SCHOLARLY PAPER OUTLINE

An application of Kolb's experiential learning theory to teaching AI scribe technology to healthcare practitioners

Justin McNish
Grader: Marie Eason Klatt

One significant factor related to the current crisis in primary care access is physician burnout. Burnout in primary care is multifactorial, but one commonly heard lament from providers pertains to the significant component of administrative or documentary tasks involved in the provision of care (Adler-Milstein *et al*., 2020). One proposed solution for reducing time spent by primary care providers is the utilization of AI scribe technology, particularly for use in simplifying documentation of the patient encounter. Indeed, early evidence seems to indicate positive impacts on relieving administrative burden (Tierney, 2024). While utilization of AI scribe technology in a provider's clinical practice may be self-directed, evidence suggests that as many as one-third of providers feel as though further educational support would be useful in its implementation (CDHE, 2024).

The purpose of this scholarly paper will be to relate Kolb's Experiential Learning Theory to educational challenges associated with teaching AI scribe tools in primary healthcare settings. This paper will seek to *recognize* how preferential learning styles may be utilized to orient learners to entry into Kolb's cycle, to *distinguish* possible challenges precluding adult learners' adoption of AI scribe technology, and finally to *identify* how these challenges may be mitigated by addressing them at each of the stages of Kolb's cycle.

American educational theorist David Kolb asserts that "learning is the process whereby knowledge is created through the transformation of experience" (Kolb, 1984). In his experiential learning theory (ELT), effective learning is seen when a person progresses through a cycle of four stages: of (1) having a concrete experience followed by (2) observation of and reflection on that experience which leads to (3) the formation of abstract concepts (analysis) and generalizations (conclusions) which are then (4) used to test a hypothesis in future situations, resulting in new experiences (Kolb, 2017).

A critical tenet of Kolb's experiential learning theory is that different people naturally prefer a single different learning style, and that identification of an individual's learning style can enable learning to be orientated according to a particular point of entry into the experiential learning cycle. Kolb groups learners as such into four categories of learning styles:

1. *divergers*: those that prefer learning through feeling and watching;
2. *assimilators*: those that prefer conceptualizing and analyzing information over practical application;
3. *convergers:* those who prefer solving practical problems and applying ideas in real-world contexts; and
4. *accommodators:* those who prefer hands-on learning and adapting to challenges.

One strategy to assist HCPs in developing self-directed learning objectives is facilitation the creation of critical thinking questions (Davis *et al.*, 2003). Applying this approach to Kolb's

ELT, this practice may help to identify where learners perceive educational challenges pertaining to lie and therefore may identify clues regarding their learning preferences and orientation in Kolb's cycle. This identification may also allow tailoring the training approach for individuals as follows:

Divergers: Focus on interactive group discussions and reflective activities.

Assimilators: Emphasize theoretical frameworks and structured content.

Convergers: Highlight problem-solving and practical applications.

Accommodators: Prioritize hands-on experiences and real-world implementation.

Challenges and Solutions relevant to Kolb's stages

(1) CONCRETE EXPERIENCE	
Challenge for concrete experiencers	Solutions
Many healthcare providers lack hands-on experience with AI scribes and may therefore feel overwhelmed by integrating these tools into their daily workflows.	● Provide opportunities for healthcare providers to interact directly with the AI scribe in a realistic clinical environment. For example, offer simulation sessions where providers can input patient data or observe the AI in action during mock consultations. ● Use real-world scenarios relevant to primary care, such as documenting routine patient visits or chronic disease management.

(2) REFLECTIVE OBSERVATION	
Challenge for reflective learners	Solutions
Providers may not fully understand how the AI scribe enhances their practice or may misinterpret its capabilities and limitations.	● Facilitate group discussions or one-on-one debriefing sessions after using the AI scribe. Encourage participants to reflect on their experience, identify challenges, and

	share insights about how the tool affected their workflow or patient interaction. ● Use case studies to analyze successful and unsuccessful uses of AI scribes, highlighting what worked and what could be improved.

(3) ABSTRACT CONCEPTUALIZATION	
Challenge for abstract conceptualizers	Solutions
Providers may struggle to connect their experiences with the theoretical understanding of how AI scribes function and their role in healthcare.	● Teach the underlying principles of AI and its role in healthcare documentation, including data privacy, accuracy, and ethical considerations. ● Use educational tools such as lectures, webinars, or self-paced modules to explain how AI scribes integrate into electronic health records (EHR) and improve efficiency. ● Encourage participants to conceptualize how AI scribes can address specific challenges in their practice, such as reducing burnout or enhancing patient-centered care.

(4) ACTIVE EXPERIMENTATION	
Challenge for active experimenters	Solutions
Providers may feel unprepared to implement AI scribes in real clinical settings or adapt their workflows accordingly.	● Encourage providers to apply what they've learned by using the AI scribe in their daily practice with ongoing support and supervision. ● Offer pilot programs or phased implementations where providers can test the tool, gather feedback,

	and refine their use of the technology. ● Create opportunities for continuous learning by providing advanced training sessions and updates as the AI evolves.

By leveraging Kolb's Experiential Learning Theory, educational programs can effectively address the challenges of teaching AI scribe tools in primary healthcare, ensuring that providers are equipped to integrate this technology seamlessly into their practices.

SWOT Analysis

Strengths	**Weaknesses**
● ELT can be interactive and engaging ● ELT's cyclical nature can allow for iterative refinement for training delivery ● Confidence building for learners when done correctly	● Resource-intensive ● ELT's application here is dependent on skilled facilitators ● Small group/individualized learning may make scaling difficult
Opportunities	**Threats**
● Feedback from reflective learners in Kolb's cycle can allow for continuous improvement ● Can enhance buy-in and reduce resistance to AI scribe uptake through experiential and reflective dimensions of ELT	● Rapid changes in technology may require continuous revisions to AI scribe training ● Provider resistance to AI's role in healthcare may result in disengagement and undermine ELT effectiveness

References:

Adler-Milstein, J., Zhao, W., Willard-Grace, R., Knox, M., & Grumbach, K. (2020). Electronic health records and burnout: Time spent on the electronic health record after hours and message volume associated with exhaustion but not with cynicism among primary care clinicians. Journal of the American Medical Informatics Association, 27(4), 531. doi:10.1093/jamia/ocz220

Centre for Digital Health Evaluation - Women's College Hospital (2024). Clinical evaluation of artificial intelligence and automation technology to reduce administrative burden in primary care. Retrieved from: https://www.ontariomd.ca/documents/ai%20scribe/ai%20scribe%20evaluation_final%20report_vf.pdf

Davis, D., Barnes, B. E., & Fox, R. (2003). The continuing professional development of physicians - from research to practice. Chicago: AMA Press.

Kolb, A. Y., & Kolb, D. A. (2017) Experiential learning & teaching in higher education experiential learning & teaching in higher education. Vol. 1: No. 1, Article 7.

Kolb, D. A. (1984). Experiential learning : Experience as the source of learning and development. Pearson Education. Retrieved from CiNII Research of NDL Retrieved from https://learning.oreilly.com/library/view/~/9780133892512/?ar

Tierney, A. A., Gayre, G., Hoberman, B., Mattern, B., Ballesca, M., Kipnis, P., et al. (2024). Ambient artificial intelligence scribes to alleviate the burden of clinical documentation. NEJM Catalyst, 5(3) doi:10.1056/cat.23.0404