AWARENESS AND USE OF OPEN ACCESS JOURNALS IN HIGHER EDUCATIONAL INSTITUTIONS: A SURVEY OF USERS IN BOLGATANGA POLYTECHNIC

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ABSTRACT: The study sorts to determine the degree of knowledge and use of Open Access Journals (OAJs) by the academic staff of Bolgatanaga Polytechnic. The study, which employed a descriptive survey design, revealed that all the respondents (100%) are aware of OAJs. The study conclusively showed that the respondents had downloaded and used published materials from OAJs, and had also published their manuscripts in same. Generally, they believed OAJs are able to speedily publish their manuscripts, thereby fastening their promotion. A good number of the respondents are of the view that OAJs are reliable platforms which makes it possible for them to freely access subject-specific materials which were used in the preparation of their manuscripts and teaching materials. A substantial number of the respondents are aware of the predatory activities of some OAJs.

KEYWORDS: Open Access Journals, Open Access, Free Journals, E-journals, Online Publishing, Open Access Models.

1 Introduction

Justified knowledge, largely evolves through research. All around the world, one of the most reliable means through which scholars share scientific knowledge, is through the mode of academic publications. Academic publications make it possible for research findings to reach a wide readership, making it possible for scholars to critique and verify the findings. Academic publications equally aid in building archives of knowledge, which makes it possible for other scholars to build on the existing knowledge, creating an endless loop of knowledge for posterity.

The history of modern academic publishing in English, dates back to 1660, when a group of scientists, such as "Newton, Oldenburg, Hooke and their "invisible college" congregated in secret, to work towards the establishment of the first academic journal, which they subsequently launched in 1665 [1], [2], [3]. Reference [1] elaborates that this scientific periodical, which became known as the "Philosophical Transactions of the Royal Society", published an observation or an experiment per article. This journal instituted essential concepts of scientific peer review, and made it possible for the scientific community to exchange knowledge, collaborate and build on each other's work. The Philosophical Transactions of the Royal Society, which was also known as Phil. Trans., became the oldest scientific journal published in English, second only to Journal des sçavans, the French journal, reputed to be the first ever published academic journal [4], [2].

The above development was not very smooth sailing; it is on record that many disputes arose, due to coincidental discoveries being announced by scientists during the 17th century [2]. The disputes, gradually decreased over a period of time, due to the proliferation of other scientific journals, which increased the publication of research findings of scholars around this period.

The 19th century saw the proliferation of many scientific journals, due to the development of new subject fields such as "classical studies, biblical studies, archaeology, philology, Egyptology, the Orient", with each of these branches instituting an academic journal, dedicated to the dissemination of knowledge generated by scholars in that field [5].

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Gradually, academic publishing gained ground in almost all academic fields, making it mandatory for scholars to disseminate their research outputs in reputable academic journals. Currently, one of the most dynamic platforms used the world over by many academicians and researchers to communicate their research findings is the open access journals (OAJs). The OAJs are usually free to access. Users of these journals are not charged any access tolls. The open access concept can be applied to all forms of published research outputs such as peer-reviewed and non-peer reviewed academic journal articles, conference papers, theses, book chapters and monographs.

Reference [6] writes that some of the key driving forces that birthed open access publishing are; the development of the internet and networking technologies, as well as innovative digital storage and archiving facilities. Indeed, the realization that the tax payer sponsors a large chunk of researches, and for that matter, findings of such studies should be freely available to them, was also a motivating factor [6].

In the industry, two types of Open Access varieties can be identified. They are; Gratis Open Access and Libre Open Access [7].

2 STATEMENT OF THE PROBLEM

Open Access Journals (OAJs) have presented endless opportunities for researchers, scholars and students around the globe, to access published articles from varied multidisciplinary OAJs, and equally publish their works in these journals.

The proliferation of OAJs has however raised some red flags about the ethical practices of some of these journals. For many notable academic institutions around the globe, clear policies and frameworks have been development, to identify credible and high quality OAJs that their members could work with. However, many of these regulatory frameworks were developed only after studies were undertaken to understand their staff's knowingness and patronage of these OAJs. Studies of this nature have not been carried out to ascertain Bolgatanga Polytechnic academic staff's awareness and use of OAJs. Establishing Bolgatanga Polytechnic academic staff's awareness of OAJs; the motivational factors that guide their selection and use of OAJs; and the extent at which they use OAJs; could go a long way in guiding the institution's authorities in formulating effective policies that would guide their academic staff in determining OAJs with sound ethical values to do business with.

Clearly, this study therefore attempts to determine the scope of knowledge, and the extent of use of OAJs by the academic staff of Bolgatanga Polytechnic.

3 WHAT THE LITERATURE SAYS

3.1 OPEN ACCESS

The open access (OA) concept has gradually evolved into one of the most acceptable pathways of disseminating scholarly information around the world. The Budapest Open Access Initiative (BOAI) in 2002, mooted the idea of using modern communication technology, specifically the internet, to eradicate barriers and grant access to scholarly works around the globe, using the "open access" models [8]. The open access revolution could be seen as a revolt against the killer prices of many traditional elite journal subscriptions [9]. Reference [10] and [11] articulated that the open access movement is a human-centred move targeted at ensuring liberal access to scholarly information by all inquiring minds. Reference [12] adds that it is a "comprehensive source of human knowledge and cultural heritage that has been approved by the scientific community".

Open access works are usually digital online materials, which could be accessed free of charge, and exempted from many copyright, licensing, permission and subscription limitations [13], [14], [15]. Users can therefore freely read, download, copy, share, store, print, search, link, and crawl all open access materials [16]. Indeed, [14] gave further amplification to the definition by quoting the Budapest (February 2002), Bethesda (June 2003), and Berlin (October 2003) definitions, which explained that for a material to be designated as "open access", the copyright owner of the literary work must agree in advance to allow users to "copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship....". As elaborated by [7] and [16], the open access concept should not be misconstrued for a business model, license or content, but should be seen as a "kind of access".

Open access literatures are usually electronic peer-reviewed scholarly materials such as articles, theses and dissertations, grey literature, monographs, technical reports and project reports [17], [7]. According to [7], some publishers are also experimenting with open access books; a model which allows the electronic version of the book to be given away freely through the net, while selling the hard copies through book stores.

There are two major pathways through which the open access models are delivered; the "Gold" and the "Green" open access variants [14], [6], [18], [17]. References [14] and [6] explicated that open access materials disseminated through journals are classified under the "Gold" model, irrespective of the business model; while those circulated through repositories are tagged as "Green" open access materials. An important difference between the "Gold" and "Green" models is that materials in the "Gold" models are peer-reviewed unlike the "Green" variants [14].

3.2 OPEN ACCESS JOURNALS

Open Access Journals (OAJs) are peer-reviewed journals that could largely be accessed electronically without paying any access tolls [19]. There are different types of OAJs. Two popular varieties are the hybrid OAJs and the delayed OAJs. In the case of the hybrid OAJs, the journal owners only render some of their contents open, while the delayed open access journals only open the contents of their journals after a period of time, usually between 12 to 24 months [20]. The delayed open access model makes it possible for the publishers to rake in some revenue through subscriptions before granting access to their journal contents [9].

Reference [7] explains that the business model normally used by many OAJs is by levying authors with an up-front payment, known in the industry as article-processing charges (APC). The authors add that APCs end up being paid by the authors, their institutions or sponsors.

3.3 SOME ADVANTAGES AND DISADVANTAGES OF OPEN ACCESS JOURNALS

OAJs have been hailed by many for providing easy access to scholarly materials around the globe. For authors, OAJs makes it possible for them to share their research with a wider audience and draw increased citations [21], [22]. OAJs equally make it possible for low-income countries to gain access to high quality scientific publications, and opens the door for them to participate in international scholarly discourses [23]. The enormous advantages of OAJs to libraries around the world are equally apparent; it minimizes the skyrocketing effects of journal subscription prices on the pocket of libraries around the world, and make OAJs a pleasing alternative to commercial publishing [24], [25], and [23]. OAJs are important platforms that allow scholars to network and collaborate in scholarly projects [26].

Open Access Journals are noted for providing current scholarly information on varied subject fields, which can be accessed freely around the world. This is very advantageous to authors, because their works can reach a broad section of the world's reading population and therefore enhances their visibility [27], [28].

Another important advantage of OAJs is that they are able to process manuscripts faster, leading to higher publication rates. Some OAJs are also on record for providing discounts or waivers to authors from poor countries; this enables them submit more manuscripts to these OAJs, leading to increased flow of justified knowledge [23].

OAJs have been criticized for some of their downsides. Some publishers are concerned with copyright issues. Reference [7] opines that the traditional practice was to transfer the copyright from the author to the publisher when articles are ready to be published. They add that this makes it possible for the publishers to take swift action against copyright infringements if they are detected, thereby protecting the author. However, most OAJs normally transfer much of the copyrights to the authors, which may make the handling of copyright infringement issues much more difficult.

Some also believe that quite a number of the articles found in some OAJs could best be described as substandard. The perception is that many OAJs lack publishing experiences; but to keep their businesses rolling, the editors of such journals are tempted to accept poor quality manuscripts, which were either not peer-reviewed or poorly reviewed [6], [25].

A study carried out by [29] showed that OAJs could make it possible for some academicians to engage in academic misbehaviours such as data manipulation, plagiarism, falsification of methods, as well as multiple submission of manuscripts to several online journals. The author notes that these misbehaviours are especially common in competitive academic environments where stringent guidelines are not provided to monitor and control the activities of academicians who publish in OAJs.

It has also been noted that because the publishing cost is mostly transferred directly to the authors, their employers or sponsors; readers end up not paying for the materials they accessed from OAJs. This can put so much strain on the authors, especially if funding is not readily available [23]. Equally, under the OA model, it has been argued that the authors are not well compensated for their scholarly contributions, as is the case under the traditional pay-to-access models [25], [23].

3.4 THE FUTURE OF OPEN ACCESS JOURNALS

Even though the OA model could be very exciting for readers, to many publishers, it is a tarrying phenomenon [30]. The author observes that aside the possibility of traditional paid journals folding up, many OAJs would be inundated with manuscripts, forcing their operators to compromise on peer-review standards, leading to the production of inferior scholarly works. Reference [31] projected that gold open access models would occupy about 50% of the scholarly publishing landscape between 2017 to 2021, and subsequently rise to 90% by 2025.

4 METHODOLOGY

The study utilizes a descriptive survey design, which predominantly made use of questionnaires to collect data. Descriptive research design is mostly employed in gathering information about prevailing conditions or situations for the purpose of description and interpretation; usually, information is collected without manipulating the environment [32]. Descriptive survey research design permits the use of both qualitative and quantitative elements within a study [33], [34].

The population of the study comprised the academic staff of Bolgatanga Polytechnic, in the Upper East Region of Ghana. The study made use of 70 academic staff sampled from 12 departments, using a simple random sampling technique. Mixed survey instruments [35] containing a mixture of both close-ended and open-ended items, based on the various variables being studied, were duly delivered to the sampled group. Out of the 70 targeted respondents contacted, 55 of them returned the questionnaires sent to them. Since the questionnaires contained both closed and open-ended items, they were analysed separately. The data collected was cleaned, coded, and the close-ended responses were entered into an SPSS data analysis programme (IBM SPSS Statistics 25.0.0.1). Subsequently, the data was checked for errors and typographical mistakes prior to the final analysis. The open-ended responses on the other hand were analysed using content analysis techniques, to identify and organize the common themes detected in accordance with guidelines defined by [36].

5 RESULTS AND DISCUSSIONS

5.1 ACADEMIC RANK AND DEPARTMENT OF RESPONDENTS

The academic positions of those who responded to the questionnaires cut across Senior Lecturers, Lecturers and Assistant Lecturers. Per the analysis, 10.9% of them are Senior Lecturers, 61% are Lecturers, while 27.3% of them are Assistant Lecturers. The chart captured below in figure 1., showed the participating Departments and the percentages of the respondents from those Departments who participated in the study.

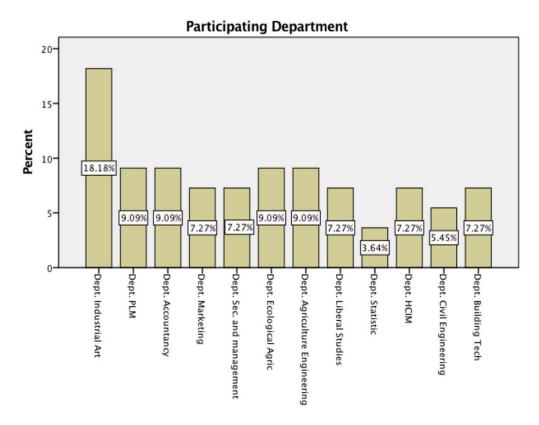


Fig. 1. Departments of participating respondents

5.2 KNOWLEDGE AND SOURCES OF AWARENESS OF OPEN ACCESS JOURNALS

Virtually all the respondents (100%) seem to have knowledge of Open Access Journals (OAJs). Out of the 55 respondents studied, two of them (3.6%) averred that they got to know about OAJs through friends, whiles 33 (60.0%) of the interviewees claimed they knew about OAJs through colleagues. The third group of 19 (34.5%) respondents pointed out that they learnt about OAJs from the internet. One respondent (1.8%) maintained he was contacted directly by an OAJ.

5.3 PUBLICATION IN OAJS AND REASONS FOR CHOOSING AN OAJS

Quite a large chunk of the respondents had published in various OAJs. Indeed, 42 (76.4%) respondents indicated they had published in OAJs, as opposed the remaining 13 (23.6%) respondents who did not. They cited various reasons such as reasonably-priced publishing costs (21.8%), speedy publishing timeframes (1.8%), accessibility (30.9%), and journal reputation (21.8%), as some of the key motivating factors for considering an OAJ.

5.4 CRITERIA FOR SELECTING AN OAJ

The bar chart captured in figure 2. below illustrate the criteria used by the respondents in selecting an OAJ in which to publish their works.

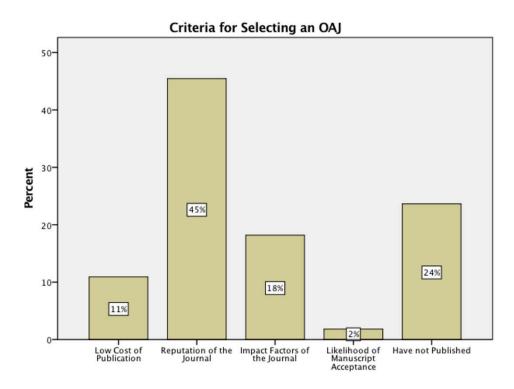


Fig. 2. Criteria for selecting an OAJ

5.5 Manuscript Review Models and Publication Costs

The study revealed that all the respondents who published in OAJs had their manuscripts reviewed either using single-peer review, double-blind review, or open peer review models. Largely, as shown in figure 3. below, 67% of the respondents said their manuscripts were reviewed using double-blind review system, while 7% pointed out that the OAJ they published in used single-peer review model. The remaining 2% of respondents claimed their journal used open peer review models.

Peer-review Models used by the OAJs

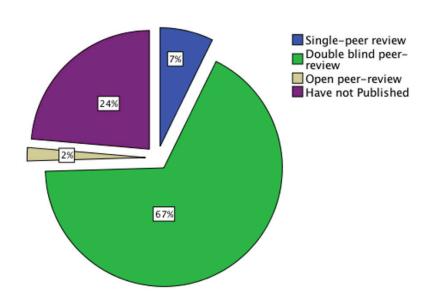


Fig. 3. Peer Review models used by OAJs respondents published in

The findings showed that 76.4% of all the respondents who published in OAJs were charged various article-processing charges ranging from \$50 - \$500, while 23.6% of the respondents indicated they were not charged any article processing charges. Table 1. below showed the various charges paid by the respondents.

Table 1. Article processing charges

Responses	Frequency	Percent
Between 100 -200	34	61.8
Between 250 -500	4	7.3
Between 50 -100	4	7.3
No Charges	13	23.6
Total	55	100.0

With the exception of one respondent who explained that his publication charge was paid by the institution, all the other respondents who published their works in the various OAJs said they paid the article processing fees themselves.

5.6 THE USE OF ARTICLES FROM OAJS

In response to whether they would use articles from OAJs, overwhelmingly, 100% of all the respondent answered in the affirmative. All of the respondents equally concurred they would encourage their students to use materials from OAJs in their academic works.

5.7 USEFULNESS OF OAJS IN SUBJECT AREAS OF SPECIALIZATION

In varying degrees, the respondents believe OAJs are useful in their various subject areas of specialization. Table .2 below, illustrate the varied responses of the interviewees.

Table 2. Usefulness of OAJs in subject areas of specialization

Responses	Frequency	Percent
Very Useful	24	43.6
Useful	29	52.7
Somehow Useful	2	3.6
Total	55	100.0

5.8 AWARENESS OF THE PREDATORY ACTIVITIES OF OAJS

Generally, 43 (78.2%) of the respondents appeared to be aware of predatory OAJs, as against 12 (21.8%) of the respondents who seem to be oblivious of their presence. The study subsequently revealed that only 2 (3.6%) of the respondents were spammed by some OAJs.

5.9 GENERAL OPINION ABOUT OAJS

The information in Table 3 below sums up the general opinion of the respondents relating to OAJs.

Table 3. General opinion about OAJs

Responses	Frequency	Percent
Good	35	63.6
Good but Costly	2	3.6
Good and Less expensive	18	32.7
Total	55	100.0

6 DISCUSSIONS

The study showed convincingly that a very large number of the academic staff of Bolgatanga Polytechnic are aware of OAJs. A good number of them (76.4%) had published and accessed materials from various OAJs. The respondents explained that OAJs made it possible for them to access subject-specific materials which were used in the preparation of their teaching materials, and in grounding their research works for publication. All those who had published in OAJs (76.4%) concurred that the platform offered them the opportunity to speedily publish their manuscripts, thereby fastening-up their promotion.

Equally, a substantial chunk of the respondents (78.2%) are aware of predatory OAJs, and 3.6% of the respondents had been contacted by some of these OAJs. Even though those spammed by predatory OAJs are quite small, the fact that their activities could be detected among the population under study, sends a clear signal that there are some sub-standard OAJs, bent on perpetrating their activities among the academic staff of the aforementioned institution. This calls for clear regulatory frameworks by the institution, to ensure that staff of the institution are not hoodwinked by these sub-standard OAJs to circulate mediocre research findings, or engage in academic misbehaviours such as those identified above by reference [29] in his studies. Indeed, as succinctly articulated by the Open Access Scholarly Publishing Association (OASPA), "the publishing community needs stronger mechanisms to help identify reliable and rigorous journals and publishers, regardless of access or business model" [37]. Obviously, these regulatory mechanisms would greatly help in weeding out unscrupulous OAJs and sanitize the academic publishing environment.

Generally, the findings conclusively demonstrated that OAJs have become the most preferred medium for disseminating research findings by the academic staff of Bolgatanga Polytechnic. This revelation points to the fact that academicians in the above-mentioned institution are knowledgeable in contemporary academic publishing trends, and could therefore be deemed to be abreast with time. This finding necessitates the need for the creation of a pool of credible multidisciplinary OAJs by the institution, which could be patronized by the staff and students of the institution. This, apart from ensuring access to credible research materials and the publication of same, would also eradicate the tendency of staff of the institution spending large sums of money in publishing their works, only for these works to be rejected during assessment for promotions due to their inferior qualities.

7 CONCLUSIONS

All the academic staff of Bolgatanga Polytechnic are aware of OAJs, and a substantial number of them had patronized their services in varied ways. The study conclusively showed that the respondents had downloaded and used published materials from OAJs in the preparation of their manuscripts and teaching notes, and had also published their manuscripts in some of them. The respondents indicated that the OAJs they had worked with are reliable platforms, due to their rigorous manuscript reviewing systems. Generally, the respondents agreed that OAJs are useful academic platforms which aid in disseminating scholarly materials, which could be freely accessed by many. There is however the need for detailed regulatory mechanisms to guide the academic staff of Bolgatanga Polytechnic in selecting competent and credible OAJs to do business with.

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