Preliminary Research Results for a Just-in-time Skill-building Platform

Mary Ann Perry  ★  Dr. Jerome Rekart
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WHAT WE BUILT

JUICE is an R&D project at SNHU funded by a 4-year federal First in the World grant

Just-in-time, contextualized, and empowering skill-building ... for all students

A library of modular, customizable learning resources for courses and assignments across the disciplines to help under-prepared students develop and strengthen critical academic skills while doing coursework.

A learning platform with a competency-based framework, real time authoring/publishing, and deep learning analytics – to integrate with any LMS.
Each JUICE module supports a competency and presents supporting skills in a real-world context.

From LMS-based assignments, students link to module(s), and choose a skill to review.

Each mini-lesson offers choices for review and practice: Overview, Try It tutorials, and practice games.

A QUICK LOOK
Randomized Control Trial (RCT) Research Study

Analyzing Student Activity in JUICE

- College for America (CfA) Students (Treatment Group)
- Pilot Test Students
Randomized Control Trial (RCT) Research Study

**1238 online students - CfA Associate’s degree in General Studies:**
Average age 36 yrs. 72% women, 28% African American, 15% Hispanic. 95% work more than 30 hours/week. 68% 1st generation college.

**ITT study:**
(Intention to Treat)

**Timeframe:**
November 2016 – July 2018; 12 months data/student

**Outcomes Measurement:**
Academic progress and persistence. Number of competencies earned.

**Focus on academic support for:**
Essay writing, critical reading, and basic math. JUICE learning resources are available within relevant CfA projects to support mastery of competencies and rubrics. Includes feature for faculty reviewers and advisors to recommend JUICE.

**RCT Status: In Progress**

**Additional areas of interest:**
- Quasi-experimental study -- IV (instrumental variable) analysis of JUICE learning resources usage in comparison to rubric-level outcomes, # submissions to mastery, and student review and practice pathways.
- Survey graduates
CfA students are actively using JUICE

502 active students

- 54% of students reviewed skills using JUICE
- 47% chose more than one way to review and practice in JUICE
- Student choices for skill-building review and practice:
  - Overviews: 7%
  - Challenge Games: 19%
  - Try It's: 36%
  - Module Challenge Wheels: 36%

Avg. 10 min. per mini-lesson (Median 6 min.)  Total Avg. 35 min. (Median 11 min.)
Students return to same and different modules in roughly equal numbers.

Modules used match project competencies and rubrics where JUICE is offered

Skills Most Frequently Reviewed

- Grammar: 450
- Basic Math: 100
- Problem solving: 50
- Probability: 20
- Arguments: 10
- Essays: 5
- Critical reading: 5
- Paragraphs: 5

Using audio in Overviews?

- Did not use Audio: 55%
- Listened to Narration: 45%
How about Pilot Test students?

394 students. Two terms: July – Oct 2017. Consistent patterns. Surveys confirm students like JUICE.

57% of students used JUICE to review

- Did Not Use 43%
- JUICE More Than Once 38%
- JUICE Once 19%

43% of the time students reviewed and practiced more than one way

- More than one type of learning activity 16%
- One type of learning activity 84%

Overall review and practice choices

- Overview 42%
- Challenge Game 16%
- Try It 2%
- Challenge Wheel 40%

Avg. 8 min. per mini-lesson in a day (Median 4.5 min). Total Avg. 35 min. (Median 10 min.)

JUICE modules most frequently worked

- Essay writing
- Arguments
- Paragraph writing
- Critical reading
- Basic grammar
- Basic statistics/probability
- Basic math
- Math problem solving

Most pilot test courses were writing courses

Used audio in Overviews?

- Listen to Narration 27%
- Did not use Audio 73%
How and when are CfA students using JUICE?

How the program works:
Students work on projects, submit for evaluation, and can resubmit until they earn “Mastered” for all rubric criteria.

Frequent JUICE users
• Review and practice before submitting a project
• Return and continue practicing when working on a new project
Which CfA students use JUICE?

- 20% of the students account for 80% of the time spent
- Analyzed for gender, race, age, marital status, dependents, previous college credits
- Older students tend to use JUICE more frequently and submit projects more times to achieve mastery (with the exception of the youngest students)
Students respond to faculty recommendations

How JUICE recommendations work:
While evaluating a student’s project, CfA faculty have the option to add a JUICE recommendation for review and practice along with the detailed feedback on the student’s work.
WHERE NEXT?

**JUICE LEARNING MODULE LIBRARY**

- Share across more programs
- Customize core modules
- New modules -- cover more competencies/skills
- Address needs of more learning communities (ELL, workforce training)
- Analyze data, adapt, improve

**PLATFORM CAPABILITIES**

**JUICE ROADMAP**

- SNHU PROGRAM SUPPORT
- NEW PILOTS AND PARTNERS
- ADVANCED RESEARCH
- LEARNING EXPERIENCE ENHANCEMENTS
- OER POTENTIAL?
Thank you and keep in touch

Mary Ann Perry  m.perry@snhu.edu

Dr. Jerome Rekart  j.rekart@snhu.edu