Student Names:
Keyword:

CS/Psych/EdPsych-770 Human-Computer Interaction, *Hands-on Activity*

Step-by-step Experimental Design

In this hands-on activity, you will work with your project team to make concrete study design decisions for your course project (if you plan to conduct an experiment or an evaluation) or a version of your course project that can be reformulated as an experiment (if you do not currently plan to conduct an experiment) only for purposes of this activity.

1. Formulate your research question.

*What are the effects of **X** on **Y** under conditions **Z**?*

X: _____

Y: _____

Z: _____

2. Identify your experimental variables.

Independent variable → Dependent variable

IV(s), INCLUDING LEVELS FOR EACH FACTOR: _____

_____

_____

DV(s): _____

RANDOM FACTOR(S): _____

3. Generate hypotheses.

*What are the effects of **X** on **Y** under conditions **Z**?*

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***Y** will be higher/lower when **X** is $\boldsymbol{X_i}$ than when **X** is $\boldsymbol{X_j}$ under conditions **Z**.*

H1: _____

_____

_____

H2: _____

_____

_____

4. Determine experimental design.

Within-participants factors: _____

Between-participants factors: _____

Experimental design: _____

_____

5. Develop experimental task and procedure.

Task:

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Experimental Procedure

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

6. Determine manipulations and measurements.

Control condition(s): _____

_____

Treatment condition(s): _____

_____

Measurements: _____

_____

7. Identify participants.

Target population: _____

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Convenience sample: _____