The ABCs of Active Learning

AN IMPORTANT NOTE

"[I]f all of the information were given prior or during the session, without the need for inquiry, then the session would just be a lecture…" (McLean, 2016, p. 42)

BASIC ELEMENTS

Graffam's (2007, p. 39) three interconnected elements of active learning with learners participating in:

1. **Intentional engagement(s)** - Learners perform or experience what needs to be learned
2. **Purposeful observations -** Learners describe what they see and hear
3. **Critical reflection -** Learners think and make meaning about experiences

Graffam, B. (2007). Active learning in medical education: Strategies for beginning implementation. *Medical Teacher, 29,* 38-42. doi: 10.1080/01421590601176398

COMPARISON

(Faculty-directed) **ACTIVE LEARNING** (Learner-directed)

Features	Case-Based Learning (CBL) [1,2]	Peer Instruction (PI) [4]	Team-Based Learning (TBL) [1,3]	Problem-Based Learning (PBL) [1,2,3]
Goal	To learn about clinical cases with guided problem solving[2]	To apply prior learned knowledge to clinical vignette questions, using clickers, via peer discussions, student explanations, and immediate feedback	To apply prior learned knowledge via discussions of instructor-posed problems followed by immediate feedback on team decisions[3]	To learn the process of how to solve a problem[2]
Learning Objectives	Outlined for learners[1]	Outlined for learners	Outlined for learners[1, 3]	Created by learners[1]
Learner Preparation	Prior study needed[1,2]	Preparatory assignment and study time outside of class to prepare for PI session	Preparatory study outside of class session for individual Readiness Assurance Test (IRAT)[1,3]	Little to no preparation[1] Research conducted during case[2] Address knowledge gaps between sessions[3]
Faculty role	Provide case(s) Active facilitation/guidance Correct answers disclosed by end of session[1,2]	Create clinical vignette PI questions that will generate discussion; listen to peer discussions; probe student explanations/rationales; provide brief explanation	Create RATs & application questions to stimulate discussion; predict & address learner inquiries & misconceptions[3] Active facilitation/guidance[1]	Provide case & information if requested Observation with limited guidance[1,2]
Learner role	Prior study[1] Answer & ask case-related questions during session[2]	Advanced prep/study Answer PI questions using clickers before (1st poll) and after peer discussion (2nd poll); Prepared to provide explanation/rationale of answer	Advanced prep/study[1] Performance on RATS (individual & group) & application questions[3]	Explore concept & ask questions during session[2]
Outcomes	Outcomes measured; aligned to learning objectives[2]	Outcomes measured; aligned to learning objectives	Outcomes measured (content mastery & application); aligned to learning objectives[3]	Outcome is the process[2]
End of Session	Faculty summary/debrief[1]	Faculty summary of PI session with emphasis of key concepts	Faculty summary & peer eval[1]	Learner presentations[1]

Laboratory – engaged, active learning session that is not considered demonstration but does include: "Hands-on or simulated exercises...learners collect or use data to test and/or verify hypotheses or to address questions…" (MedBiquitous, 2016, p. 3)

REFERENCES

[1] Hopper, M. K. (2018, August). Alphabet soup of active learning: Comparison of PBL, CBL, and TBL. *HAPS Educator, 22*(2), 144-149. doi: 10.21692/hap.2018.019

[2] McLean, S. F. (2016). Case-based learning and its application in medical and health-care fields: A review of worldwide literature. *Journal of Medical Education and Curricular Development, 3*, 39-49. doi: 10.4137/JMECD.S20377

[3] Parmelee, D., Michaelsen, L. K., Cook, S., & Hudes, P. D. (2012). Team-based learning: A practical guide: AMEE Guide No. 65. *Medical Teacher, 34*, e275 – e287. doi: 10.3109/0142159X.2012.651179

[4] Parmelee, D., Trout, M.J., Overman, I., & Matott, M. (2020). 12 TIPS for Implementing Peer Instruction in Medical Education. *MedEdPublish*. https://doi.org/10.15694/mep.2020.000237.1

MedBiquitous Curriculum Inventory Working Group Standardized Vocabulary Subcommittee. (2016). *Curriculum Inventory standardized instructional and assessment methods and resource types* (March 2016 version). Washington, DC: Association of American Medical Colleges.

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