Informed Design Rubric *

Teachers can use the Informed Design Rubric to assess students' abilities to do design practices in an "informed" way. First, read over the contrasting descriptions of beginner designers and informed designers in columns 2 and 3. Use the fourth column to circle a score of "1" for each practice when students work and think as *beginning designers* for that strategy. Circle a "5" when students perform as *informed designers* do for that strategy. Assign scores of 2-3-4 when students' performances lie somewhere between that of beginning and informed designers. Below the circled rating in column 5 is space to write a brief description of behaviors and evidence to support the rating for each practice.

Design Strategies	**Beginning Vs. Informed Designer Patterns**		**Rating (circle) & Evidence**
	What Beginning Designers Do	What Informed Designers Do	
Understand the Challenge	**Pattern A. Problem Solving Vs. Problem Framing**		1 - 2 - 3 - 4 - 5
	Do not grasp the basics of design task, or treat it as a well-defined, straightforward problem that they prematurely attempt to solve.	Understand basics of design problem, and then delay making design decisions in order to explore, comprehend and frame the problem better.	
Build Knowledge	**Pattern B. Skipping Vs. Doing Research**		1 - 2 - 3 - 4 - 5
	Skip doing research and instead pose or build solutions immediately.	Do investigations and research to learn about the problem, relevant cases and how the system works.	
Generate Ideas	**Pattern C. Idea Scarcity Vs. Idea Fluency**		1 - 2 - 3 - 4 - 5
	Work with few or just one idea, which they can get fixated or stuck on, and may not want to discard, add to, or revise.	Practice idea fluency in order to work with lots of ideas by doing divergent thinking, brainstorming, etc.	
Represent Ideas	**Pattern D. Surface Vs. Deep Drawing & Modeling**		1 - 2 - 3 - 4 - 5
	Propose superficial ideas that do not support deep inquiry of a system, and that would not work if built.	Use multiple representations to explore and investigate design ideas & support deeper inquiry into how system works.	
Weigh Options & Make Decisions	**Pattern E. Ignore Vs. Balance Benefits & Tradeoffs**		1 - 2 - 3 - 4 - 5
	Make design decisions without weighing all options, or attend only to pros of favored ideas, and cons of lesser approaches.	Use words and graphics to display and weigh both benefits and tradeoffs of all ideas before picking a design.	
Conduct Experiments	**Pattern F. Confounded Vs. Valid Tests & Experiments**		1 - 2 - 3 - 4 - 5
	Do few or no experiments on prototypes, or run confounded tests by changing multiple variables in a single test.	Conduct valid experiments to learn about materials, key design variables and the system work.	
Troubleshoot	**Pattern G. Unfocused Vs. Diagnostic Troubleshooting**		1 - 2 - 3 - 4 - 5
	Use an unfocused, non-analytical way of viewing prototypes during testing and troubleshooting ideas.	Focus attention on problematic areas and subsystems when troubleshooting devices and proposing ways to fix them.	
Revise/Iterate	**Pattern H. Haphazard or Linear Vs. Managed & Iterative Designing**		1 - 2 - 3 - 4 - 5
	Design in haphazard ways where little learning gets done, or do design steps once in linear order.	Do design in a managed way, where ideas are improved iteratively via feedback. Strategies get used as many times as needed, in any order.	
Reflect on Process	**Pattern I. Tacit Vs. Reflective Design Thinking**		1 - 2 - 3 - 4 - 5
	Do tacit designing with little self-monitoring while working or reflecting on process.	Practice reflective thinking by keeping tabs on design strategies and thinking.	

* Derived from Crismond & Adams (2012) "The Informed Design Teaching and Learning Matrix"