OERs and M.E.

- But first, a word of caution…
- This whole OER idea will be a fantastic disaster…If there is not faculty buy in!
- I am soooo grateful to the math faculty for their support. A vote was taken and it had 80-85% approval.
- Our OER is MyOpenMath (M.O.M).
We ran a pilot in summer 2016 for 2 sessions of our Basic Arithmetic (Mat 80) class (lowest level).

Textbook cost: $20.00 per student (including software).

The previous summer the textbook cost was $234.00 (including software).
Data from 1st OER Math 80 Pilot (2016)

- Summer 2015 (non-OER)
  - Day class: 20/24 = 83%.
  - Night class: 13/17 = 77%
  - Totals: 33/41 = 81%

- Summer 2016 (OER/MOM)
  - Day class: 12/14 = 86%
  - Night class: 13/19 = 68%
  - Totals: 25/33 = 76%

Same 2 sections, same instructors.
The next semester (Fall 2016) we did not expand the use OERs because we had yet to find a textbook for our Introductory and Intermediate Algebra.

... And in math, we wanted textbooks.
OERs in the Fall Semester 2016

- Fall 2016 (OER)
  - Mat 80 had 4 sections.
  - 51/83 passed
  - 61%

- Fall 2015 (non-OER)
  - Comparing the same 4 sections.
  - 51/82 passed
  - 62%

- If counting all Basic Arithmetic sections:
  - 121/215 = 56%
OERs in the Spring Semester 2017

- While attending AMATYC in New Orleans, 2016 I found an OER textbook for Introductory and Intermediate Algebra.
- After looking it over our department agreed to expand the OER use for Introductory Algebra (Mat 91) in the spring 2017.
- They also agreed to use it in Intermediate Algebra (Mat 9) beginning in the Summer 2017.
Spring 2016 Mat 91 textbook cost $262.30.

$262.30 x 236 students...

$61,902.80 cost to students.

OER cost would have been $32.50 x 236 = $7,670.00
Cost Comparison Spring 2017

- Spring 2017 OER F2F Mat 91 enrollment was 105 students. $32.50 x 105 students...
- $3,412.50 cost to student.
- If we did not switch this spring:
- $262.30 x 105 students...
- $27,541.50.
Cost Comparison Spring 2017

- We saved students $24,129.00 spring semester! For one course!
- What were the results of this $24,129.00 savings?
<table>
<thead>
<tr>
<th>OERs in the Spring Semester 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spring 2016 (non-OER)</strong></td>
</tr>
<tr>
<td>Mat 91 had 14 F2F sections</td>
</tr>
<tr>
<td>111/198 = 56% passed F2F sections.</td>
</tr>
<tr>
<td>125/236 = 53% including 3 online sections.</td>
</tr>
<tr>
<td><strong>Spring 2017 (non-online OER section)</strong></td>
</tr>
<tr>
<td>Mat 91 had 7 F2F OER sections.</td>
</tr>
<tr>
<td>55/105 = 52% passed.</td>
</tr>
<tr>
<td>62/127 = 49% including 1 online section.</td>
</tr>
</tbody>
</table>
Digging Deeper

- Again, spring 2017 Mat 91 had 7 F2F OER sections.
  - 55/105 = 52% passed.

- Comparing the exact same 7 sections from spring 2016.
  - 55/102 = 54% passed.

I especially like those numbers when you consider it was the first Mat 91 semester and it was offered thru Canvas.
BUT...

- The result that has most meaning for us is how students perform in the next semester...
- So we will need results from fall 2017 to make that comparison.
- Here is one interesting statistic however...
BUT…

Those students who passed mat 91 in spring 2016 only 71/125, 57%, took a math class next semester. Of those, 33/71, 46% passed.

Let’s hope MOM doesn’t bring that number down.
Summer 2017

- We welcomed 83 H.S students in the P-TECH (Pathways in Technology Early College High school) program to BCCC.
- They took Statistics and the program's budget could not pay for a $238.50 book so they used the OER book, $32.70.
Summer 2017

- 53/83 received an A, B or C. 64% rate.
- In Spring 2017, with the $238.50 textbook, our A,B,C rate was 194/305. 55% rate.
- Clearly, the OER caused no problems for our HS students.
Fall 2017

- In fall 2016 Statistics (Mat 107) was the 3rd most enrolled course at BCCC (362 students).
- It had an A,B,C success rate of 62% (15 lowest).
- The textbook and software cost $238.20.
- Currently, we are using the summer OER textbook for 4 sections of Statistics.
Fall 2017

- We also have 4 sections of College Algebra and two of them are using an OER book.
- $267.20 vs. $16.90
I will go out on a limb and make this statement:
If students did OK with OERs in a math class...
I believe they will do OK in virtually all other subject matters as well.
MOM (MyOpenMath)

- The software that we use with our OER is:
  - www.myopenmath.com

- Other math OERs can be found at:
  - www.opentextbookstore.com

- “Anything for Sofya”
OER Pros

- MUCH, MUCH cheaper for student
- Instructors never have to buy new editions.
- Research has reported a 10% increase in successful completion because all students actually had the book!
- OER promote equality by ensuring students had all materials from first day and throughout the semester.
OER Cons

- MUCH, MUCH more preparation required by professors (up to 100 hrs, first time only).
- This time could possibly double if offering an online class.
- MOM is not as robust as MLP.
- Instructors will have to create more supplemental material as well.
- Less revenue for the college via the bookstore.
- Faculty will have to get their own books.
OER Organizations & Resources

- OER Commons [http://www.oercommons.org/](http://www.oercommons.org/)
- College Open Textbooks [http://www.collegeopentextbooks.org/](http://www.collegeopentextbooks.org/)
- Saylor Academy [http://www.saylor.org](http://www.saylor.org)
- Howard Hughes [http://www.hhmi.org](http://www.hhmi.org)
- MERLOT [http://www.merlot.org](http://www.merlot.org)
- BC Campus [http://open.bccampus.ca/](http://open.bccampus.ca/)
- Creative Commons [http://creativecommons.org/](http://creativecommons.org/)

Also see Khan Academy, TedEd, YouTube, Internet Archive, Wikipedia, Google, etc.
Questions?

- Associate Dean Scott Saunders at sjsaunders@bccc.edu x-8242