

OER Implementations: Mathematics and Statistics Online Homework Systems



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Online Homework Systems: Perceived vs. Real Challenges

- For Mathematics faculty, one of the main concerns when considering the adoption of open educational resources is the availability of an associated Online Homework System.
 - Most of the instructional faculty in Mathematics are familiar and comfortable using robust products like MyMathLab and WebAssign
 - “I already have all my courses designed and structured within MyMathLab/WebAssign”
 - “Our students need more practice and immediate feedback”

Good News!

- Many of the free textbooks are paired with Online homework management systems
 - Textbooks from OpenStax are paired with different platforms, including:
 - WebAssign
 - XYZ Homework
 - WileyPLUS
 - Sapling Learning
 - Plus many others...

Our Experience at CCGA

- Our transformative project targeted the following courses:
 - College Algebra (MATH 1111)
 - Trigonometry (MATH 1112)
 - Precalculus (MATH 1113)
 - Probability and Statistics (MATH 2112)
- We had the textbook (thanks to OpenStax), we needed the online platform...

Our Experience at CCGA

- Our first transformed course was Probability and Statistics, and for this implementation we adopted WebAssign.
 - PROS
 - Trajectory
 - Robustness
 - Price (Low when compared to MyMathLab): \$32.95 / Semester
 - CONS
 - Less familiarity for faculty when compared to MyMathLab
 - Students: “Help me solve this”

Our Experience at CCGA

- Students and Faculty will compare the platform to MyMathLab.
 - PROS
 - Trajectory
 - Robustness
 - Familiarity for students and faculty.
 - Popular tools: “Help me solve this”, “View an Example”
 - CONS
 - In most cases it is linked to high price textbooks
 - Even as a stand alone item it costs \$99.95

Our Experience at CCGA

- Before our second round of transformed courses we considered WeBWork
 - PROS
 - Open-source
 - Flexibility
 - CONS
 - You need to invest resources up front (human capital):
 - Programming textbook specific questions
 - Deploying the platform
 - Upkeep
 - Maintaining the platform (it would be hosted, managed, and supported by your school)
 - The interface is not as user friendly and polished as its non-open counterparts

Our Experience at CCGA

- For our second round of courses (College Algebra, Trigonometry, and Precalculus) we adopted XYZ Homework
 - PROS
 - Low Price! Full access to the platform for \$25 / year
 - CONS
 - Lack of robustness
 - Many glitches after the implementation
 - This created a frustrating experience for both faculty and students.
 - Examples
 - Even though the support from the company was good, it was our impression that the issues would be too difficult for the company to manage for an at scale implementation for a larger school or a state.

Our Experience at CCGA

- Where are we?
 - For Spring 2016 we have switched to WebAssign for all of our courses that use OpenStax textbooks.
 - We have the robustness and support of a platform with great trajectory.
 - Even though the price is low (\$32.95), it can still be a challenge for low income students.
 - Since this is the cost for one semester, repeaters will have to pay again for the access to the online homework. MyMathLab provides access for the life of the edition of the book.
 - We are willing to consider other options as they develop.

Questions?