Learning Design for App Flows

Ruben R. Puente dura, Ph.D.
Redefinition
Tech allows for the creation of new tasks, previously inconceivable

Modification
Tech allows for significant task redesign

Augmentation
Tech acts as a direct tool substitute, with functional improvement

Substitution
Tech acts as a direct tool substitute, with no functional change

Ruben R. Puentedura, As We May Teach: Educational Technology, From Theory Into Practice. (2009)
<table>
<thead>
<tr>
<th>Social</th>
<th>Mobility</th>
<th>Visualization</th>
<th>Storytelling</th>
<th>Gaming</th>
</tr>
</thead>
<tbody>
<tr>
<td>200,000 years</td>
<td>70,000 years</td>
<td>40,000 years</td>
<td>17,000 years</td>
<td>8,000 years</td>
</tr>
</tbody>
</table>

AirDrop. Share with people nearby. If you don’t see them, have them turn on AirDrop in Control Center on iOS, or go to AirDrop in Finder on a Mac.
## Bloom's Taxonomy: Cognitive Processes

<table>
<thead>
<tr>
<th>Anderson &amp; Krathwohl (2001)</th>
<th>Characteristic Processes</th>
</tr>
</thead>
</table>
| Remember                    | - Recalling memorized knowledge  
                              | - Recognizing correspondences between memorized knowledge and new material |
| Understand                  | - Paraphrasing materials  
                              | - Exemplifying concepts, principles  
                              | - Classifying items  
                              | - Summarizing materials  
                              | - Extrapolating principles  
                              | - Comparing items |
| Apply                       | - Applying a procedure to a familiar task  
                              | - Using a procedure to solve an unfamiliar, but typed task |
| Analyze                     | - Distinguishing relevant/irrelevant or important/unimportant portions of material  
                              | - Integrating heterogeneous elements into a structure  
                              | - Attributing intent in materials |
| Evaluate                    | - Testing for consistency, appropriateness, and effectiveness in principles and procedures  
                              | - Critiquing the consistency, appropriateness, and effectiveness of principles and procedures, basing the critique upon appropriate tests |
| Create                      | - Generating multiple hypotheses based on given criteria  
                              | - Designing a procedure to accomplish an untyped task  
                              | - Inventing a product to accomplish an untyped task |

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“Practice in a classroom is formative to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers, to make decisions about the next steps in instruction that are likely to be better, or better founded, than the decisions they would have taken in the absence of the evidence that was elicited.”

Black and Wiliam: Defining Formative Assessment

An authentic connection between academic disciplines and real world experience

A framework and workflow to develop 21st century skills

The purposeful use of technology for researching, analyzing, organizing, collaborating, communicating, publishing and reflecting.

The opportunity for learners to do something important now, rather than waiting until they are finished with their schooling

The documentation and assessment of the learning experience from challenge to solution

An environment for deep reflection on teaching and learning

A process that places students in charge of their learning

These attributes enable Challenge Based Learning to engage all learners, provide them with valuable skills, span the divide between formal and informal learning, and embrace a student's digital life.

Key Components

The Challenge Based Learning process begins with a big idea and cascades to the following: an essential question, a challenge, guiding questions, activities, and resources, a solution, implementation, evaluation, reflection, assessment, and publishing.

The Big Idea:

The big idea is a broad concept that can be explored in multiple ways, is engaging, and has importance to learners, and the larger society. Examples of big ideas are Resilience, Separation, Creativity, Health, Sustainability, and Democracy.

Essential Question:

By design, the big idea allows for the generation of a wide variety of essential questions. Eventually the process narrows to one essential question that reflects the interests of the learners and the needs of their community.

The Challenge:

From the essential question a concise challenge is articulated that asks the learners to create a specific solution that will result in concrete, meaningful action.

Guiding Questions, Activities and Resources:

Generated by the learners, guiding questions represent the knowledge needed to successfully develop a solution and provide a map for the learning process. The learners identify lessons, simulations, activities, and content resources, to answer the guiding questions and set the foundation for them to develop innovative, insightful, and realistic solutions.

Solutions:

Each challenge is stated broadly enough to allow for a variety of solutions. The solution should be thoughtful, concrete, clearly articulated and actionable in the local community.
Place/Space

- Place
- Identity
- Home
- Diaspora
- Rooted
- Nomadic

Condition
Mix of natural & artificial features that give meaning to a location

Location
Position in space

Links
Connections between places

Formal Region
Group of places with similar conditions

Functional Region
Group of places linked together by a flow

Theatrical Space
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### Facione: Critical Thinking – Cognitive Skills and Subskills

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<th>Subskills</th>
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<tr>
<td>Interpretation</td>
<td>Categorization, Decoding Significance, Clarifying Meaning</td>
</tr>
<tr>
<td>Analysis</td>
<td>Examining Ideas, Identifying Arguments, Analyzing Arguments</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Assessing Claims, Assessing Arguments</td>
</tr>
<tr>
<td>Inference</td>
<td>Querying Evidence, Conjecturing Alternatives, Drawing Conclusions</td>
</tr>
<tr>
<td>Explanation</td>
<td>Stating Results, Justifying Procedures, Presenting Arguments</td>
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<tr>
<td>Self-Regulation</td>
<td>Self-examination, Self-correction</td>
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**Explanation**
Hippasus

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Twitter: @rubenrp

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