#  Continuing Medical Education: Physician Education Design Template

## Premise:

* Physicians learn from their own experience
* Physicians learn through their interactions with other Physicians
* Helping physicians become comfortable with the role of learner is very important
* An important approach to enhancing physician learning is to develop communities of interaction
* When physicians can engage in practice research that provides real, tangible results that directly impact their experience, it fosters the growth of learning communities

(Adapted from Bransford, Brown & Cocking Chapter 8)

**Stage A: Needs Assessment**

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| **What practice gap is being addressed by this unit?*** What are the essential parameters of the perceived knowledge gap?
* What specific area(s) of competence does this gap relate to – patient care; medical knowledge; practice-based learning improvement; interpersonal communication skills; professionalism; systems-based practice?
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| **What is the current practice?*** What do physicians currently know about this topic?
* What do physicians currently do on tasks related to this topic?
* How do we know what we know about current physician practice?
	+ What evidence supports our position?
 | **What is the ideal practice?*** What do we want physicians to know about this topic?
* Are there standards or guidelines that specifically address this perceived gap?
* What specific steps would be involved in the ideal practice?
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| **What key knowledge and skills will physicians need to acquire to bridge this gap?**What are the anticipated outcomes for the learner, and how will they be measured |

## Three Stages of Backward Design

**Stage 1: Identify Desired Results**

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| **Established Goals**What key learning objectives, derived from the definition of ideal practice, will this unit address? |
| **What Essential question(s) will be considered?*** What questions will foster understanding, and transfer of learning?
 | **What understanding(s) are desired?*** What are the key ideas?
* What specific understandings about these key ideas are desired?
* What misunderstandings are predictable?
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| **What should they be able to do as a result of the acquired knowledge and skills?**E.g. key terms and definitions, steps in a process\procedure, guidelines, etc.Can the learner: read and interpret…; Analyze….; Plan….**What positive impact will these new skills have on individual patient care?**What is the intended\expected impact on patient outcomes? |

 **To what extent does the design focus physician attention on the big ideas of the targeted content?**

* Is the targeted understanding a core element of guidelines, standard physician care, other [e.g. medicine adherence]?
* Does the question frame your target so that they provide meaningful connections, provoke inquiry, encourage transfer?
* Can you identify appropriate goals connected to the core idea(s)
* Can you identify valid, relevant knowledge and skills that the physician should learn

**Stage 2: Determine Acceptable Evidence**

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| **What evidence will show that physicians understand?**Clear performance goals:Competence\achievement test; Performance tasks |
| **What other evidence needs to be collected in light of stage 1 desired results?*** What specific practice changes will demonstrate an improvement in patient care?
* What direct evidence can we collect from physicians that indicate they can perform the required tasks
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| **Physician self-assessment and reflection:*** What direct and indirect evidence can we collect from physicians that indicate they can perform the required tasks
	+ Self-assessment content; performance data; reflective journal entries; individually-developed concept maps; other
* How will learners engage in final self-assessment [if different]?
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**To what extent do assessments provide fair, valid, reliable, and sufficient measures of desired results?**

* Are physicians able to exhibit their understanding through authentic performance tasks?
* Is evaluation based on criteria that are directly aligned with the content being assessed?
* Are assessment formats sufficiently varied to provide additional evidence of learning?
* Can the assessments be used as feedback for physicians and health care professionals, as well as evaluation?
* Are physicians encouraged to self-assess?

**Stage 3: Plan the learning experiences**

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| **What sequence of teaching and learning experiences will equip the physicians to engage with, develop, and demonstrate the desired understandings?**1. What design considerations must be included? [E.g. national standards and guidelines; institutional standards; current research; etc.]
2. How should the experience be sequenced to enable the learner to meet her\his obligations?
3. What [teaching strategy(ies)](#_Teaching_Strategies) will provide the best path to understanding?
4. What sequence aids the learner in linking competence, performance, and healthcare outcomes?
	1. Where do you focus on the essential question(s)?
	2. How do you immediately immerse participants in the content?
		1. Problem presentation; challenge; story/mystery; thought provocation; experiential shock; personal connection; multiple/differing perspectives
	3. Is demonstration of understanding meaningful?
		1. How do you enable performance?
	4. Where do you provide feedback to understanding?
		1. Are there opportunities for participants to reflect, rethink, and revise understanding?
	5. Does your sequence provide variety in methods, grouping, tasks?
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| **Sequence of key teaching and learning activities:*** Specifically identify the sequence of the unit:
* Ensure the learner understands where the unit is headed
* Hook the learner early and design to hold attention
* Equip the learner with necessary knowledge, experiences, and tools to meet performance goals
* Provide opportunities rethink the major ideas and concepts of the unit, reflect on progress, and revise understanding
* Build in opportunities for learners to evaluate progress and self-assess
* Tailor to reflect individual\group talents, interests, learner stage(s)
* Organize to optimize deep understanding
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**To what extent is the learning plan effective and engaging?**

* Does the participant understand the learning goal, why the material is important, and what is required of them?
* Does the material engage the participants through inquiry, research, problem-solving and/or experimentation?
* Does instruction adequately equip participants to explore additional facets of their condition\health behavior?
* Do participants have adequate opportunities to explore the big ideas presented?
* Do participants have the opportunity to re-evaluate, revise, and refine their thinking based upon timely feedback?
* Do participants have the opportunity to evaluate their own thinking, reflect on their learning, and set goals?
* Do participants have an opportunity to identify conclusions, what remains unanswered/unresolved?

### [Teaching Strategies](#teachingstrategies)

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| **Your approach** | **Participant performance** |
| Demonstration, modeling | Observe, attempt, practice, refine |
| Lecture | Listen, watch, take notes, question |
| Questions (convergent) | Answer, give responses |
| Concept attainment | Compare, induce, define, generalize |
| Cooperative learning | Collaborate, support others, teach |
| Discussion | Listen, question, consider, explain |
| Experimental inquiry | Hypothesize, gather data, analyze |
| Graphic representation | Visualize, connect, map relationships |
| Guided inquiry | Question, research, conclude, support |
| Problem-based learning | Pose/define problems, solve, evaluate |
| Questions (open-ended) | Answer and explain, reflect, rethink |
| Reciprocal teaching | Clarify, question, predict, teach |
| Simulation (e.g., mock trial) | Examine, consider, challenge, debate |
| Socratic seminar | Consider, explain, challenge, justify |
| Writing process | Brainstorm, organize, draft, revise |
| Feedback/conferencing | Listen, consider, practice, retry, refine |
| Guided practice | Revise, reflect, refine, recycle through |

Wiggins, Grant, & McTighe, Jay (2005). *Understanding by Design*. Upper Saddle River, NJ: Pearson Education Inc.

**Optional Stage 4: Educational Session Pre-Mortem**

Look forward and imagine the first delivery of this session is complete. Answer the following question?

* The session was an unmitigated and deeply embarrassing disaster, write a brief history of what went wrong:
	+ List all relevant reasons why the session failed
	+ Was the content structured appropriately for the audience?
	+ Was it aimed at the right level?
		- Was there a wide range of learning stages evident in the audience?
	+ Did the audience understand the objective?
	+ Did any aspect of the design inhibit understanding?
	+ Was there a resource gap or failure that impacted the session?
	+ Did any audience member exhibit a clear and substantial misunderstanding of the content?
	+ Review the evaluation, which question got “1s” across the board?
* Which failure points are controllable?
* Which controllable failure point:
	+ Is most likely to occur?
	+ Will have the most significant impact on learners?
* What steps can be taken to reduce the likelihood that the event will occur?
* What steps can be taken to reduce the impact of the event, should it occur?