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Open Access Journals in Educational Technology: Results of a Survey of Experienced Users

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Abstract

As the academic publishing industry evolves, there has been an unprecedented growth of “open access journals” (OAJs). In educational technology alone, with an estimated 250 or more total journals, nearly one-third are designated as “open.” Though OAJs are lauded for their contribution to social justice issues (reduction of subscription requirement barriers), many people are suspicious of the content found in them and question the legitimacy of publishing in them. In this study, we sought to discover the opinions of educational technology scholars about OAJs in their own field. We were able to learn which OAJs were deemed to be most valuable, as well as the characteristics of OAJs thought to be particularly important. A companion site accompanies this article, <http://edtechjournals.org>

Introduction

Open access journals (OAJs), academic publications on the Internet free for anyone to read, have proliferated over the past several years (Björk, Welling, Laakso, Majlender, Hedlund, & Guðnason, 2010). Although some OAJs existed as early as the 1980s, the exponential increase in OAJs is correlated with the diffusion of the web and specifically with easy to use web-based publication management tools. The Directory of Open Access Journals (www.doaj.org) now lists more than 10,000 OAJs. Lewis (2012) argues that this growth will continue and predicts that over 50% of articles could be open access by 2021. Despite the growth of OAJs, many academics—even those researching and publishing scholarship in and related to educational technology, a field that in many ways embraces things “digital”—struggle with whether or not to publish in OAJs. Given this, we set forth to investigate academics’ perceptions of educational technology related OAJs in hopes of identifying what makes a good open access journal.

Review of literature

Despite the growth of OAJs, the overall literature-base on OAJs is relatively sparse. Much of the discourse surrounding OAJs also remains highly polemical. With that in mind, in the following paragraphs, we briefly summarize this discourse, trying to represent both the supporters and detractors of this new form of publishing.

The increased popularity of OAJs is due to a number of reasons. First, many believe that research, some of which is publicly funded, should be free for the general public to access (Oliver, 2012; Veletsianos & Kimmons, 2012). Second, OAJs offer academics the possibility of a larger readership base (Davis, 2011; Swan & Brown, 2004; Taylor & Francis Open Access Survey, 2014) by giving people all around the world (at least those with an internet-connected device) access to one’s work. Finally, some OAJs offer the opportunity to publish one’s work faster than traditional journals (Swan & Brown, 2004; Taylor & Francis Open Access Survey, 2014), which have been known to take months—if not at times years—to publish a manuscript.

Despite the purported benefits and strong supporters, many remain skeptical of OAJs (Agrawal, 2014; Bohanon, 2013; Author, 2015; Worlock, 2004). Most OAJs are relatively new – they neither have the history nor the marketing and branding expertise of traditional subscription-based journals. Many of them also lack a strong institutional affiliation. Much of the criticism of OAJs though revolves around a perceived lack of quality and fees some OAJs charge. We will briefly address each of these in more detail.

Open Access Journals in Educational Technology

A number of OAJs charge authors, or their institutions, to publish their work (Swan & Brown, 2004). OAJs that charge publication fees argue that they are simply working from a different business model that passes on the cost to publish to authors instead of readers. Such fees, though, are anathema to academics who are accustomed to publishing their scholarship for free. The skepticism about fees to publish is further bolstered by a number of recent reports detailing “sting operations” in which academics intentionally submitted spurious works to OAJs—finding that their work could be published as soon as a publication fee is paid.

Bohannon (2013), and the respected journal *Science*, set up such a sting to see how many OAJs would accept a manuscript with clear flaws. He submitted 304 version of this paper over a 10 month period. By the time his article went to press, Bohannon (2013) noted that “more than half of the journals accepted the paper, failing to notice its fatal flaws” (3rd para). The investigation was not a sweeping indictment of all OAJs. Bohannon points out that “some open-access journals that have been criticized for poor quality control provided the most rigorous peer review of all” (para 2). However, his research and others like it (Davis, 2009; Feltman, 2014a; Feltman, 2014b; Stromberg, 2014) highlight the fact that poor and even predatory open-access journals whose main goal is to profit from publication fees, are readily found.

The criticism is both warranted and necessary. Just as there has been appropriate scrutiny leveled at for-profit education providers that have burdened students with debt but provided an education that is either not recognized or of low quality (Hensley-Clancy, 2014; Meszaros, 2014), there have been efforts to identify predatory OAJs so that scholars can avoid them (Beall, 2015). The problem, however, is that high-profile cases of predatory practices tend to stand out. Those who continue to question the validity of distance education will often point to the “diploma mill” stories (Contreras & Golin, 2009). Similarly, as the number of negative stories about “pay to publish” (P2P) outlets increases, many academics question the quality of research that is published in open access journals no matter if they are free or not.

The desire and need to publish what is marked as quality research means that scholars tend to seek outlets that stand up to closer scrutiny – particularly the quality of the peer-review process. Those who are concerned about such things either for the sake of promotion and tenure or funding tend to submit only to journals that have established quality indicators (though even these indicators, such as impact factor, have been criticized, see Hechta, Hechta, and Sandberg (1998) or Togia and Tsigilis (2006)). Such journals tend to require subscription fees that have become burdensome to libraries and that far exceed the ability of individuals to pay. In educational technology, journals like *Educational Technology Research and Development* (ETR&D), the *British Journal of Educational Technology*, and *Computers & Education* are still viewed by many as the most prestigious outlets in which to publish one’s research (Ritzhaupt, Sessums, & Johnson, 2012), but most of them remain locked behind substantial subscription structures.

Method

Approximately one third of journals in educational technology (or closely related to the field) are open-access (see edtechjournals.org, n.d.; Rich & West, 2012). The paucity of research on OAJs, however, leaves academics with very little guidance on how to choose a high quality open-access journal when and if they choose to publish in one. We set forth to investigate what educational technology professionals—specifically those with open journal experience—think about OAJs in our field. More specifically, we were interested in answering the following questions:

1. Which open access journals related to educational technology do professionals in the field see as the most influential?
2. Which characteristics of OAJs do educational technology professionals see as the most useful?

Instrument

We created a web-based survey with two parts. The first part of the survey had 20 questions focusing on academic publishing and characteristics of OAJs, as well as a few general questions about demographics of the participants. Those who completed the first part of the survey could then choose to complete the second part of the survey, but could end after Part 1 if they so desired. The second part of the survey consisted of 12 additional questions that we thought were important but not critical.

Sample

For our study we solicited feedback from two different groups of scholars. We began our inquiry focused on academics that have published in OAJs in the past. From 26 OAJs related to educational technology, we identified 1,200 open-access articles written by 2,208 authors. We administered the survey to 2,081 valid email addresses, of which 362 (16.4%) accessed the survey. Of these 362 initial respondents, 236 completed Part 1 (10.7%

Open Access Journals in Educational Technology

of solicited). In this article, we only focus on Part 1 responses, as Part 2 contained questions outside the scope of our main research questions; results from Part 2 will be reported separately. We will refer to this sample of open-access journal authors as Sample 1 (SM1).

While we were collecting data from SM1, we thought it would be useful to make the survey available to other educational technology professionals via listservs and social media (including a larger possible audience of both those who have and have not published in OAJs in the past). Response rates (percentages) are not available for this second sample, which we will refer to as Sample 2 (SM2). For SM2, 196 people accessed the survey, from which 157 completed Part 1.

Overall when combining SM1 and SM2, 558 people accessed the survey and 393 completed Part 1 of the survey. Among those who completed Part 1, a total of 323 of the respondents had previous experience with OAJs. We do not include the responses of 67 participants from SM2 who lacked previous experience with OAJs hereafter.

Table 1
Survey response counts and rates

Action	Sample 1 (SM1)	Sample 2 (SM2)	Total
Solicited	2,208	<i>number unknown</i>	> 2,208
Valid Emails	2,081	n/a	2,081
Opened Survey	362 (16.4%)	196	558
Completed Part 1	236 (11.3%)	157 (80.1% of 196)	393
Met criteria, Part 1	233 (11.2%)	90 (57.3% of 157)	323

Demographics

The demographic data from Part 1 of the survey for SM1 and SM2 are discussed in the following paragraphs. We first asked participants to select from a list of 26 geographic regions, up to four regions (e.g., Asia: South, Europe: Northern, and Oceania: Polynesia) that had a profound influence on their personal or professional lives (see table 2). An independent sample t-test of the mean number of regions chosen by each group (SM1 = 1.66, SM2 = 1.47) indicates a significant difference between the two samples with respect to geographic diversity ($t(240)=2.11, p<.05$).

Table 2
Geographic regions of influence

	Sample 1 (n=233)	% of total indicated	Sample 2 (n=90)	% of total indicated
Africa	13	3.29%	6	4.69%
Americas	135	34.18%	83	64.84%
Asia	74	18.73%	15	11.72%
Europe	130	32.91%	17	13.28%
Oceania	42	10.63%	2	1.56%
Totals	395		128	
Mean Regions Selected	1.66		1.47	

The demographic data revealed that SM1 (i.e., the “Open Journal Authors” group) participants had predominantly European and Australian/New Zealander influences whereas SM2 participants had predominantly a North American influence. Such a large difference between the groups warranted closer consideration. When looking at the demographic data of SM1 and SM2 combined, we found 156 (48%) of participants were “Predominantly North American” (PNAM) vs. 167 (52%) of participants that were “Predominantly International” (INTL). The PNAM and INTL groups are very similar on the other demographic indicators (i.e., chi-square tests show no significant differences).

We then asked participants about the “Years of Experience” in the field as well as their professional field and title. The PNAM group (n=154) had an average of 11.1 years (SD=8.72) in the field whereas the INTL group (n=166) had an average of 13.2 years (SD=8.52) in the field. Approximately 52% of the INTL group and 48% of the PNAM group reported working in educational technology or a closely related field. With respect to professional title, 67% of INTL group and 68% of the PNAM group listed their title as professor, lecturer, or instructor. The PNAM group had slightly more instructional designers, as well as managers and directors, and the INTL group a few more post-doctoral or research professionals, but the groups are have nearly identical make-up otherwise.

Open Access Journals in Educational Technology

Finally, we asked some specific questions about each participant's experience with OAJs. Specifically, we asked: (a) "How many publications have you had since 2010?," (b) "How many times have you published in Open Access Journals since 2010?," and (c) "What experience have you had working with OAJs?" Tables 3 and 4 show that 41% of the INTL group and 36% of the PNAM group have published six or more articles since 2010, but only 11% of INTL and 7% of PNAM reported publishing six or more articles in OAJs. We also asked about other ways that participants might be involved with OAJs. Table 5 shows that most participants are authors and/or occasional reviewers.

Table 3
Published any article since 2010

Articles Published	INTL (n=167)	% of Total	PNAM (n=157)	% of Total
None	1	0.60%	9	5.77%
1 - 2	26	15.57%	29	18.59%
2 - 3	39	23.35%	35	22.44%
4 - 5	32	19.16%	27	17.31%
6 or more	69	41.32%	56	35.90%

Table 4
Articles in an open access journal since 2010

Articles Published	INTL (n=163)	% of Total	PNAM (n=145)	% of Total
None	7	4.29%	19	13.10%
1 - 2	94	57.67%	82	56.55%
2 - 3	30	18.40%	22	15.17%
4 - 5	14	8.59%	12	8.28%
6 or more	18	11.04%	10	6.90%

Table 5
Roles or positions with open access journals

Role or Position	INTL (n=163)	% of Total Indicators	PNAM (n=145)	% of Total Indicators
Main editor	28	8.24%	20	6.90%
Editorial Board	37	10.88%	28	9.66%
Frequent Reviewer	42	12.35%	30	10.34%
Occasional Reviewer	68	20.00%	69	23.79%
Regular Contributor	21	6.18%	14	4.83%
Author or Co-Auth.	143	42.06%	124	42.76%
None	1	0.29%	5	1.72%
Total	340		290	

Results

We now describe the results from Part 1 of the survey. The results will be presented using the aforementioned regional groups, those who have only North American, or primarily North American influences (PNAM), and those who have no North American, or a more diverse mix of regional influences (INTL).

Open Access Journals in Educational Technology

Top five most influential journals

We were interested in finding out which OAJ academics thought were most influential in the field of educational technology. Therefore, we asked participants to select five OAJ that they thought were influential. Participants were given five identical questions which asked them to select an open-access journal that they thought was influential from a “drop down” menu listing 80 OAJ. The list of OAJ was initially found by examining the contents of a shared spreadsheet that was result of a collaboration of professionals in educational technology. The titles found on that spreadsheet were then compared to entries found in popular directories of academic journals (e.g., Directory of Open Access Journals, Cabell’s, and Ulrich’s), the result of which yielded categorizing descriptors or keywords. Researchers then used the keywords, such as “educational (or instructional) technology,” “distance education”, “computer-based education,” “electronic learning,” and so on to search the directories for all journals so categorized. Open journals in education or related fields that may publish pertinent articles, but which primarily focus on teaching and learning without a technology focus, were excluded given our specific focus. Any journals found to be shuttered were excluded (e.g., Innovate: Journal of Online Education). After several iterations and an informal review by colleagues, the list of OAJ was thought to be as exhaustive as the researchers felt it could be at the time. Given the speed at which new OAJ can be created, and as some exist outside of popular directories, the list of 80 would have to be appended in a future study. The journals were listed in alphabetical order; participants saw approximately the first 12 journals before having to scroll down to find others. Each participant could select up to five journals that s/he considered influential. The average participant selected about four influential journals (see Table 6). More specifically, participants in the INTL group selected 4.01 (SD=1.50) influential OAJ where as participants in the PNAM group selected 3.73 (SD=1.46) influential OAJ. An independent sample t-test shows no significant difference between the means.

Table 6
Comparison of total votes for each possible journal slot

Status	INTL	% of Total	PNAM	% of Total
Influential Open-Access Journal 1	167	100.0%	156	100.0%
Influential Open-Access Journal 2	147	88.0%	140	89.7%
Influential Open-Access Journal 3	127	76.1%	115	73.7%
Influential Open-Access Journal 4	117	70.1%	92	60.0%
Influential Open-Access Journal 5	112	67.1%	80	51.3%

Not being selected as an influential journal does not mean that a journal is low-quality. It could simply mean that the journal is new and not recognizable by academics. Therefore, we avoided ranking all 80 OAJ. Instead, we identified all journals that received at least 10 “votes” by participants, separated by INTL and PNAM. The following open-access journals were selected as influential open-access journals most commonly across both groups: *EDUCAUSE Quarterly / Review*, the *Australasian Journal of Educational Technology*, *International Review of Research in Open and Distance Learning*, *Educational Technology & Society*, and *First Monday*. Table 7 shows a full listing of all educational technology journals receiving at least ten votes.

Interestingly, the PNAM and INTL groups differed in which OAJ they selected as influential. For instance, the PNAM group listed *EDUCAUSE Quarterly / Review*, *International Review of Research in Open and Distance Learning*, and *First Monday* the most frequently. The INTL group, on the other hand listed *Australasian Journal of Educational Technology*, *EDUCAUSE Quarterly / Review*, and *Educational Technology & Society* the most frequently.

Open Access Journals in Educational Technology

Table 7
Votes and ranking - "Top five open access journals"

Open Access Journal Title	On Top List of	Mean of % of votes	INTL Rank	PNAM Rank	Rank Difference
EDUCAUSE Quarterly / Review (EDUCAUSE)	Both	10.33%	2	1	1
Australasian Journal of Educational Technology (AJET)	Both	6.60%	1	8	7
International Review of Research in Open and Distance Learning (IRRODL)	Both	6.30%	5	2	3
Educational Technology & Society (ETS)	Both	5.96%	3	6	3
First Monday	Both	5.36%	6	3	3
Contemporary Issues in Technology and Teacher Education (CITE Journal)	Both	4.67%	6	5	1
European Journal of Open and Distance Learning (EURODL)	Both	4.42%	4	11	7
Journal of Online Learning and Teaching (JOLT)	Both	4.30%	9	4	5
Canadian Journal of Learning and Technology (CLLT)	Both	3.79%	7	7	0
Journal of Distance Education (JDE)	Both	3.07%	8	9	1
Journal of Asynchronous Learning Networks (JALN)	Both	2.35%	11	10	1
Electronic Journal of e-Learning (EJEL)	Both	2.30%	8	13	5
Online Journal of Distance Learning Administration (OJDLA)	Both	1.94%	12	12	0
International Journal of Educational Research and Technology (IJERT)	Both	1.86%	13	12	1
THE Journal: Transforming Education through Technology (THE Journal)	PNAM	1.81%	16	11	5
Journal of Computer-Mediated Communication (JCMC)	Both	1.69%	13	14	1
Turkish Online Journal of Distance Education (TOJDE)	INTL	1.53%	8	21	13
Journal of Technology Education (JTE)	PNAM	1.31%	17	15	2
Turkish Online Journal of Educational Technology (TOJET)	INTL	1.22%	9	22	13
eLearning Papers (eL Papers)	INTL	1.07%	11	22	11
Research in Learning Technology (ALT-J)	INTL	1.06%	10	23	13
Kairós	PNAM	1.03%	23	13	10
International Journal of Designs for Learning (IJDL)	PNAM	1.02%	22	14	8

Characteristic of Journals

Recognizing that OAJs can wax and wane in their influence, we were interested in identifying important characteristics of any scholarly journal and then specifically important characteristics of OAJs. Therefore, we first asked participants to indicate how important nine different characteristics were for any journal on a scale ranging from “Important (1),” “Neither Important nor Unimportant (2),” or “Unimportant (3)”. Across both groups, academics reported that being peer reviewed, scope and purpose, and that it is abstracted are important characteristics of any journal (see Table 8). Using independent sample t-tests to examine the mean score differences between the INTL and PNAM group, some significant differences appear, as indicated in Table 8. More specifically, the INTL group rated the importance of whether a journal is abstracted or has an impact factor higher than the PNAM group.

Table 8
Importance of characteristics of any journal

Characteristic	Overall Mean	INTL			PNAM		
		n	M	SD	n	M	SD
Peer reviewed / Refereed	1.050	166	1.05	0.22	155	1.05	0.24
Journal Scope or Purpose	1.075	165	1.08	0.31	155	1.07	0.26
Abstracted *	1.195	166	1.13	0.41	156	1.26	0.52
Speed of Review / Publication	1.280	165	1.27	0.5	156	1.29	0.48
Impact Factor of the Journal *	1.350	166	1.26	0.48	153	1.44	0.63
Number of Readers	1.355	166	1.34	0.54	153	1.37	0.56
Open Access	1.465	165	1.46	0.66	154	1.47	0.59
Manuscript Acceptance Rate	1.565	162	1.57	0.65	154	1.56	0.64
Pay to Publish	1.880	161	1.81	0.82	153	1.91	0.85

* Mann-Whitney U test, $p < .05$

We then asked participants to rate 15 factors that may impact the perceived prestige and trustworthiness of any OAJ on a scale ranging from “Highly Desirable (1),” through “Somewhat Desirable (2),” to “Not Important / Not Desirable (3),” or they could choose “No Opinion.” Across both groups, the three most important characteristics of an open journal are that it is listed in indexing/abstracting databases, articles are frequently cited by others, and that it has a consistent record of publications over time (see Table 9). However, the INTL and PNAM groups placed different importance on certain characteristics. For instance, the INTL group listed found in indexing/abstracting databases, frequently cited by others, and no publication fee the most frequently whereas the PNAM group listed consistent record of publications, found in indexing/abstracting databases, and no publication fee the most frequently. Statistical differences between the two groups were found for 11 of the 15 items (see Table 9).

Open Access Journals in Educational Technology

Table 9
Characteristics important to open access journals

Characteristic	Overall Mean	Between Groups Sig.	INTL			PNAM		
			n	M	SD	n	M	SD
Found in indexing/abstracting databases **	1.330	0.023	154	1.25	0.46	154	1.41	0.62
Frequently cited by other authors ***	1.365	0.007	153	1.28	0.48	153	1.45	0.57
Consistent record of publications over a period of time ***	1.370	0.002	155	1.44	0.35	155	1.3	0.49
No publication fee is required	1.375	0.246	147	1.33	0.62	147	1.42	0.69
Has a high readership or membership base *	1.480	0.069	153	1.42	0.6	153	1.54	0.62
Has recognizable scholars on editorial board	1.480	0.300	154	1.44	0.61	154	1.52	0.65
Affiliation with a professional organization or university	1.485	0.364	154	1.52	0.65	154	1.45	0.59
Has a professional looking website	1.530	0.952	155	1.53	0.65	155	1.53	0.65
In the Social Science Citation Index *****	1.680	0.000	139	1.51	0.65	139	1.85	0.75
In the Directory of Open Access Journals (DOAJ) *	1.865	0.072	136	1.78	0.73	136	1.95	0.77
In Ulrich's Periodicals Directory *****	2.165	0.000	124	1.99	0.73	124	2.34	0.72
In Cabell's Directory of Publishing Opportunities ***	2.185	0.008	123	2.07	0.73	123	2.3	0.79
Publishes high volume of articles each year *****	2.325	0.000	149	2.15	0.77	149	2.5	0.65
Print edition that accompanies an electronic edition	2.555	0.693	153	2.56	0.69	153	2.55	0.65
Publishes relatively few articles each year **	2.560	0.021	143	2.46	0.7	143	2.66	0.55
Requires authors to pay a fee in order to publish ***	2.845	0.010	126	2.77	0.56	126	2.92	0.36

* < .10
 ** < .05
 *** <= .01
 ***** < .001

Publishing Choices and Experiences

The discourse surrounding OAJs can be polemical. Often we only hear the views of some of the most vocal supporters and critics of OAJs. From the outset of our inquiry, we were interested in why academics publish in OAJs and their overall experiences with these journals. Thus, we asked participants whether OAJs are usually their first choice of a place to publish, how they would rate the quality of peer review of these journals, and how likely they are to submit another manuscript to an OAJ within the next 18 months. Across both groups, the majority of participants (66.70% to 70.50%) listed that their choice of publishing in an OAJ depends on the content. However, a quarter to a fifth of each group did report that OAJs are their first choice of publication. Then when asked about their review experiences, over 65% of participants in both groups reported that the reviews were consistently good or consistently excellent. Finally, when asked how likely they are to submit another manuscript to an open journal in the next 18 months, 76.5% of INTL and 68% of the PNAM reported that they are highly likely to do so or definitely will do so. We then used a chi-square analysis to look for any statistical differences between the groups for these three questions, but none was found.

Table 10
Choice of open access journal

Response	INTL (n=165)	PNAM (n=156)
First Choice	23.60%	20.50%
Next Choice	3.60%	3.80%
Depends on Content	66.70%	70.50%
Depends on speed	6.10%	5.10%

Table 11
Review experiences

Response	INTL (n=164)	PNAM (n=154)
Consistently Excellent	12.20%	15.60%
Consistently Good	54.90%	51.30%
Consistently Mediocre	11.60%	7.10%
Consistently Poor	1.20%	1.30%
Inconsistent Good	15.90%	14.30%
Inconsistent Poor	2.40%	3.90%
Not Applicable	1.80%	6.50%

Table 12
Likelihood of submitting to open access journal in 18 months

Response	INTL (n=166)	PNAM (n=156)
Definitely	33.70%	35.30%
Highly likely	42.80%	32.70%
Somewhat likely	19.90%	28.20%
Unlikely	3.60%	3.80%
No intention	0.00%	0.00%

Experience with Most Influential Journals

We were also interested in learning more about the experiences academics had with the OAJs they listed as most influential. Using the journals participants previously identified as the most influential, we asked participants a series of follow up questions on those selected journals. Across both groups 194 (48%) had published in, 85 (21%) had reviewed for, and 24 (6%) had served in an editorial role for the first influential journal that they identified from the list of 80 OAJs. At the same time though, a large percentage of participants had no direct experience with journals they selected (see Table 13).

Open Access Journals in Educational Technology

Table 13
Experience with open access journals selected as influential

	Published in	Reviewed for	Editorial function	No direct experience
Journal 1	48%	21%	6%	25%
INTL	114	45	16	42
PNAM	80	40	8	60
Journal 2	26%	16%	4%	54%
INTL	39	25	6	95
PNAM	44	26	6	78
Journal 3	16%	9%	2%	73%
INTL	18	15	5	95
PNAM	21	8	0	86
Journal 4	14%	10%	3%	73%
INTL	12	13	6	89
PNAM	17	9	0	66
Journal 5	11%	7%	4%	78%
INTL	11	8	5	88
PNAM	10	6	2	61

In addition, we were interested in learning more about what participants know about the OAJs that they find influential. For instance, we wondered if those who publish in OAJs might spend more time reading and citing articles in OAJs. Thus, we asked participants how often they read, cite, or recommend articles from these influential OAJs—in which 49% responded that they regularly or frequently read, cite, or comment on OAJs (see Figure 1).

Some have suggested that one benefit of OAJs is that they can speed up the review process. But when asked directly about their perception or knowledge of the speed of the editorial review process, 49% reported that they did not know and only 9% reported that it was very fast (see Figure 1).

We then inquired about participants' perceptions of the editorial review process for these influential journals. While 51% reported that they believed the editorial review process was rigorous or very rigorous, 43% revealed that they did not know.

Finally, we asked about participants' knowledge of the rate of acceptance. There is a long-standing tradition in academia of seeing a low acceptance rate as a sign of journal quality. And while 29% believed these influential OAJs had an average rate of acceptance, only 9% reported that they had a low acceptance rate and 57% reported that they did not know (see Figure 1).

In addition to learning more about what each participant knew about these influential journals, we were interested in finding out whether they saw them as comparable to other top journals in our field. Therefore, we specifically asked participants to compare the OAJs that they had previously identified as "influential" to other top journals in our field on a scale ranging from (1) More prestigious, (2) As prestigious, and (3) Less prestigious, or (4) Prefer not to answer. Across both groups, over 67% viewed the OAJs that they had previously identified as "influential" as being as prestigious or more prestigious than other top journals in our field. However, 23% reported that they view the "influential" OAJs as less prestigious than other top journals in our field and almost 10% stated that they prefer not to answer this question.

Open Access Journals in Educational Technology

Read/Cite/Comment on OAJs	17% Frequently	32% Regularly	37% Occasionally	14% Rarely
Speed of Review Process	9% Very Fast	33% Expected	9% Slower	49% Unknown
Rate of Article Acceptance	9% Low RoA	29% Avg. RoA	5% High RoA	57% Unknown
Rigor of Peer Review Process	14% Very Rigorous	37% Rigorous	6% Not as Rigorous	43% Unknown
Prestige of OAJs	14% More Prestigious	53% As Prestigious	23% Less Prestigious	10% Prefer Not to Answer

Figure 1. Experience with Most Influential Open-Access Journals.

In Table 14, below, we present many of the same 25 journals as appeared in Table 7, but in a different order.

Open Access Journals in Educational Technology

Table 14
Comparison of important characteristics of top five selected journals (ranked by mean of all characteristics)

Journal Name	M	Prestige	Interaction	Speed	RoA	Rigor
Research in Learning Technology (ALT-J)	1.753	1.917	2.017	1.917	1.625	1.292
Kairos	1.843	1.833	2.356	2.250	1.333	1.444
Online Journal of Distance Learning Administration (OJDLA)	1.967	1.822	2.089	1.853	2.290	1.778
Australasian Journal of Educational Technology (AJET)	1.989	1.948	2.493	2.081	1.718	1.704
eLearning Papers (el Papers)	1.990	2.000	2.400	1.800	1.875	1.875
Journal of Asynchronous Learning Networks (JALN)	1.994	1.970	2.232	1.933	1.833	2.000
Educational Technology & Society (ETS)	1.998	1.890	2.389	2.292	1.656	1.764
Journal of Computer-Mediated Communication (JCMC)	2.003	2.017	2.417	2.333	1.556	1.690
First Monday	2.007	2.064	2.316	1.914	1.923	1.818
International Journal of Designs for Learning (IJDL)	2.033	2.000	2.533	1.833	2.000	1.800
EDUCAUSE Quarterly / Review (EDUCAUSE)	2.042	2.061	2.569	1.842	1.863	1.876
Canadian Journal of Learning and Technology (CJLT)	2.053	2.071	2.374	2.008	1.943	1.871
Computers and Composition Online (CCO)	2.075	2.250	2.625	1.500	2.000	2.000
Journal of Technology Education (JTE)	2.081	1.867	2.567	2.222	1.875	1.875
International Review of Research in Open and Distance Learning (IRRODL)	2.082	2.017	2.354	1.981	1.960	2.098
European Journal of Open and Distance Learning (EURODL)	2.105	2.090	2.470	2.040	1.930	1.993
International Journal of Educational Research and Technology (IJERT)	2.109	1.900	2.563	1.875	2.083	2.125
Asian Journal on Education and Learning (AJEL)	2.119	2.000	2.762	1.500	2.500	1.833
Journal of Distance Education (JDE)	2.126	2.190	2.658	2.000	1.888	1.892
Electronic Journal of e-Learning (EJEL)	2.141	2.303	2.463	2.088	1.833	2.017
Turkish Online Journal of Educational Technology (TOJET)	2.147	2.000	2.400	2.100	2.083	2.150
Contemporary Issues in Technology and Teacher Education (CITTE Journal)	2.177	2.277	2.647	2.242	1.920	1.800
Journal of Online Learning and Teaching (JOLT)	2.204	2.255	2.514	2.020	2.173	2.058
Turkish Online Journal of Distance Education (TOJDE)	2.207	2.194	2.583	1.492	2.740	2.028
THE Journal: Transforming Education through Technology (THE Journal)	2.230	2.400	2.673	1.800	1.875	2.400

Open Access Journals in Educational Technology

For Table 15, we show the mean scores for each characteristic (Prestige, Interaction, Speed, RoA, and Rigor) of a particular journal. To do this, an overall mean for each column in Table 14 was calculated. The average score signifies how, overall, participants rated each of the five factors among top 25 journals: Prestige (2.164, range 1.197 to 2.400), Interaction (2.671, range 2.017 to 2.762), Speed of Review (2.00, range 1.197 to 2.333), Rate of Acceptance (2.037, range 1.625 to 2.740), and Rigor of Review Process (1.875, 1.292 to 2.400). The statistic allows for comparison of the individual journal's mean of a certain factor with that of the total group. For example, one can see how ALT-J's rating of 1.917 compares to the overall average of 2.164. We did not calculate significant differences between individual journals. Instead, we sought to learn if the indicators had a correlation with the ranking of journals; in three cases, it did. Given the significance of the correlation of these indicators, it would appear that scholars' value of Prestige, Interaction, and Rate of Acceptance are useful determinants as to whether particular journal is viewed as influential. Using Kendall's τ -c to measure correlations, some significant correlations between the number of times a journal was selected among the top five (indicated by Rank 1 in Table 15) are found. The correlation is negative because a lower mean score for a given characteristic signifies its higher value on the scale.

Table 15
Correlation statistics on characteristics

Characteristic	Overall Mean	Top 25 Mean	Kendall's τ -c	<i>p</i> -value
Prestige *	2.164	2.05	-2.424	0.015
Interaction *	2.671	2.46	-3.155	0.002
Speed of Review	2.001	1.96	0.271	0.786
Rate of Acceptance *	2.037	1.94	-3.562	0.000
Rigor of Editorial Process	1.875	1.89	-0.407	0.684

Discussion

Given the number of OAJs and the increased attention they have received, scholars tend to hold certain assumptions about these types of publications (Bohannon, 2013; Butler, 2013; Author, 2015; Darley, Reynolds, & Wickham, 2014; Swan & Brown, 2004). For instance, some assume that OAJs are inferior to subscription-based journals simply because they are open-access, seemingly buying into an ideology of “something that costs nothing is worth nothing” (see Anderson, 2013; Zawacki-Richter, Anderson, & Tuncay, 2010). Others assume that those who publish in an open journal do so because s/he was not able to publish in a traditional outlet. Still others assume that authors who publish in OAJs are making some type of social justice ideological claim about public access to scholarship. Due to these varying assumptions, we set forth to explore academics' perceptions of OAJs. Our exploration resulted in a few interesting findings that address common assumptions like these. In the following section, we discuss key findings from our results and themes that emerge from them.

Influential open access journals

We began this study with the assumptions that high quality OAJs exist, and that as open-access journals continue to grow there might come a time when an academic decides to publish in an OAJ. However, the dramatic growth of new OAJs, coupled with inherent biases many academics have toward OAJs and negative press about predatory journals, makes it very difficult for academics (especially graduate students and pre-tenured faculty) to separate respected open-access journals from those that are either not respected or not known. Therefore, we set forth to ask academics, who actually had prior experience with OAJs, which OAJs they thought were most influential.

Our results suggest that there are in fact a number of educational technology (or related) open journals that academics with OAJ experience both recognize and find influential. One thing that stands out about those OAJs identified as most “influential” is that they are long standing, well known, journals. In addition, three of the top five — *Australasian Journal of Educational Technology*, *International Review of Research in Open and Distance Learning* and *Educational Technology & Society* — are listed in the *Journal Citation Reports* and have an impact factor that compares favorably with journals that require subscriptions.

One finds some consensus with the top 20% of journals, but after the top 15, the list becomes varied; the number of votes for any particular journal title diminishes rather significantly. Both the PNAM group and the INTL group listed influential journals not listed by the other group, which suggests that the variability in perceptions of top journals is based in part on regional influences. From this, we observe that perceptions of influential or high quality

Open Access Journals in Educational Technology

journals is contextual. For instance, our results show a relationship between geographic area(s) and the open journals they find influential.

Our results also show a relationship between one's perceptions of an open-access journal and whether or not the person has published in the journal. The rank of a journal, which was based on the total number of votes it received as among "Five Most Influential OAJs," (see Table 7) is significantly correlated with the respondents' experience with it ($r^2 = 3.94$, $p < .000$). This essentially confirms what one could surmise, which is that any OAJ (and perhaps any journal) gets endorsed by those who have had some interaction with it. It must be kept in mind, however, that this statistic should not be applied to every individual case. One notable exception is one of the top ranked journals, *EDUCAUSE Review*. Though it is widely recognized by the participants, the vast majority of those listing it among their "Top Five" have had no direct experience with it (in full disclosure, we have both published with *EDUCAUSE*). Therefore, perceptions of journals (open or not) are likely influenced by geographic location, and institutional culture, as well as a person's previous experience with the journal.

It is important to note that participants typically identified fewer than five influential open journals (the average was four). This could add validity to the idea that participants were in fact differentiating between what they thought to be influential and non-influential journals. However, it could simply mean that they lack experience or knowledge of many of the other OAJs or that they in fact believe that 70 or so of the other OAJs are not in fact influential. More research needs to be conducted to investigate what academics think of OAJs they did not identify as influential.

Important characteristics of open journals

With perfunctory knowledge of a web server and installation of free web applications, an OAJ can be started with little effort. Just as easily, though, an OAJ can be shuttered as its sponsors, institutional backers, or organization leadership shift focus. Given both the growth and the volatility of OAJs, we wanted to explore what characteristics of OAJs academics find useful. The hope of exploring this was to help develop some guidelines to help academics evaluate OAJ quality.

In addition to being peer-reviewed, our results suggest that influential OAJs are indexed, frequently cited by others, have a consistent publication record, and do not require publication fees. These important characteristics favor older open-access journals that have had time to build a reputation as well as establish a consistent track record of issues and citations. Our results suggest that there are some differences between primarily North American (PNAM) academics and primarily international (INTL) academics. For instance, the INTL group listed "Found in indexing/abstracting databases" the most important (based on the mean response) characteristic of open journals, whereas the PNAM group listed a consistent publication track record over time as the most important. Our analysis of the data shows a statistically significant difference in how participants in the INTL group rated "In the Social Science Citation Index" compared to the PNAM group.

Between the groups' mean scores for the various characteristics listed in Table 9, a significant difference appears for "Abstracted" and "Impact Factor." That an OAJ is abstracted (information about the journal is collected via an abstracting service and then distributed through library databases) is significantly more important to the INTL group than for the PNAM group ($U=11463$, $p=.006$). Just as important to the INTL group – significantly more so than to the PNAM group – is the impact factor (IF) for an OAJ ($U=10893$, $p=.006$). The IF of a given journal is a ratio of "the number of cites in the current year to any items published in the journal in the previous two years" and "the number of substantive articles (source items) published in the same 2 years" (Garfield, 2005, p. 5). It is important to note that the number of citations counted is only to articles in journals that are indexed by the Social Science Citation Index (Smeyers & Burbules, 2011), meaning that citations in books, chapters, and the plethora of non-indexed journals are not counted. The study data suggest that being indexed and having an impact factor is more important to the INTL group, data that supports anecdotes we have heard from international academics who report their institutional cultures as ones that very strongly emphasize publishing only in journals with such characteristics (Gisvold, 1999).

The impact factor, found in the Social Science Citation Index (SSCI) is the most common metric used to identify the quality of a journal, though Google Scholar's h-index is another that has become popular given that company's well-known search engine tools to quickly show where and how many times given articles are used. As noted previously, impact factor itself has been problematized (Hecht et al., 1998, Smeyers & Burbules, 2011). Furthermore, there are a number of shortcomings to relying solely on open journals' impact factors as a sign of article quality. First, few educational technology related OAJs have an SSCI impact factor. In Table 16, we list the journals found in Table 14, in alphabetical order, along with both the impact factor metric and Google Scholar's h-index. It is not a credible assertion that the only quality OAJ articles are found in such a small number of outlets. Also, one must understand that impact factor focuses on journals themselves and not the articles (Smeyers &

Open Access Journals in Educational Technology

Burbules, 2011). Finally, one has to question a purely quantitative analysis of what "impact" means. While one might see that a journal has had a significant number of articles cited over time, the question for any article (in an OAJ or other) is if it adds significant value in terms of practice or theory building. As an analogy, many readily recognize brand names of fast food restaurants and the total economic impact is measured in billions of dollars, but nutritional and medical studies make very clear that another significant impact exists, and these are not at all positive.

Table 16

Impact Factor and h5-Index Numbers for Top Open Access Journals from Table 14

Journal	ISI 2014	h5-index
Asian Journal on Education and Learning (AJEL)	--	--
Australasian Journal of Educational Technology (AJET)	0.65	33
Canadian Journal of Learning and Technology (CJLT)	--	13
Computers and Composition Online (CCO)	--	--
Contemporary Issues in Technology and Teacher Education (CITE Journal)	--	12
Educational Technology & Society (ETS)	1.01	40
EDUCAUSE Quarterly / Review (EDUCAUSE)	--	--
eLearning Papers (eL Papers)	--	--
Electronic Journal of e-Learning (EJEL)	--	16
European Journal of Open and Distance Learning (EURODL)	--	--
First Monday	--	31
International Journal of Designs for Learning (IJDL)	--	--
International Journal of Educational Research and Technology (IJERT)	--	--
International Review of Research in Open and Distance Learning (IRRODL)	0.73	36
Journal of Asynchronous Learning Networks (JALN)	--	19
Journal of Computer-Mediated Communication (JCMC)	3.12	32
Journal of Distance Education (JDE)	--	--
Journal of Online Learning and Teaching (JOLT)	--	20
Journal of Technology Education (JTE)	--	--
Kairos	--	--
Online Journal of Distance Learning Administration (OJDLA)	--	--
Research in Learning Technology (ALT-J)	--	20
THE Journal: Transforming Education through Technology (THE Journal)	--	--
Turkish Online Journal of Distance Education (TOJDE)	--	10
Turkish Online Journal of Educational Technology (TOJET)	--	26

Orientation toward and experiences with open access journals

With few exceptions open-access journals are still a relatively new phenomenon and, as such, many in academics are at various places on the continuum of investigating their perceived attributes (Rogers, 2003). Therefore we set out to find out what those who have OAJ experience actually think of them. Contrary to what may be common assumptions about authors' motivation to publish in OAJs (e.g., commitment to social justice issues or review processes), our results suggest that academics publish in OAJs primarily based on the content of their manuscript. In other words, while about 22% of respondents reported that an open-access journal is usually their first choice, almost 70% stated that it depended on the content. This suggests that the majority of academics appear to be more pragmatic than ideological when deciding where to publish their work. They also appear to be happy with their experience with open-access journals. Approximately two-thirds of all respondents characterized their review experience as "consistently excellent" or "consistently good." Furthermore, 71% of participants indicated that they would definitely, or were very highly likely, to publish in an OAJ within the next 18 months.

Open Access Journals in Educational Technology

We must make clear that the OAJs recognized as "influential" can be ranked in various ways. From one perspective, a tally of votes creates a list that one is tempted to associate with a quality rating. This democratic process, though, does not mean that the top group necessarily is associated with quality. When we asked participants to give input about key characteristics for each OAJ they listed as influential, a rather different ranking emerges. In Table 14 we present the "Top 5" as ranked by their total average score of five characteristics. What results are some fairly dramatic shifts in ranking. For example, though *Research in Learning Technology* (ALT-J) does not appear high up in the Table 7 list, it appears first in Table 14. The highest ranked journal (in terms of votes) in the first listing, *EDUCAUSE*, falls 10 places on the Table 14 list. This comparison of ranks makes clear that academics (or publishers) who try to assert that a given publication is "highly influential" cannot do so without a very clear description of the factors that make it so. We offer our own list (below) that attempts to account for total votes and mean scores with the belief that the list represents a defensible ranking of open journals in educational technology, at least with respect to data gathered in this study.

Prestige of Open-Access Journals

Electronic journals began to emerge in the early days of the Internet, with many academics skeptical of electronic publications for a number of reasons (Anderson, 2012) – seemingly legitimate at the time – that have now proved to be misplaced. The evolution into a digital culture in academe brought with it different expectations and, now, scholars rather take for granted publishers' digital services (e.g., pre-publication releases, indexing, etc.). Despite the ubiquity of such web-based services, a sentiment still exists (just as it does with online education) that electronic open-access journals are inferior to those that require a subscription. To learn more about the reception of OAJs, we specifically asked participants about how prestigious their selected "influential" journals were compared to other top journals in our field. More than half reported that they viewed them as prestigious, which is not too surprising. Interestingly, though, is the 23% who listed them as less prestigious, with another 10% reporting that they preferred not to answer the question. Thus, even amongst those with OAJ experience and who specifically chose certain OAJs, nearly 35% did not indicate that the journals selected as influential have the same prestige as other (traditional) journals in their field.

Regional Differences

The differences we saw in the "Top 5" list among groups of participants is in some ways even more starkly contrasted in questions about the perceived importance of selected journal characteristics. As has been stated, we consistently found that participants in the INTL group felt more strongly about the necessity of an impact factor and abstracting / indexing for any journal, including OAJs. These differences likely arise from different academic or institutional cultures in various regions of the world (Gisvold, 1999; Shao & Scherlen, 2007). Indeed, even among U.S. institutions, there are marked differences in academic cultures, with "research intensive" universities placing a good deal more emphasis on a faculty member's ability to publish certain types of articles in certain journals and "teaching intensive" universities emphasizing pedagogical excellence (Shin & Cummings, 2010). When it comes to using the INTL vs. PNAM data to better understand perceptions of OAJs, we believe that there are at least three pertinent points and two important questions.

First, although one does find overlap among a certain subset of OAJs in terms of which ones are the most impactful, one must keep in mind that any given journal's significance has a regional component. Second, at least at the moment, whether a journal is open or not is less important to the INTL group of scholars than quality marks that are applied to all journals. Third, participants in the PNAM group are seemingly less concerned about things like impact factor, etc. for any type of journal, including OAJs. One interpretation of the second and third observation is that no matter the differences in preferences, the INTL and PNAM groups are consistent in their expectations for a publication outlet.

Two questions arise from the data comparing the regional groups. One important question has to do with the impact of what a SSCI listing means for the future of new journals. If OAJs continue to proliferate, how will new journals in educational technology build any credibility among scholars outside of North America? Will it be the case that articles appearing in such journals are xenocentric given the reluctance of international scholars to publish in them? Another question that arises from our comparison of INTL and PNAM groups is the participants' actual knowledge of how journals, and particularly OAJs, operate in order to earn certain characteristics that are assumed to be characteristics of quality. As has been noted, "impact factor" is a metric that is problematic (Elliott, 2014; Gisvold, 1999). Are there other factors beyond traditional metrics and what we have explored to help journals achieve respect among scholars? Exploring these questions would indeed make for interesting studies in the future.

Open Access Journals in Educational Technology

Limitations

More than 300 academics participated in our survey, and we are confident that the data gathered offer a useful, interesting perspective on OAJs in educational technology. Yet, despite the care we took to craft the instrument, solicit participants, collect data, and so on, we understand the limitations of our study. One limitation, of course, is the limited response when one considers the sheer number of authors who are publishing articles in OAJs. Future studies should work to increase *n* so as to increase statistical validity. Additionally, for this report, we decided only to represent the input of scholars with open journal experience. This was not at all done to discount the voices of those without such experience, but because our original intent was to learn what those with OAJ experience thought. Future studies should perhaps focus on the feedback of both groups and compare and contrast the attitudes, perceptions, or experiences of the groups. Finally, as we learned, OAJs are not something unique to North America scholarship; we were fortunate to get the input of scholars from around the world. However, our survey was in English only, so we are here presenting data only of those who are proficient in it. Those who plan future research should collaborate with bi-lingual peers in order to make instruments available in languages other than English.

Conclusion and Recommendations

Based on data gathered, we present below our own ranking of what we have determined to be the Top 25 open access journals in educational technology. We urge scholars to use it simply as a peer-informed guide to help guide their own research, serve as a resource about where to start looking for credible open access scholarship in our field, and provide a means for those outside educational technology to understand how academics in it differentiate among myriad OAJ choices. We do not endorse the use of our list for marketing purposes; please note that the list appears in alphabetical order, not in ranked order. Information about these journals, based on our research and other available metrics, also appears on the site <http://edtechjournals.org>

- *Australasian Journal of Educational Technology*
- *Canadian Journal of Learning and Technology*
- *Contemporary Issues in Technology and Teacher Education*
- *Educational Technology & Society*
- *EDUCAUSE Review*
- *eLearning Papers*
- *Electronic Journal of e-Learning*
- *European Journal of Open and Distance Learning*
- *First Monday*
- *IEEE Transactions on Learning Technologies**
- *International Journal of Artificial Intelligence in Education**
- *International Journal of Designs for Learning*
- *International Journal of Educational Research and Technology*
- *International Review of Research in Open and Distance Learning*
- *Journal of Asynchronous Learning Networks*
- *Journal of Computer-Mediated Communication*
- *Journal of Distance Education*
- *Journal of Information Technology Education*
- *Journal of Online Learning and Teaching*
- *Journal of Technology Education*
- *Kairos*
- *Online Journal of Distance Learning Administration*
- *Research in Learning Technology (ALT-J)*
- *Turkish Journal of Educational Technology*
- *Turkish Online Journal of Distance Education*

* The journal did not appear in the top 25 rankings from our survey, but is noted here because it has other metrics indicating that it is highly regarded.

Recommendations

Our recommendations, based on our findings and insights from others writing about publishing and publications, are intended first and foremost for faculty members. We also believe that administrators of departments where educational or instructional technology is taught should consider the ramifications for policy given that faculty members, tenured and pre-tenured alike, are very often rated based on the perceived quality of the outlets in which they publish. First, the presence or absence of an OAJ on any given list, even one built on empirical evidence such as ours, is not an indication of the quality of a particular article. What matters less is how a journal rates and instead how a particular article has been cited (Smeyers & Burbules, 2011). The question thus becomes whether or not a given outlet, open access or subscription-based, has the potential to distribute an article so that it achieves as much influence as possible – both in terms of availability, indexing, archiving, etc.

With respect to OAJs, one might look at our “Top 25” list to see which ones are more likely to be read than others. At the institutional level, a list such as the one we provide above may help tenure and promotion committees understand what professionals in our field think of a particular journal’s overall quality, regardless of formal metrics like impact factor, h-index, or others. Other factors, such as found in Table 9, might be used to justify the inclusion of any journal on a list that gets developed.

There are circumstances beyond an author’s control that affect the availability or access to certain OAJs. Recent examples include the shuttering *Innovate*, a slight change to words within the *IRRODL acronym* (“distance” became “distributed”), the transformation of the EDUCAUSE publications, and the recent merger of *Journal of Asynchronous Learning Networks* and the *Journal of Online Learning and Teaching*. Changes to names, formats, and so on have an obvious implication for accessing and archiving scholars’ work. In such cases, it is important for professionals to vigorously discuss the changes so that others might be fully informed of the ramifications. It is important for others outside a given field to not see OAJs merely as glorified weblogs that can be created and revised on a whim, but as outlets that are responsive to the needs and goals of the academic community.

Finally, the OAJs found on our list, at least at the time of publication, are both free to access and do not pass along costs to contributing authors. An increasing number of established publishers allow authors to pay to make an article open access (ex., sometimes up to US\$3,000). However those fees are justified based on costs, the outlets the charge for publishing are poorly received by colleagues in our field as shown by our research. The overwhelming consensus is the spirit of open access is promulgated best not only when a journal’s content is freely accessible, but also when contributions to a journal are freely received and published. Thus, should a charge for publication be incurred, it behooves the faculty member to fully describe the cost and justification for it.

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