

# Jennifer Kirkey - Pressbooks - Open Textbooks



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Jennifer Kirkey



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Open textbooks became a cause of mine, Jennifer Kirkey, as I found more and more of my students could not afford the “required” textbook.



*Jennifer Kirkey with telescope Photo credit: Jennifer Kirkey 2016 CC0*

BCcampus organized an Open Textbook Summit in 2015 and the keynote speaker, Rajiv Jhangiani from Kwantlen Polytechnic University was so inspiring that I became a BCcampus Faculty Fellow as an Advocate for Open Textbooks in 2016. I do wish to thank BCcampus for their work with open educational resources such as this textbook, and for the opportunities they have given me. You can learn more about them by visiting <https://bccampus.ca/>

You can find a list of open textbooks at the BCcampus

webpage at <https://open.bccampus.ca/find-open-textbooks/>

Being able to modify a textbook so that it better matched our courses was the next logical step.

Here is a picture I took at the start of the semester in September 2016. This bulletin board is located outside Douglas College's bookstore. Students who clearly did not need their old textbooks, or who needed the money to buy new ones, put up posters in an attempt to sell their old books.



*Books for sale outside the Douglas College Bookstore Photo  
Credit: Jennifer Kirkey 2106 CC0*

### **Who Am I and How Did I get here?**

Looking up at the sky as a child, I was fascinated by the stars. The local library supplied a book on the constellations, and that led to a book explaining why the stars were different colours, and that led to a book on

physics. I kept asking questions and that led me to a Bachelor of Science degree in Physics from Trent University in Peterborough, Ontario, Canada and then to a Master's degree in Physics from Simon Fraser University in Burnaby, British Columbia, Canada.

I have been working at Douglas College in New Westminster, British Columbia, Canada for more than twenty-five years. I teach a first year course in astronomy to liberal arts majors and physics to people whose background is no physics in high school to those who want to be engineers. I also teach in a post-graduate program for Elementary School Teachers.

I volunteer with our local science centre, Science World at Telus World of Science in Vancouver, B.C., doing outreach visits to elementary and secondary schools, as well as being active with the local branch of the Royal Astronomical Society of Canada.



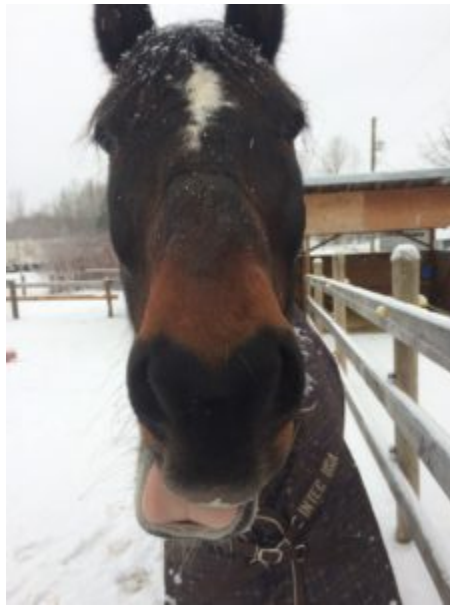


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## Front cover image credits - we have led the horse to water

### Rocky the Morgan Horse

Here is a picture of Rocky the Morgan Horse – having fun – and welcoming you to the research on open textbooks.



*Rocky the Horse Photo credit Jenn  
Barker 2018 CC0*

We have led the horse to water – now what. Jenn Barker

and Jennifer Kirkey became convinced of the need for open textbooks primarily from a social justice perspective. We decided to do it in our classrooms. The next logical question was what do the students think? Yet you ask, what do horses have to do with that?

We noticed that many conference presentations had clever titles and we were struggling to find something that would sum up our attitudes. Jenn Barker is an avid owner and rider of horses, so Rocky the Morgan horse figures prominently in these slides. Jennifer Kirkey grew up on a farm in Eastern Ontario. Special thanks to Eric Urquhart, Jennifer's partner for coming up with the name for this presentations. He works at Country Vines Winery in Richmond, British Columbia, Canada where there are many four-legged staff members. Most of the other horse pictures came from visits to the winery.

<https://www.countryvines.ca/>

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# Main Body

Rocky the non water drinking horse

Rocky's human is Jenn Barker

Photo Credit

Jenn Barker

CC-BY 4.0



*Rocky the Non-drinking Morgan Horse Photo Credit Jenn Barker  
2018 CC0*



Here is a copy of the poster I presented at the CAP Canadian Association of Physicists Conference at Simon Fraser University, Burnaby, British Columbia, Canada in June 2019.



CAP poster June 2019



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## Poster description in the CAP 2019 program

<https://indico.cern.ch/event/776181/sessions/294350/#20190604>

Open Textbooks – we have led the horses to water — now what?

4 Jun 2019

SWH 9082 + AQ South-East Corner / coin sud-est  
(Simon Fraser University)

### Description

The use of open textbooks is increasing dramatically in first year physics courses. This poster will present the result of scholarly research around student perceptions, the use and impact of open textbooks as well as suggestions for how instructors might change what they do in their classroom around their use of open textbooks.

Comparing and contrasting student's attitudes in first year physics, astronomy and biology classes to open textbooks is the theme of this poster. It will also relate attitudes towards open educational resources (OER) to simple demographic information and the overall cost of textbooks to determine whether there are indicators that can be measured a priori to suggest that students in a particular course may be more or less receptive to the incorporation of OER. More than 300 students were surveyed in 10

courses over two years at Douglas College so there is enough data to form interesting correlations.

Procedures, promises, pitfalls, and the possibility of conducting further replications at multiple institutions across BC will be analyzed. The data has suggestions about the utility and ease of encouraging widespread adoption of OER in British Columbia and elsewhere.

What might instructors change about their use and adaptations of open textbooks in response to students' opinions?

Replicating previous studies on open textbooks to allowed comparisons of students at Douglas College with those from other postsecondary institutions in BC and in the USA.

This was the first time I, a physical scientist, had done any type of social science research. I have learned a lot in the last two years. Come and learn from the ethical and data collection challenges that were faced, let us discuss how to ensure data reliability from student surveys, and how to discern the best way to analyze such data.

The questions that were asked included demographic questions as well as questions such as “How often does your instructor encourage you to read your textbook?” and “What is your best estimate of the percentage of exam questions that could be correctly answered using only the textbook?”

I will share how the student perceptions have changed what I and other instructors do in their courses, and how they might change what you do in your classroom. It is more than about saving money for students. Open textbooks can change how you teach. Open your mind to open textbooks.



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## **We have led the horse to water - more information**

We have led the horse to water .... now what?

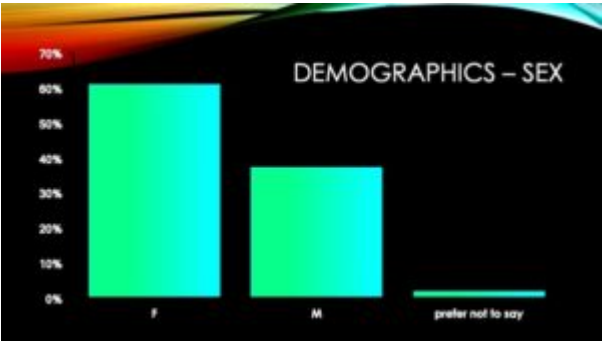
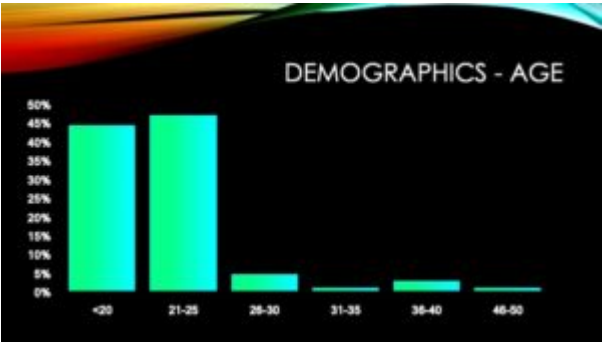
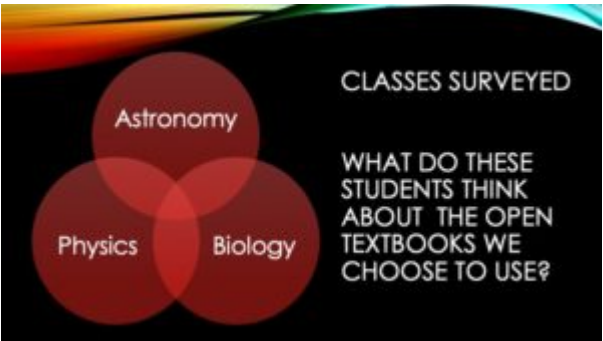
Student perceptions, use and impact of open textbooks at Douglas College

Presentation at BCCampus symposium May 2018 in Vancouver, British Columbia, Canada

A short 45-min session to present our data from Douglas College students about student attitudes towards OER.

Our session will compare and contrast student's attitudes in first year physics, astronomy and biology classes to open textbooks. We will also relate attitudes towards OER to simple demographic information and the overall cost of textbooks to determine whether there are indicators that can be measured a priori to suggest that students in a particular course may be more or less receptive to the incorporation of OER.

We would further like to discuss with other researchers the procedures, promise, pitfalls, and possibility of conducting further replications at multiple institutions across BC. Finally, we would like to discuss what our data suggest about the utility and ease of encouraging widespread adoption of OER in BC.



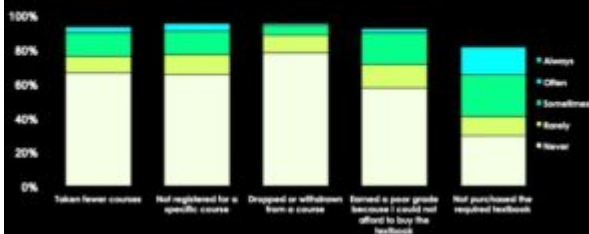
### DEMOGRAPHICS = DOUGLAS AVERAGE

- 45% < 20 years 50% between 21 and 25
- 61% Female / 37% Male
- 73% had English as a first language
- 20% hold a student loan (?????)
- 2.91 courses taken this semester

### HOW MUCH HAVE YOU SPENT?

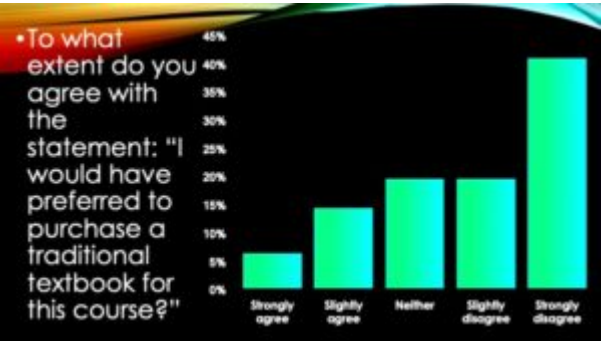
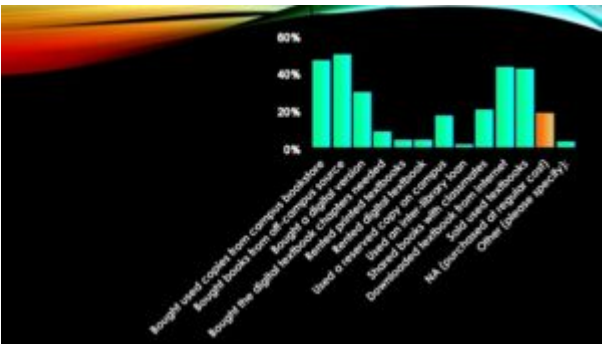
- Approximately how much have you spent on purchasing course textbooks during the last 12 months?
- Average of the 118 responses = \$657
- Breakdown: \$558, \$634, \$530, \$565, \$697

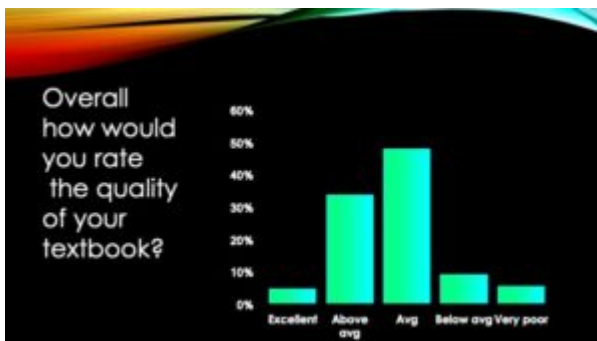
### HOW OFTEN HAVE YOU TAKEN THE FOLLOWING ACTIONS AS A RESULT OF TEXTBOOK COSTS?

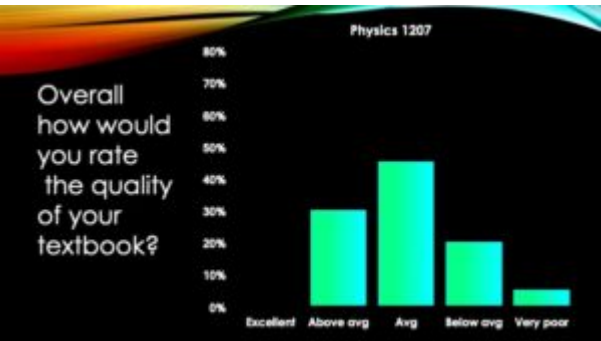
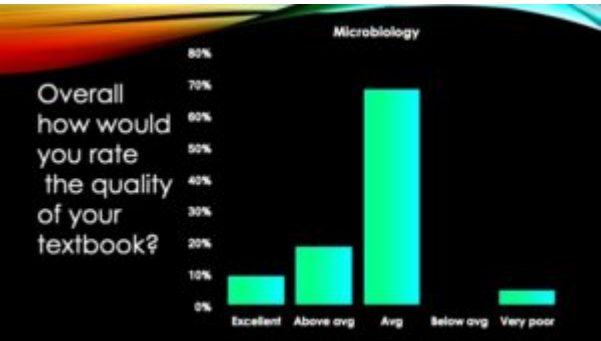


### HOW HAS COST INFLUENCED YOU?

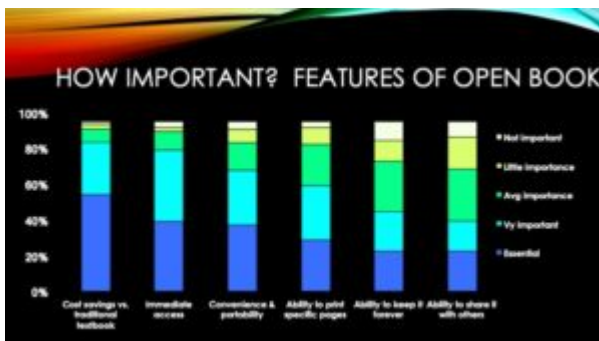
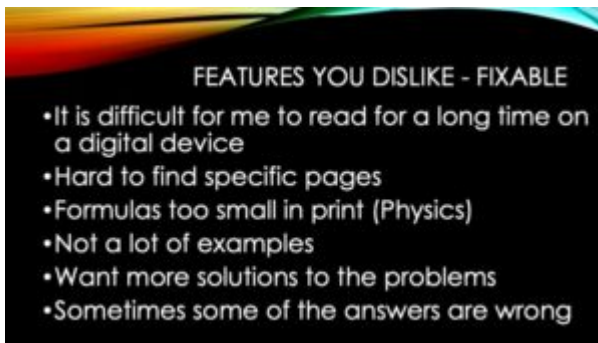
•In which of the following ways has the cost of textbooks influenced you? Rather than purchase a required textbook, you have.....







- FEATURES YOU LIKE
- Free
  - Hardcopy
  - Online so I did not have to carry it around
  - Very easy to understand
  - Straightforward
  - The ability to search key words with the find function
  - Lot of images



- Research Ethics Board Application made our brains hurt – we are scientists who researched rocks and rats.
- Research Ethics Board Approval took 6 months to approve questions that had already passed Kwantlen Polytechnique.
- Needed to take class time for surveys.



## Photo credits

- Special thanks to Eric Urquhart for the suggestion for the title of this workshop
- Rocky the non drinking horse by Jenn Barker CC-BY 4.0
- Babe the Pug by Jenn Barker CC-BY 4.0
- Jenn Barker in the lab with one of her rats by Jenn Barker CC-BY 4.0
- Jennifer Kirkey in the lab Jennifer Kirkey CC-BY 4.0
- Douglas College aerial views from Douglas College Media and Communications Office – released for public use <https://www.douglascollege.ca/about-douglas>
- Douglas College demographic information from <https://www.douglascollege.ca/about-douglas/institutional-research-and-planning/quick-facts>
- Rajiv Jhangiana from Festival of Learning 2018 speaker lists
- Not just horsing around is Jenn Barker and her horse Rocky. Photo credits Jenn Barker. Taking a selfie with a horse is tricky. CC-BY 4.0
- George the Goodbye Horse Jenn Barker CC-BY 4.0





*George the horse says good-bye Photo  
Credit Jenn Barker 2018 CC0*



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## Survey questions

### OER student survey Winter 2018

This questionnaire is being conducted as part of a project which is investigating how people think and use different types of open and online resources. You have been invited to take this survey because you use open textbooks in at least one college-level course. Your participation in this research project is entirely voluntary and you will not be penalized or adversely affected in any way should you decline to participate, withdraw from the study at any time (even after giving initial consent), refuse to answer particular questions, or refuse to participate in any portion of the study. All the answers you provide to the following questions will be held anonymously and securely. The individual answers you provide will not be shared or presented in any way that would reveal you as the source of that information. The survey should take around 20 minutes to complete. All questions are optional and you can stop at any time by closing your browser. By answering the survey questions below, you are granting us use of your anonymous data for research and dissemination purposes. This research project is being carried out by instructors at Douglas College. Your answers will help us build a picture of how people at Douglas College use online and open resources for learning and teaching. Our research data will help people at Douglas College, in BC and Canada, and ultimately around the world make more informed decisions about online and open teaching and learning. If you have questions regarding this study, the

methods used in the study, or your treatment as a participant, please contact either of the two investigators (Dr. Jennifer Barker, email: [barkerj1@douglascollege.ca](mailto:barkerj1@douglascollege.ca) or Jennifer Kirkey, email: [kirkeyj@douglascollege.ca](mailto:kirkeyj@douglascollege.ca)) and the Douglas College Research Board Chair (Dr. Edrie Sobstyl, phone: 604-777-6324, email: [sobstyle@douglascollege.ca](mailto:sobstyle@douglascollege.ca)). Should any additional personal concerns arise during your completion of this questionnaire, you may also wish to access one or more of the support services available to all Douglas College students. If so, please see: <http://www.douglascollege.ca/student-services> Minors under the age of 18 should not proceed until their parents have given them permission to complete this survey. Completion of the questions in the survey that follows indicates that you have read and understood the above consent and consent to participate in this research. By checking the “I agree” box below I am affirming that: I am either 18 years or older or that I have the permission of my parent or legal guardian to complete this survey. I understand all the information stated above. I have been given an opportunity to have all my questions and concerns answered fully. I agree to participate in this study.

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I agree

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Approximately how much have you spent on purchasing course textbooks during the last 12 months? Please state your best estimate of the total amount spent in Canadian dollars.

In which of the following ways has the cost of textbooks

influenced you? Rather than purchase a required textbook, you have (select all that apply):

---

Bought used copies from the campus bookstore

Bought books from a source other than the campus bookstore

Bought a digital version of the textbook

Bought the digital textbook chapters needed for the course

Rented printed textbooks

Rented digital textbook

Used a reserved copy from the campus library

Used an inter-library loan

Shared books with classmates

Downloaded textbook from the internet

Sold used textbooks

The cost of textbooks hasn't led me to attempt to reduce textbook costs (I've purchased them at regular cost)

Other (please specify): \_\_\_\_\_

---

How often have you taken the following actions as a result of textbook costs?

---

	Never	Rarely	Sometimes	Often	Very often
Taken fewer courses					
Not registered for a specific course					
Dropped or withdrawn from a course					
Earned a poor grade because I could not afford to buy the textbook					
Not purchased the required textbook					

---

Please think about all the textbooks you were required to purchase and you have used during the last 12 months. Please rank them collectively using the following scale.

---

	Never	Rarely	Sometimes	Often	Very often
The textbook cost was justified					

---

What do you think would be a fair price for the textbook you used in this course (regardless of what you actually

paid), considering all the material included? (State the dollar amount)

If you originally purchased an e-textbook did you print it?

---

No, I did not print any part of my e-textbook

Yes, I printed the entire textbook all at once

Yes, I printed chapters or pages as needed

Not applicable as I either did not purchase any book or I purchased a print copy

---

How important to you are the following features of an open textbook specifically?

	Not important at all	Of little importance	Of average importance	Very important	Absolutely essential
Cost savings compared to traditional textbook					
Immediate access					
Convenience & portability of the digital format					
Ability to print specific pages					
Ability to keep it forever					
Ability to share it with others					

To what extent do you agree with the statement: “I would have preferred to purchase a traditional textbook for this course”?



Strongly disagree

Slightly disagree

Neither agree nor disagree

Slightly agree

Strongly agree

---

Assume cost is not a factor. Which of the following textbook formats would you prefer?

---

Print

Digital

Both

---

If you prefer your textbooks in print format, please indicate the reason(s) for your lack of interest in using digital textbooks? (Check all that apply)

Digital textbooks are inconvenient to read.

I like to have a printed copy to write in and highlight.

I find it easier to understand what I am reading in a print copy of a textbook.

It is difficult to move to different pages/sections of a digital textbook.

Some digital textbooks are not compatible with my print disability solutions.

Some digital e-reader devices are not compatible with my print disability solutions.

I do not have access to the technology to take advantage of digital textbooks.

Other: (please specify) \_\_\_\_\_

---

Overall, how would you rate the quality of your textbook?

---

Very poor

Below average

Average

Above average

Excellent

---

Are there any specific features that you like about your textbook?

Are there any specific features that you dislike about your textbook?

How often does your instructor encourage you to read your textbook?

---

Never

Rarely

Occasionally

Frequently

Always

---

When studying for an exam in this course, how much total time do you spend reviewing the lecture material?

---

Less than 2 hours

3-4 hours

5-6 hours

7-8 hours

More than 8 hours

---

When studying for an exam in this course, how much total time do you spend reviewing using the textbook?

Less than 2 hours

3-4 hours

5-6 hours

7-8 hours

More than 8 hours

---

What is your best estimate of the percentage overlap between the lecture content and the material in the textbook?

---

0-25%

26-50%

51-75%

76-100%

---

What is your best estimate of the percentage of exam questions that could be correctly answered using only the textbook?

---

0-25%

26-50%

51-75%

76-100%

---

What is your current age?

---

Under 20

21-25

26-30

31-35

36-40

41-45

46-50

51-55

56-60

Over 60

Prefer not to say

---

What is your gender?

---

Female

Male

Other

Prefer not to say

---

Are you a member of an ethnic minority?

---

No

Yes

Pefer not to say

---

Is English your first language?

---

No

Yes

Prefer not to say.

---

Do you currently hold a student loan?

---

No

Yes

---

How many hours per week do you work at your place of employment (on average)?

---

I am not currently employed

Fewer than 5

6-10

11-15

16-20

21-25

26-30

31-35

More than 35

Prefer not to say

---

What is your average grade across all of your undergraduate courses?

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0-10%

11-20%

21-30%

31-40%

41-50%

51-60%

61-70%

71-80%

81-90%

91-100%

Prefer not to say / Don't know

---

What is your average weekly income?

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Less than \$100/week

\$101 – \$250/week

\$251 – \$500/week

\$501 – \$750/week

More than \$750/week

Prefer not to say

Not applicable

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How many courses are you taking this semester?

---

1

2

3

4

5

More than 5

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