Conceptual Frameworks to Guide Research and Development (R&D) in Health Professions Education

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Conceptual frameworks (CFs) are ways of...
- Thinking about a problem or question e.g., Thomas et al’s six steps to curriculum development
- Representing how complex things work e.g., Dual-Process Cognition Theory

Each CF is inherently limited, focusing on specific operational elements while leaving others out.

Why CFs?
- CFs are pervasive; they underlie, explicitly or not, all our educational choices and actions.
- CFs offer a variety of perspectives from which to look at educational problems or research questions.
- CFs provide a solid foundation, with standardized vocabulary and well-grounded principles, on which to build educational R&D projects and interpret outcomes and results.
- CFs allow researchers to build on one another’s work, leading to an ever greater understanding that moves the field forward.

Dimensions of a project or study

<table>
<thead>
<tr>
<th>Content</th>
<th>Methods</th>
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<tbody>
<tr>
<td>Basic elements</td>
<td>Educational</td>
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<tr>
<td>Variables and their interrelatedness</td>
<td>Investigation</td>
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</tbody>
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Key questions addressed
- “What are the important elements to consider for this topic or issue?”
- “How are the variables related?”
- “What’s our model or theory?”
- “How might I design instruction or assessment for this project?”
- “How might I design evaluation or research for this project?”

Example study Stefanidis et al.
Problem: Learners are making limited gains from simulation-based surgical skills training and they struggle to transfer that learning into practice under stress and distractions in the operating room.

Authors’ CFs
- Fundamentals of Laparoscopic Surgery: Five Basic Skills
- Dual-Process Cognition Theory

How each CF influenced the authors’ study from the beginning
- Suggested a skill to focus on, laparoscopic suturing, which is standardized and familiar internationally.
- Clarified what the authors did not choose to study (e.g., precision cutting or ligating loop).

Interpretation: To help learners reach automaticity for a task (e.g., suturing) to a particular standard, clinical educators should require that they continue practicing the task until they can perform it well while substantially distracted.

References:

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When reporting educational research and development projects, state the CFs clearly so that others know your assumptions.