CSSI: Collaborative Research: Frameworks: Cyber Infrastructure for Shared Algorithmic and Experimental Research in Online Learning

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Development of RAILKAM

- Integration of ASSISTments' E-TRIALS w UPenn MOOCs
  - UPenn MOOCs are used by hundreds of thousands of learners each year
  - Enable broader populations, more robust student interactions, and more bountiful data collection than currently feasible in either environment alone
  - Increase the efficiency and ease of conducting quality educational research in online learning environments while targeting learning outcomes
- Project Targets
  - Support 20 researchers in conducting RCTs in K-12 + MOOC environments
  - Support 75 data scientists via redacted datasets emphasizing student privacy

ASSiSTments™
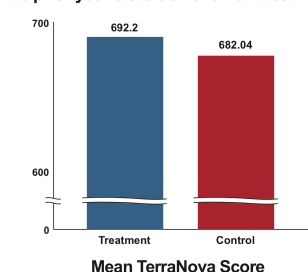A Free Public Service of Worcester Polytechnic Institute

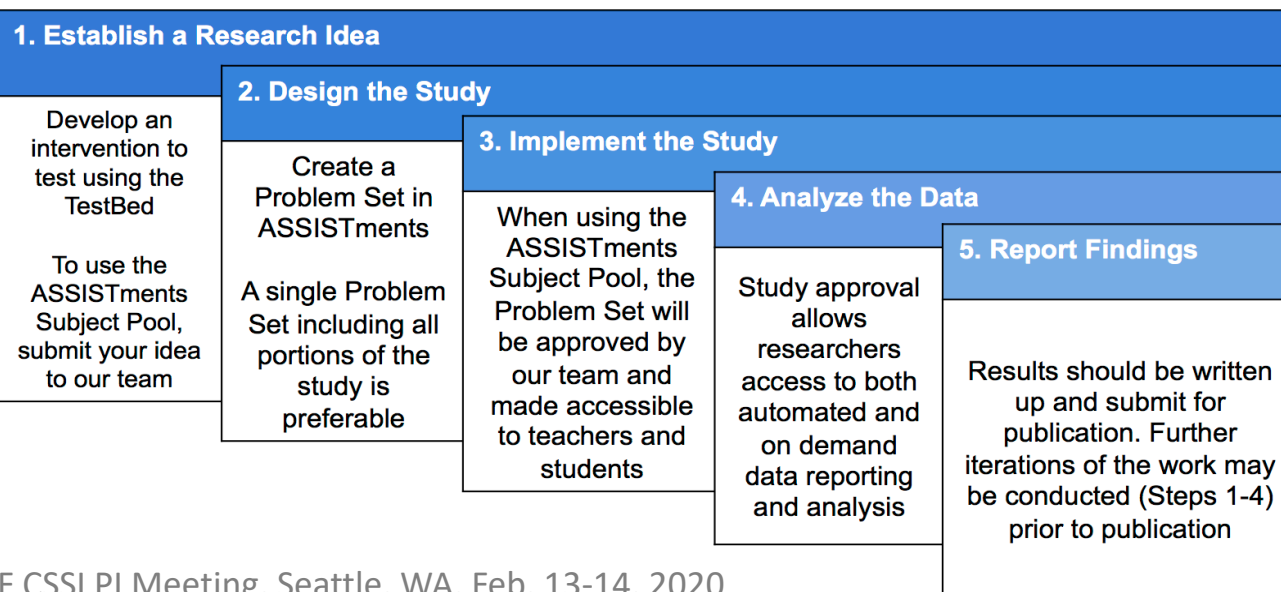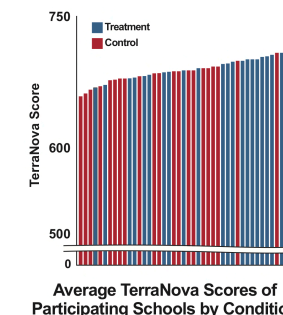Students in 7th grade whose teacher used ASSISTments learned more math as measured by a standardized test (TerraNova), controlling for their 6th grade math and reading scores on the prior year state achievement test.

Mean TerraNova Score

Many of the schools with the highest TerraNova scores were those who used ASSISTments (blue).

Average TerraNova Scores of Participating Schools by Condition

1. Establish a Research Idea

Develop an intervention to test using the TestBed

To use the ASSISTments Subject Pool, submit your idea to our team

2. Design the Study

Create a Problem Set in ASSISTments

A single Problem Set including all portions of the study is preferable

3. Implement the Study

When using the ASSISTments Subject Pool, the Problem Set will be approved by our team and made accessible to teachers and students

4. Analyze the Data

Study approval allows researchers access to both automated and on demand data reporting and analysis

5. Report Findings

Results should be written up and submit for publication. Further iterations of the work may be conducted (Steps 1-4) prior to publication