

Table 7.1: Strengths and limitations of instructional methods commonly used in medical education

Instructional method	Description	Strengths	Limitations
Case-based problems (e.g., morbidity and mortality rounds)	<ul style="list-style-type: none"> Real-life or simulated clinical scenarios are provided to learners for discussion 	<ul style="list-style-type: none"> Application of knowledge Effective for discussions of content related to physicians' intrinsic roles (i.e., non-Medical Expert Roles) Cases can be changed to increase or decrease level of complexity Immediate feedback provided to learners 	<ul style="list-style-type: none"> Time intensive to create cases Time intensive to review cases and provide feedback
Directed readings	<ul style="list-style-type: none"> Readings selected by an expert are reviewed independently by learner 	<ul style="list-style-type: none"> Resource efficient A large amount of content can be covered Can be used to prime learners for a formal learning session on a large topic or to focus learners' attention on a specific area after a learning intervention 	<ul style="list-style-type: none"> Learners can become overwhelmed by the amount of content No opportunity to clarify content or answer learner questions Learners are likely to develop superficial comprehension of complex issues
High-fidelity simulation	<ul style="list-style-type: none"> Computer-guided robotic mannequins mimic a clinical scenario 	<ul style="list-style-type: none"> Effective for team training and crisis resource management 	<ul style="list-style-type: none"> Expensive Difficult to schedule multiple professionals for team training Training requires extensive preparation
Journal club	<ul style="list-style-type: none"> Session for in-depth discussion and critical appraisal of selected literature 	<ul style="list-style-type: none"> Facilitates critical thinking Promotes knowledge of key literature Promotes lifelong learning skills 	<ul style="list-style-type: none"> Resource intensive Requires facilitation by an expert in critical appraisal
Lecture	<ul style="list-style-type: none"> Large-group session with a speaker May be live or recorded (e.g., podcast) 	<ul style="list-style-type: none"> Efficient delivery of information Complex ideas can be connected Human resource efficient Best when interactive 	<ul style="list-style-type: none"> Passive learning May not accommodate varying levels of ability or learning styles Limited utility for psychomotor domain
One-on-one teaching	<ul style="list-style-type: none"> Clinically based ("bedside") teaching 	<ul style="list-style-type: none"> Tailored learning High relevance and utility Essential to medical education Allows role modelling 	<ul style="list-style-type: none"> Requires intensive effort by supervisors Supervisors' one-on-one teaching responsibilities compete with their clinical responsibilities

Instructional method	Description	Strengths	Limitations
Panel discussion	<ul style="list-style-type: none"> • Large-group session with multiple speakers providing multiple perspectives on an issue 	<ul style="list-style-type: none"> • Complex or controversial topics can be explored 	<ul style="list-style-type: none"> • Human resource intensive • May not be ideal for the novice learner • Limited utility for psychomotor domain
Partial task-trainer simulation	<ul style="list-style-type: none"> • A simulated model used to teach a technical procedure 	<ul style="list-style-type: none"> • Useful for introducing skills to novices • Useful for the teaching of rare or high-risk procedures • Allows practice and repetition 	<ul style="list-style-type: none"> • Can be expensive • Models have varying fidelity
Self-learning module	<ul style="list-style-type: none"> • Expert-developed content is reviewed independently by learner • May be on paper or electronic 	<ul style="list-style-type: none"> • Content can be tailored to the needs of learners • Resource effective once established • Learner works at own pace • Can prime learners in advance of a formal learning session 	<ul style="list-style-type: none"> • Development is resource intensive • Content must be revised regularly to maintain currency
Seminar (e.g., morning report)	<ul style="list-style-type: none"> • Small-group session facilitated by an expert 	<ul style="list-style-type: none"> • Actively engages learners • Promotes greater insight into content 	<ul style="list-style-type: none"> • Time intensive • It may be challenging to coordinate participants' schedules
Videotaping	<ul style="list-style-type: none"> • Videotaping is used to capture learner performance in a simulated or real-life situation 	<ul style="list-style-type: none"> • Effective method for psychomotor and affective domains • Facilitates the provision of specific feedback to the learner 	<ul style="list-style-type: none"> • Learners may feel uncomfortable about being videotaped • Patient consent required in real-life situations
Workshop	<ul style="list-style-type: none"> • Small-group session that focuses on applied learning and practice of skills 	<ul style="list-style-type: none"> • Excellent for deeper learning • Excellent for psychomotor domain • Allows practice and repetition 	<ul style="list-style-type: none"> • Resource intensive

Note: For the sake of clarity, we decided to exclude assessment methods from this table (and chapter). Certainly, formative assessment not only determines a learner's progression toward competence but also has a role as an effective method of instruction. The identification of a trainee's learning deficits (and strengths) through formative assessment can promote and facilitate learning in a parallel fashion.