Opening Up Research Through Self-Archiving Practices

Enilda Romero-Hall, Ph.D., University of Tennessee Knoxville
Twitter: @eromerohall

Josh Rosenberg, Ph.D., University of Tennessee Knoxville
Twitter: @jrosenberg6432

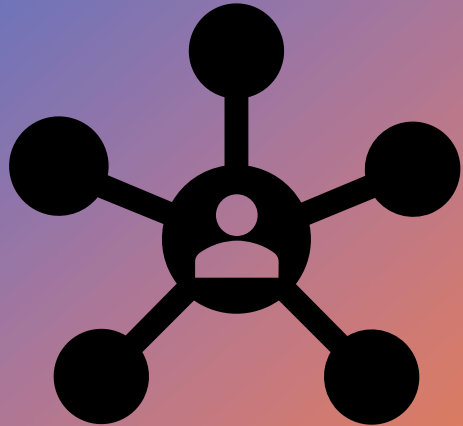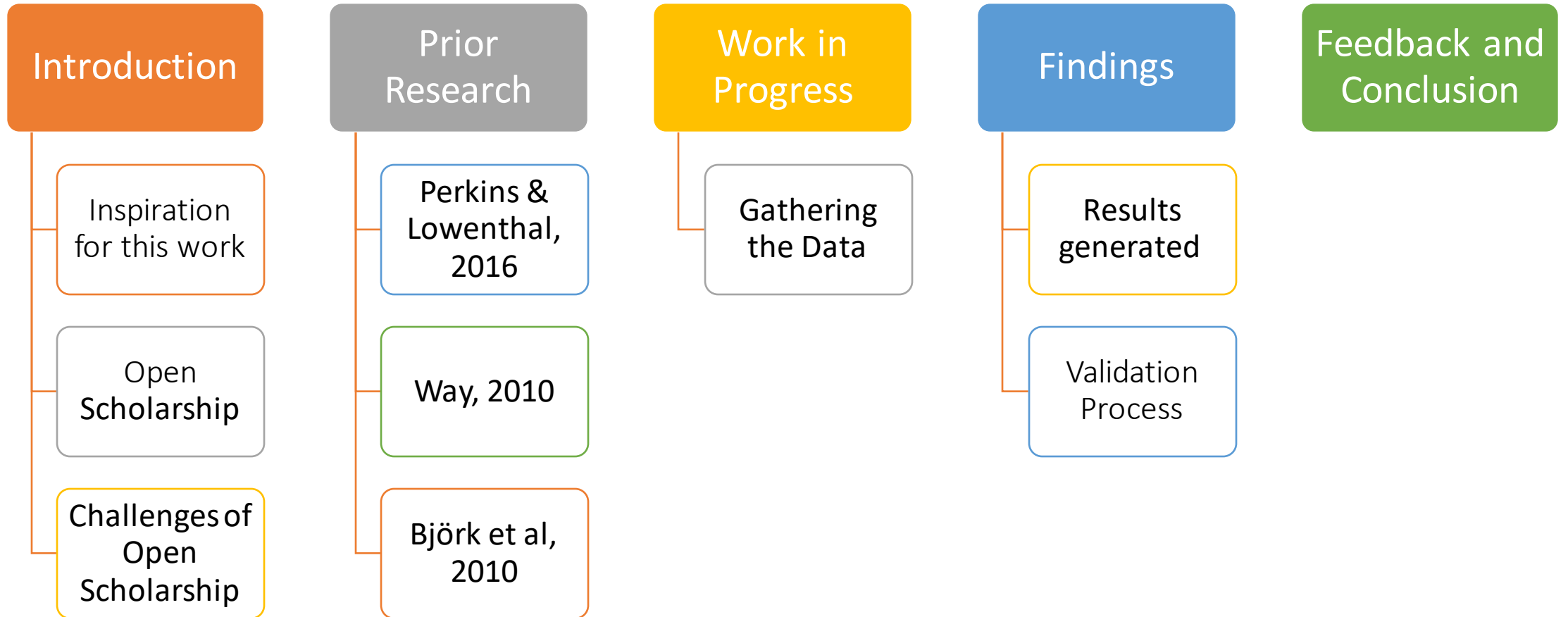**George Veletsianos**, **Ph.D.,** Royal Roads University
Twitter: @veletsianos

Introduction

THEME: OPEN EDUCATION RESEARCH AND POLICY AROUND THE GLOBE

THEME: CREATIVE PRACTICE IN RELATION TO OPENNESS

Inspiration for this Work

- **Veletsianos (2017): "Do researchers make their research available to the public?"**
  - The impact of instructional technology/design research depends on stakeholders' ability to access it. Non-institutional stakeholders (e.g., instructional designers and teachers) often face financial barriers in accessing research. What proportion of our research is the public able to access freely? In this study, I report the results of a study developed to answer this question. I find that approximately 48% of research published in a respectable and well-known journal was available freely via public means.

- **Rosenberg: "Uneven Access: How Academic Journal Articles Are Shared in the Open"** (Proposed to Open Education Conference)
  - Using a sample of 50 articles randomly selected from among all the articles published in the United States largest educational research organization, the American Educational Research Association, in 2010, 2012, 2014, 2016, 2018, and 2020, I examined whether the article was available on the open web. I also explored what version of the article was shared (the published version or a pre-print of the paper) and under what copyright terms (i.e., open access or without permission). I found that 35 (70%) of the articles I analyzed were available in any form; 68% were available in their final, published form, and only 2% were available as a pre-print. Though more than two-thirds of articles were available in their final, published form, only 20% of the articles that were available in such a form possessed an open license. The remaining 48% were shared despite having a license that technically prohibits such sharing.

Open Scholarship

Academics, policymakers, and practitioners encourage education researchers to share their work with the public.

OER and open education advocates have argued for the public's right to access publicly-funded research.

While open access options proliferate, a variety of systemic challenges including

1. Journal-perceived prestige
2. Career stage of scholars
3. Professional advancement criteria
4. Unequal access to open access fees

Prior Research

- In surveying educational technology scholars regarding their perceptions of open access journals, Perkins and Lowenthal (2016) paint a picture of the complicated relationship that academics have with open access journals in the field.

- Results show that academics make decisions around where to submit their research largely based on the topic of their article

- We are though to think about a journals "aims" or consider the journal "author guidelines".

- Ideological concerns and values (i.e., sharing their work with the public) may not be as critical.

Potential Hero:
Self-Archiving

Earlier research reveals that the self-archiving of research is an uncommon practice (Way, 2010).

Estimating that around 20% of scholarship across disciplines is available either through open access means or through author self-archiving (Björk et al, 2010).

Work in Progress Project

- We sought to systematically document the degree to which papers published by a prominent United States education organization (American Educational Research Association) are available to the public.

- The organization published 7 distinct education research journals.

AERA Open is a peer-reviewed open access journal. With an emphasis on rapid review and dissemination, *AERA Open* aims to advance knowledge through theoretical and empirical study across arenas of inquiry related to education and learning. View journal website. | **@AeraOpen**

American Educational Research Journal
Publishes original articles that advance the empirical, theoretical, and methodological understanding of education and learning. View journal website. | **@aerj_journal**

Educational Evaluation and Policy Analysis
Publishes scholarly manuscripts of theoretical, methodological, or policy interest to those engaged in educational policy. View journal website. | **@EEPAjournal**

Educational Researcher
Publishes articles of general significance to the education research community. Aims to make major programmatic research and important findings widely accessible. View journal website. |**@ERjournal_AERA**

Journal of Educational and Behavioral Statistics
An outlet for papers that are useful to those applying statistical approaches to issues in educational or behavioral research. View journal website.

Review of Educational Research
Publishes critical, integrative reviews of research literature bearing on education. View journal website. | **@RERjournal_AERA**

Review of Research in Education
Each annual volume provides a forum for analytic research reviews on selected education topics of significance to the field. View journal website.

Accessing Google Scholar through serpAPI

Part of the the work has involved using a third-party service that provides automated (i.e., via a programming language) access to Google Scholar results.

It has taken *many* iterations, but we have some python code that works well for accessing any *accessible versions* of articles (based on a search using the article's title). It has seemed to work well, but we are presently validating the results.

Code available here: https://joshuamrosenberg.com/post/2023/02/23/accessing-google-scholar-results-through-serpapi/

What proportion of articles are available in any form?

N accessible articles: 2146
**N total articles:** 3055
N articles not accessible: 909
Proportion accessible: 0.702

By journal

journal_name	n_accessed	n
AERA Open	504	539
Review of Educational Research	216	288
Educational Evaluation and Policy Analysis	264	361
Review of Research in Education	127	187
American Educational Research Journal	383	592
Journal of Educational and Behavioral Statistics	243	399
Educational Researcher	409	689

By year
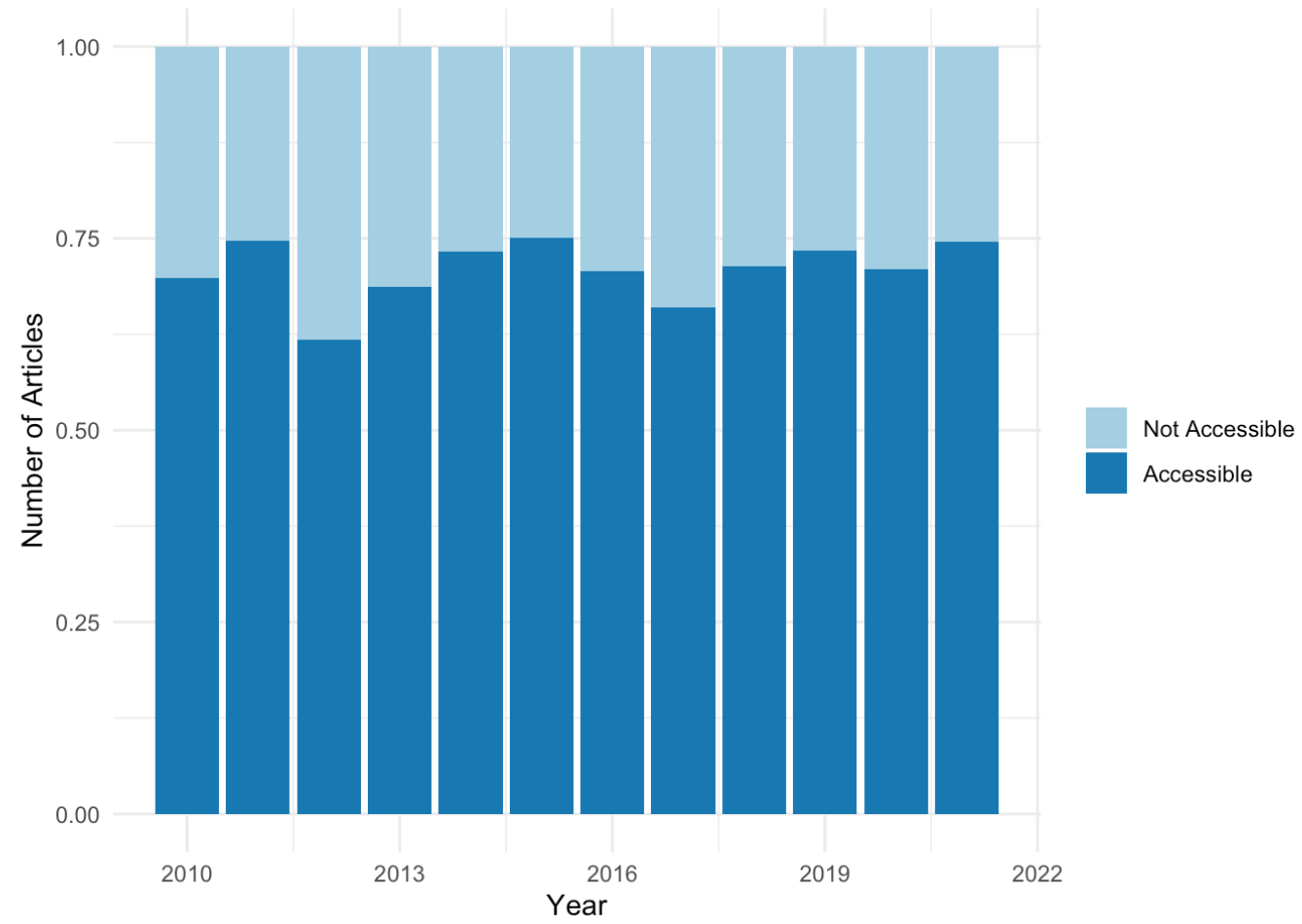
What proportion of accessible articles are available from specific domains?

Overall

domain	n	prop
www.researchgate.net	891	0.1562062
journals.sagepub.com	845	0.1481417
www.academia.edu	563	0.0987027
citeseerx.ist.psu.edu	492	0.0862553
scholar.google.com	302	0.0529453
scholar.archive.org	292	0.0511921
files.eric.ed.gov	151	0.0264727
core.ac.uk	110	0.0192847
www.ncbi.nlm.nih.gov	84	0.0147265
edworkingpapers.org	66	0.0115708

Validation Process

Sample of 100 links

Validation by comparison with manual search of URLs in Google Scholar

Validation by manually checking the type of content found in URLs retrieved

Validation by comparison with manual search in Google Scholar

	Percentages
Matches:	69/100 (69%)
Mismatched:	31/100 (31%)
	8/31 You do have direct access to the article; however, you just get a unique link that is directly to your computer (i.e., a download link).

Validation by manually checking the type of content found in URLs retrieved

All the links provided were for AERA Open

There are 7 academia.edu links. They all provided **an error page** when clicked.

There was 1 "View it @ CTU" link. **That** did not link to the article.

There was 1 "special case" where the PDF was not of the paper, but of the pre-analysis plan for the paper.

Of **100 links, 9 did not lead to a paper.**

Feedback and Conclusion

Scholars are self-archiving their scholarship

Do we continue publishing in closed journals and use self-archiving as a workaround?

Or, do we publish in open journals without the need for a workaround?

Contact Information

- **Enilda Romero-Hall, Ph.D.,** University of Tennessee Knoxville
  - Twitter: @eromerohall
  - Email: eromeroh@utk.edu

- **Josh Rosenberg, Ph.D.,** University of Tennessee Knoxville
  - Twitter: @jrosenberg6432
  - Email: jrosen8@utk.edu

- **George Veletsianos**, **Ph.D.,** Royal Roads University
  - Twitter: @Veletsianos
  - Email: veletsianos@gmail.com

References

Björk, B. C., Welling, P., Laakso, M., Majlender, P., Hedlund, T., & Guðnason, G. (2010). Open access to the scientific journal literature: situation 2009. *PloS one*, *5*(6), e11273.

Perkins, R. A., & Lowenthal, P. R. (2016). Open access journals in educational technology: results of a survey of experienced users. *Australasian Journal of Educational Technology*, *32*(3), 18-37.

Veletsianos, G., (2017). Do researchers make their research available to the public? Association for Educational Communications and Technology International Convention (AECT), November 2017, Jacksonville, FL.

Way, D. (2010). The open access availability of library and information science literature. *College & Research Libraries*, *71*(4), 302-309.