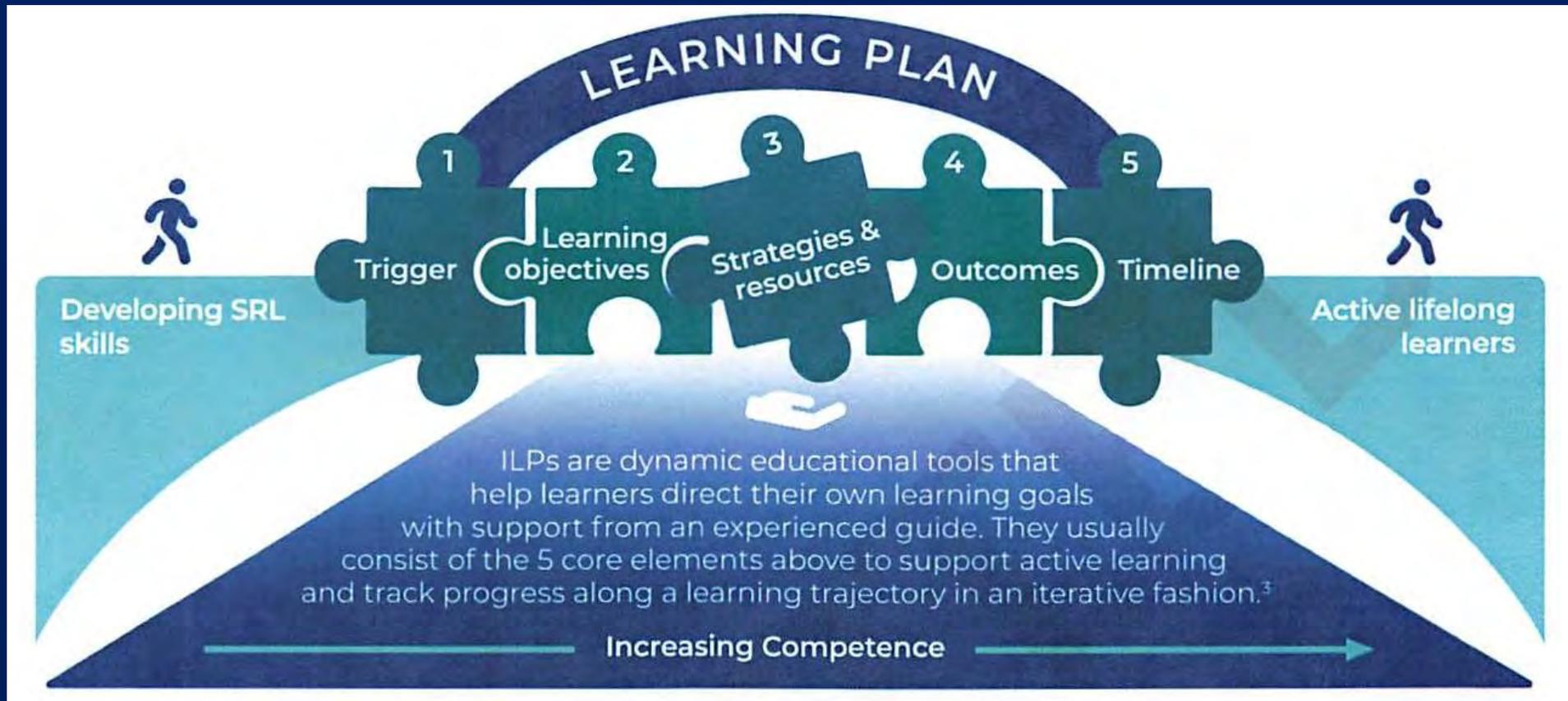
*[‡]Pharmacology and *Pediatrics, Christian Medical College, Ludhiana, Punjab; and [#]Department of Pediatrics, University College of Medical Sciences, New Delhi; India.*

Mahajan R, Badyal DK, Gupta P, Singh T: Cultivating lifelong learning skills during graduate medical training. Indian Pediatrics 797-804, 2016.

Strategies for lifelong learning

Self-regulated Learning

Individualized learning plans



Romanova A, Humphrey-Murto S, Pusic M, Touchie C:
Individualized learning plans for active lifelong learning.
Acad Med 100: 996, 2025.

Strategies for lifelong learning



Romanova A, Humphrey-Murto S, Pusic M, Touchie C:
Individualized learning plans for active lifelong learning.
Acad Med 100: 996, 2025.

Individualized learning plans

Proposed best practices

- **Clear purpose:** Move away from using ILPs for assessment, use as formative exercise to guide individualized continuous learner growth and communicate their learning needs across educational transitions.
- **Co-created with learner:** Learner driven but supported by an experienced guide throughout.

Individualized learning plans

Proposed best practices

- **Standardized training and framework:** Currently no common framework for ILP development and assessment exists to train learners and faculty on ILPs and SRL skills.
- **Adequate time:** Integrate time into training curriculum to create, review, and follow up on ILP.
- **Mindset shift:** Use ILPs not just for remediation but to support growth mindset, and master adaptive learning for all learners.

Factors influencing the self-regulated learning of medical students and residents in the clinical environment

Individual

Intrinsic motivation

Attention focusing

Goal-setting skills

Reflective skills

Confidence in self-directed learning

Previous experiences

Contextual

Available time

Characteristics of the learning environment

Patient-related factors

Social

Influence of supervisor

Faculty staff support

Familiarity with other people present in the setting

Self-regulated learning in the clinical context: a systematic review

Maaïke A van Houten-Schat,^{1,2} Joris J Berkhout,³ Nynke van Dijk,⁴ Maaïke D Endedijk,⁵ A Debbie C Jaarsma⁶ & Agnes D Diemers⁴

van Houten-Schat MA, Berkhout JJ, van Dijk N et al: Self-regulated learning in the clinical context: A systematic review. Medical Education 52: 1008-1015, 2018.

Sabbaticals, faculty development, and lifelong learning

Faculty development initiatives have been instituted to address important issues in the education of students and residents with the hope of producing master educators and possibly triple-threat academicians. To this end, one opportunity for effective and sustainable faculty development is realized through sabbaticals.

Sabbaticals for Academic Surgeons: A Forgotten Enterprise in Faculty Development?

Eric R Carlson, DMD, MD, EdM, FACS, LD Britt, MD, MPH, DSc (Hon), FACS, FCCM, FRCSEng (Hon), FRCSEd (Hon), FWACS (Hon), FRCSI (Hon), FCS(SA) (Hon), FRCS (Glasg) (Hon), MAMSE

Carlson ER, Britt LD: Sabbaticals for academic surgeons: A forgotten enterprise in faculty development?
J Am Coll Surg 241: 287-92, 2025.

Sabbaticals, faculty development, and lifelong learning

My personal journey

1. The recognition of personal incompleteness
2. The creation of the plan
3. The preparation (GRE) and application process
4. Matriculation - the *deliberate* strategy with self direction
5. The *emergent* strategy with enthusiasm
6. Graduation and return to the real world with application

Do I want to do things better or do I want to do better things?

Eileen McGowan, EdD



Specialized studies cohort





Longfellow Hall



Gutman Library



Widener Library



Memorial Church

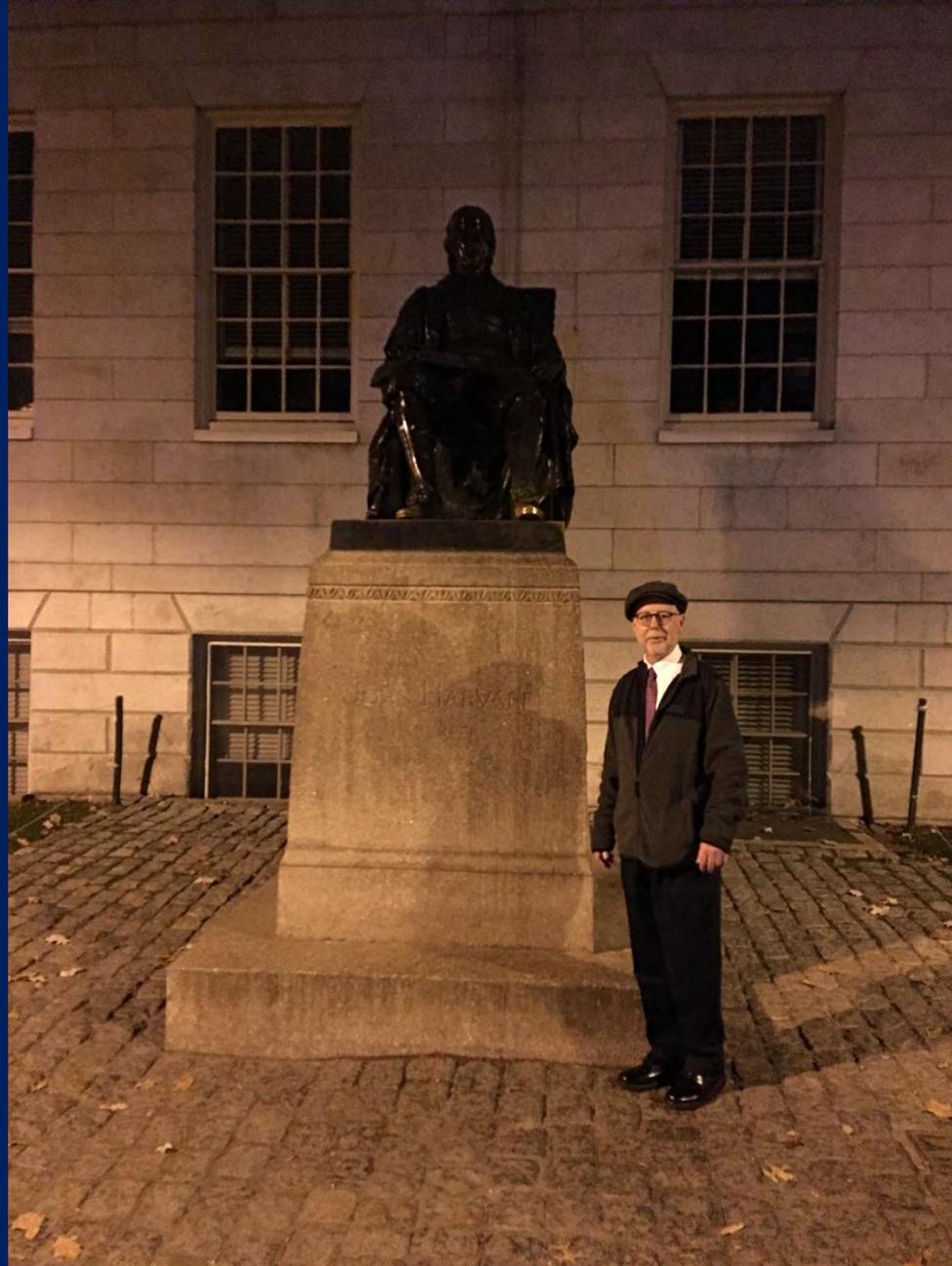


COOP









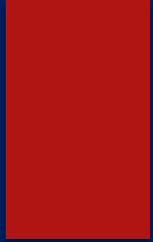


February 2018



April 5, 2018

May 24, 2018



Lifelong learning → disruptive innovation

Four principles of disruption

1. Target a need that can be met more effectively,
2. Identify your disruptive strengths,
3. Step back (or sideways) in order to grow,
4. Let your strategy emerge.....

..... *through lifelong learning.*



Faculty Development – A Primer

Wednesday February 18, 2026 at 12 pm
Thursday February 19, 2026 at 4 pm

Sage on the Stage

