Faculty Review of Open eTextbooks

The California Open Educational Resources Council has designed and implemented a faculty review process of the free and open etextbooks showcased within the California Open Online Library for Education (www.cool4ed.org). Faculty from the California Community Colleges, the California State University, and the University of California were invited to review the selected no/low cost and open etextboks using a rubric. Faculty received a stipend for their efforts and funding was provided by the State of California, the William and Flora Hewlett Foundation, and the Bill and Melinda Gates Foundation.

Textbook Name:

Introductory Statistics

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Textbook Author(s):

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Reviewed by:

Andrew Noymer, Ph.D.

Institution:

University of California, Irvine

Title/Position:

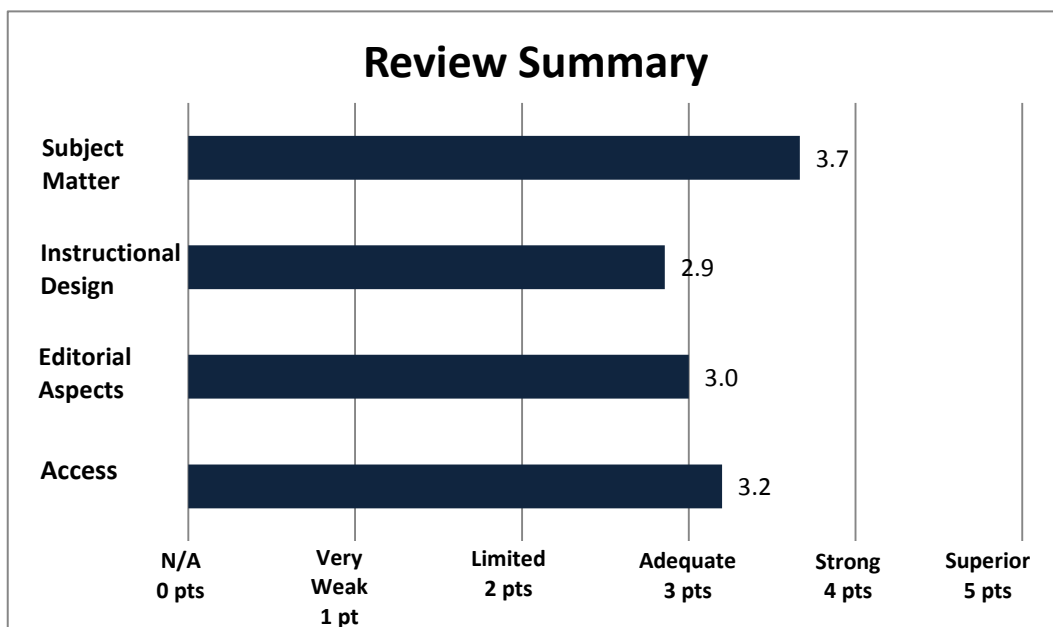Associate Professor, Population Health and Disease Prevention, Public Health

Format Reviewed:

Online and PDF

A small fee may be associated with various formats.

Date Reviewed:

August, 2014

Review Summary

Category	Score
Subject Matter	3.7
Instructional Design	2.9
Editorial Aspects	3.0
Access	3.2

N/A 0 pts | Very Weak 1 pt | Limited 2 pts | Adequate 3 pts | Strong 4 pts | Superior 5 pts

California OER Council eTextbook Evaluation Rubric

CA Course ID: MATH 110

Subject Matter (30 possible points)	N/A (0 pts)	Very Weak (1pt)	Limited (2 pts)	Adequate (3pts)	Strong (4 pts)	Superior (5 pts)
Is the content accurate, error-free, and unbiased?				X		
Does the text adequately cover the designated course with a sufficient degree of depth and scope?					X	
Does the textbook use sufficient and relevant examples to present its subject matter?					X	
Does the textbook use a clear, consistent terminology to present its subject matter?				X		
Does the textbook reflect current knowledge of the					X	

Subject Matter (30 possible points)	N/A (0 pts)	Very Weak (1pt)	Limited (2 pts)	Adequate (3pts)	Strong (4 pts)	Superior (5 pts)
subject matter?						
Does the textbook present its subject matter in a culturally sensitive manner? (e.g. Is the textbook free of offensive and insensitive examples? Does it include examples that are inclusive of a variety of races, ethnicities, and backgrounds?)					X	

Total Points: 22 out of 30

Please provide comments on any aspect of the subject matter of this textbook.

Regarding things like question (5), the subject of mathematical statistics AT THIS LEVEL OF SOPHISTICATION has not changed in 50 years or more, so the real issue as I see it is not up-to-datedness but ability to convey the material. There are number of strange examples and assertions.
p.23, sampling with and without replacement is clearly an important distinction. There IS a difference between the two. It's not obvious to me that "true random sampling is done with replacement". If, in some experiment, one does random sampling without replacement, and the methods are made clear, how is that not "true"?
p. 122 "The heights of the bars correspond to frequency values". Should be AREAs of bars.
example 4.9 (p.235) is that really a binomial random variable? It seems to me that "students dropping a class" is not really stochastic, or, at least, a better example could be used. Similar problem with example 4.12.

Instructional Design (35 possible points)	N/A (0 pts)	Very Weak (1pt)	Limited (2 pts)	Adequate (3pts)	Strong (4 pts)	Superior (5 pts)
Does the textbook present its subject materials at appropriate reading levels for undergrad use?				X		
Does the textbook reflect a consideration of different learning styles? (e.g. visual, textual?)				X		
Does the textbook present explicit learning outcomes aligned with the course and curriculum?				X		
Is a coherent organization of the textbook evident to the reader/student?			X			
Does the textbook reflect best practices in the instruction of the designated course?			X			
Does the textbook contain sufficient effective ancillary materials? (e.g. test banks, individual and/or group activities or exercises, pedagogical apparatus, etc.)				X		
Is the textbook searchable?					X	

Total Points: 20 out of 35 points

Please provide comments on any aspect of the subject matter of this textbook.

- There is a TOC and an index, with hyperlinks.
- The calculator examples throughout the book are not good pedagogy in my opinion. Such examples do not help students learn the concepts of statistics, in my experience, but only give them calculator skills that evaporate when the term ends.
- "correlation is not causation", a sine qua non ingredient of a good statistics text, is covered, albeit in a very pro-forma way. this is one of the most important critical thinking aspects that a college student should take away from a statistics class.
  p. 374 "Suppose X is a random variable with a distribution that may be known or unknown (it can be ANY distribution)." [emphasis added]. Not true. For samples from the Cauchy distribution, the CLT does not apply.

Editorial Aspects (25 possible points)	N/A (0 pts)	Very Weak (1pt)	Limited (2 pts)	Adequate (3pts)	Strong (4 pts)	Superior (5 pts)
Is the language of the textbook free of grammatical, spelling, usage, and typographical errors?					X	
Is the textbook written in a clear, engaging style?		X				
Does the textbook adhere to effective principles of design? (e.g. are pages latid0out and organized to be clear and visually engaging and effective? Are colors, font, and typography consistent and unified?)			X			
Does the textbook include conventional editorial features? (e.g. a table of contents, glossary, citations and further references)						X
How effective are multimedia elements of the textbook? (e.g. graphics, animations, audio)				X		

Total Points: 15 out of 25

Please provide comments on any aspect of the subject matter of this textbook.

- I find the layout of this book to be very busy, and the text too small to read on-screen.

The large number of exercises make the book appropriate for self-study but are somewhat interruptive of the conceptual flow (opinions may differ on this point).

Access (30 possible points)	N/A (0 pts)	Very Weak (1pt)	Limited (2 pts)	Adequate (3pts)	Strong (4 pts)	Superior (5 pts)
Is the textbook compatible with standard and commonly available hardware/software in college/university campus student computer labs?				X		
Is the textbook accessible in a variety of different electronic formats? (e.g. .txt, .pdf, .epub, etc.)				X		
Can the textbook be printed easily?				X		
Does the user interface implicitly inform the reader how to interact with and navigate the textbook?					X	
How easily can the textbook be annotated by students and instructors?				X		

Total Points: 16 out of 30

Please provide comments on any aspect of the subject matter of this textbook.

The book is well hyperlinked and bookmarked. Of the 3 books I was asked to review, the navigation is best with this one, and this is the only one to have an index.

Overall Ratings (10 possible points)	Not at all (0 pts)	Very Weak (1 pt)	Limited (2 pts)	Adequate (3 pts)	Strong (4 pts)	Superior (5 pts)
What is your overall impression of the textbook?		X				
	Not at all (0 pts)	Strong reservations (1 pt)	Limited willingness (2 pts)	Willing (3 pts)	Strongly willing (4 pts)	Enthusiastically willing (5 pts)
How willing would you be to adopt this book?	X					

Overall Comments

If you were to recommend this textbook to colleagues, what merits of the textbook would you highlight?

- Open access.

What areas of this textbook require improvement in order for it to be used in your courses?

- This book relies too much on calculator exercises. Students are very good at learning how to do calculator exercises while not really absorbing the underlying concepts. The book does not approach the subject matter from the point of view of critical thinking.
- "Correlation is not causation" is mentioned a few times but there is no real in-depth discussion of the subject.
- Important concepts are treated side-by-side as minutae (such as the difference between a bar chart and a Pareto chart, p.20).

We invite your feedback on the textbook or the review to the textbook site in MERLOT.
(Please register in MERLOT to post your feedback.)

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For questions or more information, contact the CA Open Educational Resources Council