



Publish or Perish... The Value of Academic Publishing

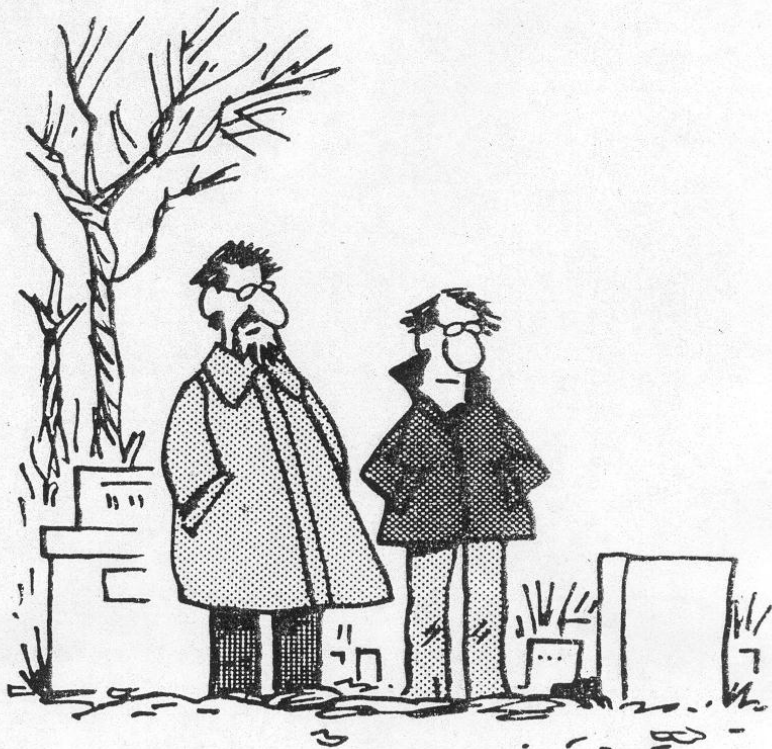
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Meeting 6, October 10, 2012

**EDCP 559: Research in Teaching and Learning of the
Sciences – Fall 2012**

Berry's World



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"He didn't publish, so he perished."



"Surely you were aware when you accepted the position, Professor, that it was publish or perish."

Historical Perspectives on Publishing

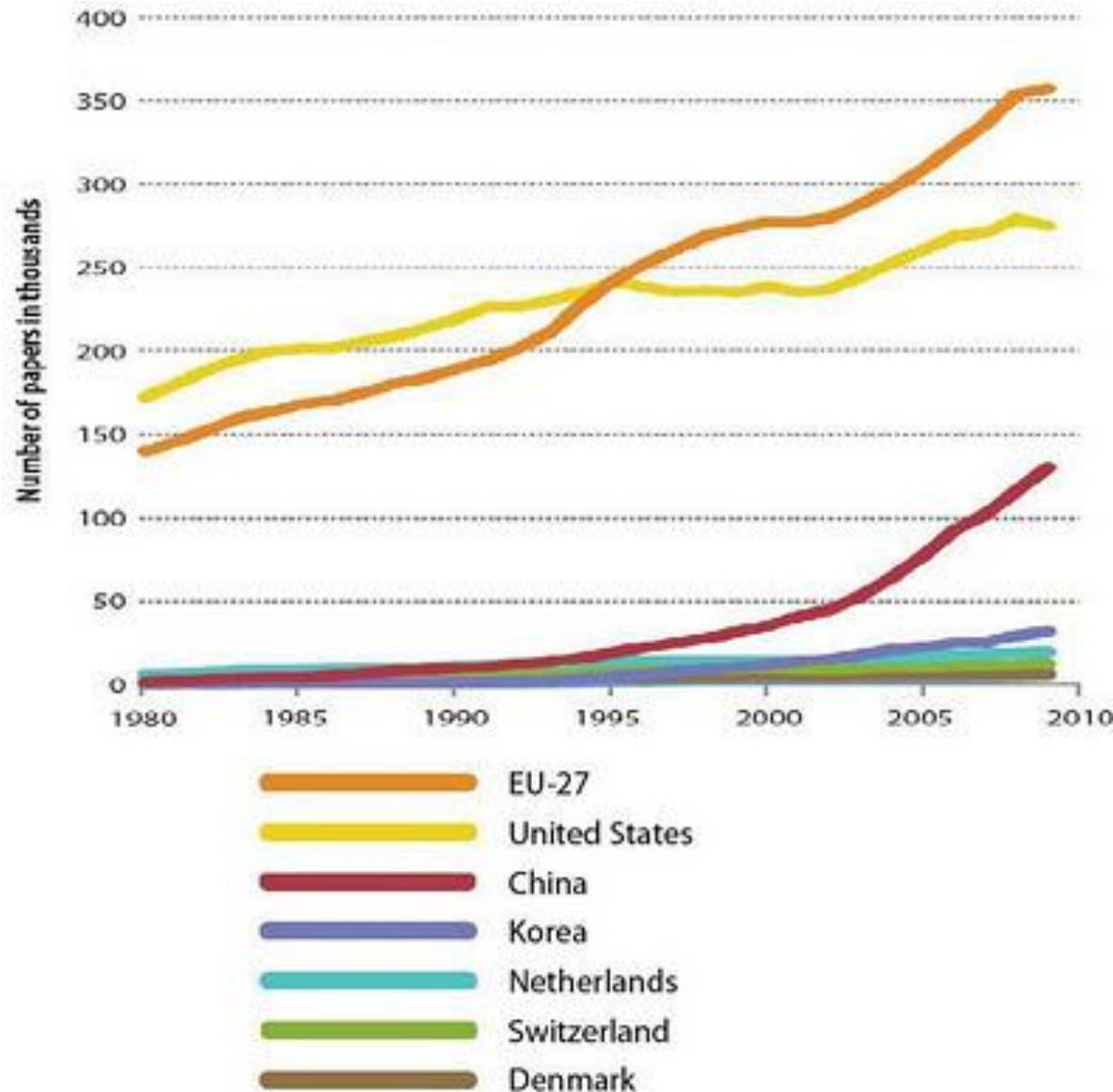
Isaac Newton (1642 – 1727)

- 1664 – Newton starts writing in his “Waste book”
- 1671 – Newton writes *De Methodis*
- 1686 – Newton Presents his Principia, Book I to the Royal Society
- 1688 – Principia, Book II
- 1690 – Newton sends *Two Notable Corruptions* to John Locke

Charles Darwin (1809-1882)

- Waited 20+ years before publishing his *On the Origin of Species* (1859). Darwin’s Beagle expedition started in 1831

How many papers should academics publish annually?



<http://sciencehastheanswer.blogspot.ca/2012/02/how-many-papers-should-academics.html>

What is the purpose of publications in science education?

Where do you publish?

How often do you publish?

How do you become competitive?

Disseminating the Results of Science Education Research

1. How do we place and evaluate science educational research?
2. How do you decide when and where to publish your research results?
3. How do we judge what journal will be best for our research dissemination?

Impact of Science Education Journals

JOURNAL OF
CHEMICAL EDUCATION

ARTICLE

pubs.acs.org/jchemeduc

The 2010 Rankings of Chemical Education and Science Education Journals by Faculty Engaged in Chemical Education Research

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ABSTRACT: Faculty active in chemical education research from around the world ranked 22 journals publishing research in chemical education and science education. The results of this survey can be used to supplement impact factors that are often used to compare the quality of journals in a field. Knowing which journals those in the field rank as top tier is advantageous in academic environments that require researchers to publish often and for greatest impact.

KEYWORDS: Graduate Education/Research, Chemical Education Research, Professional Development

FEATURE: Chemical Education Research

Towns, M.H. and A. Kraft, *The 2010 Rankings of Chemical Education and Science Education Journals by Faculty Engaged in Chemical Education Research*. Journal of Chemical Education, 2012. **89**: p. 16-20.

Metrics for Judging Research Impact

$$\text{Impact Factor} = \frac{\text{Number of citations of published articles}}{\text{Number of published articles}}$$

Often calculated for a two- or a five-year period.

For example, an impact factor of 2 (calculated for a two year period) would mean that an average article in this journal is cited 2 times over a two-year period.

Is an impact factor an accurate metric for judging the value of the journal? What about journals publishing research in narrow fields? What about journals that are not indexed by the ISI (i.e., Journal of College Science Teaching)? What about the fields that reference non-journal sources (humanities or social sciences)?...

Science Education and Science Journals' Impact Factor

Table 1. 2009 Two-Year and Five-Year Impact Factors with Immediacy Indices for Chemistry Education and Science Education Journals^a

Journal Title	Two-Year Impact Factor	Five-Year Impact Factor	Immediacy Index
Chemical Education Journals			
<i>Chemistry Education Research and Practice</i>	0.742	None ^b	0.345
<i>Journal of Chemical Education</i>	0.586	0.677	0.226
<i>Biochemistry and Molecular Biology</i>	0.292	0.474	0.174
Science Education Journals			
<i>Journal of Research in Science Teaching</i>	1.910	2.805	0.434
<i>Science Education</i>	1.625	2.800	0.489
<i>Research in Science Education</i>	1.088	1.313	0.861
<i>International Journal of Science Education</i>	1.047	1.614	0.096

^a See ref 6. ^b The five-year value was not listed for *CERP* within JCR.⁶

Table 2. 2009 Impact Factors for *Science*, *Nature*, and Selected Journals in Chemistry Subdisciplines

Journal Title	Two-Year Impact Factor	Five-Year Impact Factor
<i>Nature</i>	34.480	32.906
<i>Science</i>	29.747	31.052
<i>Angewandte Chemie International Edition</i>	11.829	11.848
<i>Journal of the American Chemical Society</i>	8.580	8.805
<i>Journal of Biological Chemistry</i>	5.328	5.440
<i>Analytical Chemistry</i>	5.214	5.625
<i>Journal of Physical Chemistry C</i>	4.724	4.229
<i>Journal of Organic Chemistry</i>	4.219	3.994

For science education journals that publish chemistry education research articles, the two-year impact factors are all greater than 1.000. Two of the four journals have five-year impact factors approaching 3.0. However, the immediacy indices again indicate the slow pace of publication and integration of work in science education. Impact factors are not as likely to provide reliable data

Immediacy Index

- Is defined as a number of citations to articles in a given year by divided by the number of articles published in the journal. Thus, **it represents the average number of times the article is cited in the year it was published.**
- How do we explain low integration of published work in science education?



Ranking of Sci. Ed Journals by Faculty

Journal Title ^a (Country of Publication)	Category			Total N
	1	2	3	
<i>Journal of Research in Science Teaching</i> (USA)	73	14	2	89
<i>International Journal of Science Education</i> (U.K.)	64	17	8	89
<i>Science Education</i> (USA)	54	21	11	86
<i>Research in Science Education</i> (AUS)	34	36	13	83
<i>Journal of Science Education and Technology</i> (USA)	23	52	11	86
<i>Journal of Science Teacher Education</i> (USA)	16	44	21	81
<i>Journal of College Science Teaching</i> (USA)	12	49	24	85
<i>School Science and Mathematics</i> (USA)	9	32	41	82
<i>The Science Educator</i> (USA)	3	38	39	80
<i>Science Education International</i> (U.K.)	7	29	43	79
<i>Canadian Journal of Science, Mathematics, and Technology Education</i> (CAN)	1	23	53	77
<i>Journal of Nano Education</i> (USA)	4	14	62	80
<i>Journal of Women and Minorities in Science and Engineering</i> (USA)	4	11	64	79
<i>Resonance: Journal of Science Education</i> (India)	2	13	59	74
<i>Journal of Baltic Science Education</i> (Lithuania)	5	7	70	82

^aThe journals are ordered from lowest to highest mean values.

Low Tier (Cat 3) Top Tier (Cat 1)

Acceptance Rates

- The percentage of published papers, calculated as the ratio of accepted to submitted papers
- The higher the acceptance rate is, the less prestigious is a journal
- Only peer-reviewed journals are considered.



How Can UBC Library Help You Succeed?

The image is a screenshot of the UBC Library website. The top navigation bar is dark blue with the UBC logo, the tagline "a place of mind", "THE UNIVERSITY OF BRITISH COLUMBIA", and "UBC LIBRARY". Below this is a white navigation bar with links: "Library Home", "Search Collections", "Hours & Locations", "Use The Library", "Get Research Help", "About Us", and a "LOGIN" button with a dropdown arrow. The main content area features a large banner with the text "Find The Best Articles For Your Research" over a background image of students in a library. Below the banner is a search interface with tabs for "General", "Books & Media", "Indexes & Databases", "Journal Titles", and "Library Website". The "General" tab is active, showing the text "Find Articles, eBooks, Theses & more in Summon", a search input field, a "Search" button, and a link to "Advanced Search" with an external link icon. At the bottom, there are three large buttons: "Use The Library", "Get Research Help", and "Quick Links".

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Information Resources Cabell's Directory of Publishing Opportunities

Online Access	Connect via the web Restricted to UBC students, faculty, staff, and users in the Library.
Subject Area	Business, Education, Psychology
Resource Type	Directory
Description	Cabell's Directory of Publishing Opportunities is a collection of directories of academic journals in business, education, and psychology. The purpose of the database is to help professors identify journals to which they can submit articles for publication. Each journal entry is in alphabetical order and includes relevant information to potential authors such as acceptance rate, type of review (blind, double-blind), and publication fees, and manuscript guidelines.

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- ☐ **Management** (access until May 25, 2013)
- ☐ **Marketing** (access until May 25, 2013)

Educational Directories

- ☒ **Educational Curriculum & Methods** (access until May 25, 2013)
- ☐ **Educational Psychology & Administration** (access until May 25, 2013)
- ☐ **Educational Technology & Library Science** (access until May 25, 2013)

Psychology

- ☐ **Psychology & Psychiatry** (access until May 25, 2013)

Computer Science

Access Selected Directory

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List of All Journals in Our Directories

Usage Statistics

Log in with another User Name

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School Science and Mathematics	Blind	3	20%	Yes	ERIC		Jul 30, 2012	USA
Schooling	Blind	3+	15%	Yes		Yes	Sep 26, 2012	USA
Science Activities: Classroom Projects and Curriculum Ideas	Blind	2	60%	Yes	ERIC		Nov 21, 2011	USA
Science and Children	Blind	2	50%	Yes	ERIC		Mar 5, 2012	USA
Science Education	Blind	3	12 - 13%	Yes	JCR/ERIC		Jul 30, 2012	USA
Science Education Review, The	Editorial	3+	31%	Yes	ERIC		Feb 23, 2012	Australia
Science Teacher, The	Blind	2	25%	Yes	ERIC		Feb 29, 2012	USA
Simulation & Gaming: An Interdisciplinary Journal of Theory, Practice and Research	Blind	2	60%	Yes	ERIC		Jul 4, 2011	France
Studies in Science Education	Blind	2		Yes	JCR/ERIC		Mar 9, 2012	United Kin
Teachers College Record	Blind	3	8%	Yes	JCR/ERIC		Aug 16, 2012	USA
Top of page								
Teaching Children Mathematics	Blind	3+	25%	Yes	ERIC		Feb 18, 2012	USA

Is Acceptance Rate a good metric for judging the impact and value of a science education journal?

Will it help you decide where you want to submit your paper?

Information Resources

Ulrich's Periodicals Directory

Online Access

[Connect via the web](#)

Restricted to UBC students, faculty, staff and users in the Library.



Resource Type


Index

Description

Ulrich's Periodicals Directory is a bibliographic database providing detailed, comprehensive, and authoritative information on serials published throughout the world. It covers all subjects, and includes publications that are published regularly or irregularly and are circulated free of charge or by paid subscription. Ulrich's was first published in 1932. It was known initially as "Periodicals Directory: A Classified Guide to a Selected List of Current Periodicals Foreign and Domestic." This title continued through the third edition published in 1938. Then, with the 4th edition (1943), the title became Ulrich's Periodicals Directory: A Selected Guide to Current Periodicals, Inter-American Edition (with a focus on non-European titles because of the difficulty in getting information during WWII). From 1943-1965, the title was Ulrich's Periodicals Directory. Then, with the 11th edition in 1965, it became known as Ulrich's International Periodicals Directory, the title it

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▼ Basic Description

Title	Physical Review Special Topics - Physics Education Research
ISSN	1554-9178
Publisher	American Physical Society
Country	United States
Status	Active
Frequency	Quarterly
Language of Text	Text in: English
Abstracted / Indexed	Yes
Open Access 	Yes
Serial Type	Journal
Content Type	Academic / Scholarly
Format	Print
Website	http://prst-per.aps.org

Example: Physical Review – Special Topics – Physics Education Research

► Subject Classifications

► Additional Title Details

▼ Demographics

Audience	academic
	general adult
	special adult

▼ Reviews

Physical Review Special Topics - Physics Education Research is a peer-reviewed, online, open-access journal sponsored by the American Physical Society (APS), the American Association of Physics Teachers (AAPT), and the APS Forum on Education. The articles are published by the American Physical Society under the terms of the Creative Commons License. The journal covers the full range of experimental and theoretical research on the teaching and/or learning of physics. Review articles, replication studies, descriptions of the development and use of new assessment tools, presentation of research techniques, and methodology comparisons/critiques are all included. Like the other special topics journal, this journal is freely available online. Because of its high standards and free availability, it is recommended for any college or university that has a physics program. (Tyckoson, David A.)
ML 01-12-2012