Towards innovation in digital and open scholarship for non-rivalrous lifelong learning and supporting open learning: The case of the Open Scholars Network

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The Open Scholars Network was created with an agenda to respond to the increasing inaccessibility of higher education to underprivileged learners in Rwanda, and to the need for open scholarship and digital scholarship development among academics in this country. The network emerged from a study on opening up higher education. It consists of academics/teachers who are trained or are willing to develop competences in open education, distance education, eLearning, open scholarship and digital scholarship via non-rivalrous lifelong learning. In this paper, definitions of the *open scholarship* and *digital scholarship* concepts in the relevant literature are noted. Then, the study results and contextual challenges that led to the creation of the Open Scholars Network are presented. Finally, the current and envisaged contribution of the network to open/ digital scholarship development and opening up higher education is discussed. This article may be beneficial to educators, open scholars and digital scholars in both well-resourced and under-resourced settings.

1. Background

The Open Scholars Network started as a Facebook community that emerged from a PhD study that focused on opening up higher education in Rwanda. Part of this study was conducted at the University of Rwanda. The researcher had taught in one of the public higher education institutions that were merged into the University of Rwanda; the only public higher education institution in this country since September 2013. The study had a "transformative mixed methods" design (Creswell, 2014, p.16): Beyond research results based on qualitative and quantitative data, the study intended to catalyse action that contributes to opening up higher education, through enabling policies and practices. The study results that led to the creation of the Open Scholars Network are presented after a brief exploration of the definitions of *open scholarship and digital scholarship in the literature.*

2. Open scholarship and digital scholarship

The concepts of open *scholarship* and *digital scholarship* have been defined in diverse ways in the related literature. According to Weller (2011, p. 51 and 98), the two concepts can be seen as almost synonymous. However, Weller (2014, p. 135) clarifies the difference between *digital scholarship* and open scholarship:

'Digital' and 'open' are not necessarily synonymous of course – someone could create all their outputs in digital format but store them on a local hard disk, publish in journals that are not open access and not establish an online identity.

While the purpose of the current paper is not to provide comprehensive definitions of the two concepts, it is worth exploring briefly some of the most inclusive definitions.

Veletsianos & Kimmons (2012, p. 168) include publishing in open access journals, maintaining a digital presence by writing blogs and microblogs, participating in social networks, contributing and using Open Educational Resources (OER) a well as leading and engaging in open courses among the main characteristics of open scholarship. In a similar direction, Weller (2011, p. 99-100) proposes characteristics of open scholarship which include having a distributed online identity, participation in and regular contribution to social networks via Twitter, Facebook or similar media, engagement with open publishing, trying new technologies and using new technologies to support teaching and learning. Similarly, Weller (2014) includes networked practice, academic identity built on values and a new/unique approach to research among components of open scholarship. Weller (2014, p. 150) argues that the key characteristic of open scholarship is the freedom it offers. As for digital scholarship, it may include curation and collection of digital resources, building digital collections of information for analysis, creating tools for such collections, generating new intellectual products from those collections, preservation of digital artefacts, digitisation of content etc. (Weller, 2011, pp. 42-44). Weller (ibid) notes that the interpretation of digital scholarship may vary across disciplines (p. 44). Open scholarship and digital scholarship practices within the Open Scholars Network are discussed in a later section in this paper. Before discussing those practices, however, it is worth having a look at a constellation of the PhD study results and other factors that led to the network creation.

3. Some of the research results and factors behind the Open Scholars Network creation

The main focus of this paper is the *Open Scholars Network*, rather than the discussion of the study results that catalysed the creation of this network. However, for a better understanding of the network's agenda and its potential contribution to teachers' professional, open scholarship and digital scholarship development, it is worth having a look at some of the results.

Academics' willingness to engage in open scholarship and digital scholarship development

In an email questionnaire addressed to academics (mostly teachers) to investigate their potential contribution to opening up higher education, the majority of participants had expressed the willingness to engage in open scholarship and digital scholarship practices if this engagement is supported by an institutional policy. Out of 85 participants who completed and returned the questionnaire, 47 of them (about 55.3 %) reported that they would participate in open courses and evaluate the quality of these courses. Fifty participants (about 58.8%) would engage in aggregation of OER while 56 participants (about 66.8%) would engage in OER and open course adaptation. Fifty-two participants (about 61.2%) would design an OER-based open course, 42 (about 49.4 %) would tutor an open course for credit and 40 (about 47%) would assist a tutor in an open course for credit. Moreover, 61 participants (about 71.7%) were willing to contribute OER by publishing their own work under an open licence as long as no cost is incurred, and their published work leads to promotion.

Academics were also willing to engage in open scholarship and digital scholarship by using different social media to support open learning. Figure 1 illustrates the extent to which academics were willing to use social media for supporting open learning in four ways: dissemination of important information to open learners (1), discussion of the learning content with open learners (2), mentoring open learners (3), and assigning collaborative work to open learners (4). Overall, an overwhelming majority of participants expressed willingness to use different social media to support open learning in one or several ways. Proportions of participants who would never use social media to support open learning were low: about 27% for Wiki, about 26% for Viber, 20% for LinkedIn, about 19% for Facebook and blog, about 16.5% for Twitter, about 10.6% for Skype and WhatApp and about 9.4% for Google Docs. Arguably, academics' use of different social media to support open learning would help develop open scholarship and digital scholarship among learners.
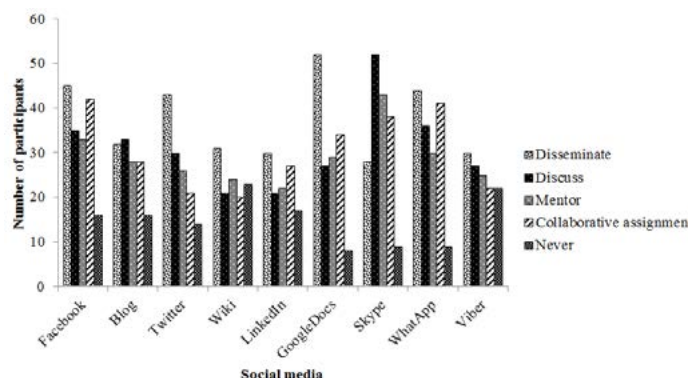
Figure 1 Academics' willingness to use social media to support open learning

Some academics had expressed the need for training in using social media to support learning, or had requested the researcher to organise a workshop on opening up higher education. In his three month field work, the researcher had planned related presentations at various University of Rwanda's campuses and three presentation sessions were held. No academics attended the first session. The second session was attended by 8 academics while the third one was attended by 23 academics. Parallel meetings and clinical supervisions were the main inhibitors to academics' attendance. More importantly, some sessions that had been scheduled were cancelled, often on short notice, because the presentation venue had to host other events that were given more priority.

Policy environment at the University of Rwanda

1. The Open access policy and procedures and its potential implication

In March 2015, the University of Rwanda published an *open access policy* and *procedures* document (The University of Rwanda, 2015a). In this policy document, the university expresses its commitment to encourage its researchers (most of whom are also teachers) to publish their work in open access journals (p.1). Weller (2014, p. 7) distinguishes three open access publishing routes: the *Platinum* route, the *Gold* route and the *Green* route. In the *Platinum* route, an article is published in an open access journal with an open licence and the author or her/his institution is not required to pay Article Processing Charges (APCs). In the *Gold route*, an article is published in an open access journal or a proprietary journal under an open licence, but the author or her/his institution is required to pay APCs. By default, the *Gold* open access publishing route shifts the financial burden from institutions that have traditionally

been paying subscription fees to access bundles of academic articles or books published with *All-right-reserved* to authors who are required to pay APCs to publish their work with an open licence. Well-resourced institutions relieve their employees from this financial burden by paying APCs on their behalf. In the *Green route*, an article is published in a proprietary journal with *All-right-reserved*, but its earlier version is uploaded on authors' websites or their institutions' repositories. Publishers may impose an embargo for a specific period before authors are allowed to release the earlier version under an open licence. In the University of Rwanda's open access policy and procedures, the *Platinum* route is confounded with the *Gold route.*

At this university, research funds are so limited that a huge number of academics would have to cover APCs, on their own, to publish within the *Gold* open access publishing route. The confusion of the *Gold* and the *Platinum* open access publishing routes in the university's open access policy and procedures may expose these academics to predatory and vanity publishers (Brown, 2015). The *Gold* route seems to offer a safe haven to such publishers who tend to have maximisation of profits as priority over the quality of published articles. Authors who do not have enough information on different open access publishing routes may be easy prey for predatory and vanity publishers. In the context of Rwanda, academics may end up paying up to the sum of their six month salaries. This was the case for one teaching staff member who invited the researcher to co-author a journal article, the invitation declined after noting that the publishers charged exorbitant APCs. Instead, the researcher co-authored the current article with other teachers who are members of the Open Scholars Network since it would be published within the *Platinum* route.

Unlike the *Gold* route which seems to be favourable to predatory and vanity publishers and the *Green* route that grant publishers the power to monopolise ownership of or financial benefit from the content, the *Platinum* route seems to be safe and of most (financial) benefit to authors (and their institutions). In the *Platinum* route, no payment of APCs is required from neither authors nor their institutions, and this may guarantee that the publication within this route is based on the quality of the articles rather than the money paid by the authors or their institutions. In addition, institutions have an open access to articles published within this route from the day the articles are published, without incurring any cost to any member of respective institutions' communities. Moreover, authors who publish within the Platinum route often remain copyright

holders who voluntarily share their work under an open licence without being charged money for their open sharing practice. This contributes to the distribution of power and freedom between the publishers, the authors and the users of the content.

The University of Rwanda's commitment to pay APCs for its employees who want to publish their work under an open licence may lead to cost recovery by increasing tuition fees. This would exacerbate inaccessibility of higher education in Rwanda. In this setting, financial difficulties already inhibit the inclusion of an overwhelming number of secondary education graduates who qualify and wish to attend higher education. One of the University of Rwanda's teachers who had participated in the study that informed the start of the Open Scholars Network shared a link to an article of a local online newsletter that covered the growing socioeconomic inequality in terms of access to higher education. According to Igihe (2015), a University of Rwanda's senior official revealed that about half of 11,788 students who had been admitted at this university were unable to register and attend classes due to financial difficulties. This information was corroborated by the University of Rwanda Registrar's office and the university's 2015 statistics. According to the statistics, only 6756 students (57.3 per cent of the 11,788 students who had been admitted) registered in 2014/2015 (The University of Rwanda, 2015b, p. 20). In a similar direction, one of the students who participated in the study mentioned that many of the students who were admitted at the university based on their high performance in the national exams were denied student loans, and consequently, they were unable to register and attend classes.

Despite the commitment to promote open access publishing and encourage its employees to publish their research articles in open access journals explicitly expressed in the University of Rwanda's open access policy and procedures, no effort was made to raise awareness of different open access publishing routes among this university's academics. An interview with a University of Rwanda's official revealed that raising this awareness was not on agenda. "We do not focus really on open access or not… we would like our staff to publish in credible journals… whether they are open access or not, it doesn't matter as far as we are concerned", so stated the informant when the researcher asked her the university's position on raising academics' awareness on the Platinum route. This official recognised that some open access journals are highly credible though.

2. General academic regulations for open and distance learning programmes

In most of its part, the document that contains the "general academic regulations for open and distance learning programmes" (University of Rwanda, 2014) copies practices from traditional education. In this document, open and distance education strategies the university intends to use to open up education to more learners in need are not clarified. As discussed in the previous subsection, academics expressed willingness to engage in different open and digital scholarship practices to support open learning. However, the institutional support/recognition of engagement in those practices is not specified in this document. The policy document has a section dedicated to assessment. The focus of this section seems to be assessment in the traditional education context, and it is not clear how this apply to open learning. Procedures to assess the accomplishment from open learning practices are not included in this policy document. Challenges that inhibited the accommodation of a significant proportion of learners who had been admitted on merit basis at University of Rwanda (as discussed previously) relate to the shortage of financial resources. When the demand is higher than the availability of financial resources and other rivalrous resources discussed in the following section, those resources cannot be accessed and used without preventing a certain proportion of people in need from enjoying the same privilege of access and use. This seems to be what happened to secondary education graduates who had been admitted at the University of Rwanda on merit basis but were denied student loans, which led to their drop out. The "general academic regulations for open and distance learning programmes" document does not indicate any plan to innovate beyond the rivalrousness of such resources to open up education to those learners and many other underprivileged learners who are not included in the higher education system against their wishes.

4. The Open Scholars Network and its agenda to innovate beyond rivalrous resources

The Open Scholars Network was created by teachers who want to innovate within the prevailing shortage of resources that inhibits access to higher education as well as teachers' professional development opportunities. It started in June 2015 and adopted the motto "*Innovating in non-rivalrous higher education and lifelong learning*". Response to the needs

expressed by teachers who participated in the study from which the network emerged and the increasing inaccessibility of higher education to underprivileged secondary education graduates in Rwanda are among priorities on the network agenda. Its activities are mediated in a private Facebook community that is exclusively open to teachers and other stakeholders who have demonstrated interest and abide to the network's agenda.

Members of this network intend to develop and expand open scholarship and digital scholarship competencies (Weller, 2011; Veletsianos & Kimmons, 2012; Weller, 2014) in order to move beyond the contextual barriers. To reach their objective using limited resources available, they avoid an overreliance *on rivalrous* resources that are already in shortage in the target setting. As opposed to non-rivalrous resources (Weller, 2011, p. 85) which are accessed and used without preventing others from accessing and using the same resources, access to and use of rivalrous resources often entail competition and sometimes exclusion. Nkuyubwatsi (2015, pp. 47-48) identified five categories of resources needed for open education and discusses their rivalrousness. Those categories include *political resources* which encompass powers vested in people, boards, commissions and institutions and are used to formulate the politics, visions, missions, agendas, policies and strategies that govern education. These resources are rivalrous, but they can contribute to non-rivalrous education if they are used to develop policies that underpin open licensing on educational resources as well as assessment and credentialisation of accomplishment from open learning. Other categories of resources include *financial resources* (rivalrous), *technological resources* (rivalrous), *pedagogical resources* (some are rivalrous, other are not) and *heutagogical resources* (non-rivalrous). A sixth category of resources, *Infrastructural resources*, can also be distinguished to encompass resources related to physical infrastructure which was also discussed in Nkuyubwatsi (ibid). *Infrastructural resources* may include offices, examination rooms, tutorial session rooms, laboratory rooms, computer lab rooms, seminar rooms, etc. While the main focus of this paper is not on a detailed discussion of those resources, Figure 2 encapsulates them, their rivalrousness and stakeholders who control/manage them.
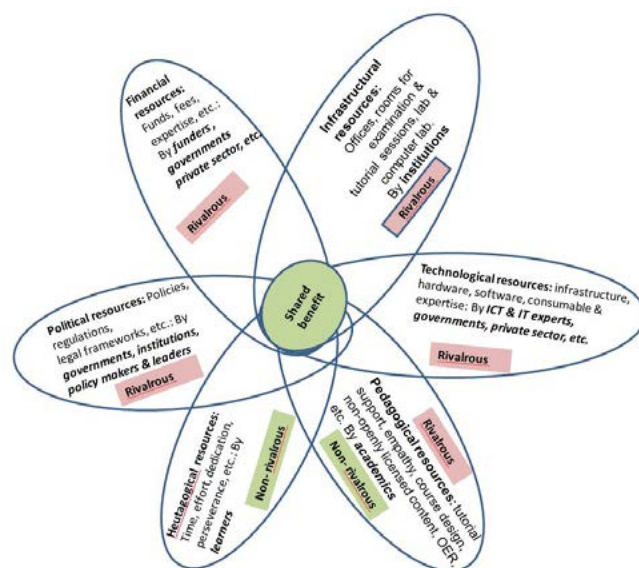

Figure 2 Resources needed for open (and opening up) education within a collaborative framework

Although the network is still in its infancy, it has already started moving beyond contextual barriers to make the intended contribution. The current article was co-authored through a virtual collaboration of members of the network who were located on three continents. All the co-authors were linked to the University of Rwanda (or a former public higher education institution that was merged to others to form this university) as teachers, but some of them were on leave for more advanced studies. This is what led to their dispersion across three continents. The virtual collaboration between the co-authors mediated by Internet and digital technologies is arguably another aspect that can be accommodated in digital scholarship in its broader sense (Weller, 2011, p. 4). This collaboration happened with a minimal consumption of rivalrous resources. Moreover, the *Platinum* open access publishing route within which the article is published enabled the co-authors to publish in an open access journal; one of open scholarship practices (Veletsianos & Kimmons, 2012).

The current article will hopefully raise awareness of the *Platinum* open access publishing route and its benefits at the University of Rwanda and other settings. This awareness is already needed at this university, especially in academia, but it could not be raised due to the rivalrousness of infrastructural resources in the institution. As discussed earlier, the lack of information on this open access publishing route constitutes a danger to academics who may be targeted by predatory and vanity publishers (Brown, 2015). Members of the Open

Scholars Network could not afford to wait for the University of Rwanda to organise a workshop/seminar or a related event for its teaching and research staff to receive related training/information. As noted earlier, an interview with the university's official who participated in the study from which the network emerged revealed that the institution had no agenda to raise such awareness.

The Open Scholars Network is not expected to be affected by the rivalrousness of political and infrastructural resources since it is not subjected to a hierarchical and bureaucratic system. The network abides to open sharing of knowledge and information. It uses web 2.0 technologies (starting with Facebook) that democratically enable any member to contribute to the network anytime, anywhere and as much as s/he likes. Such technologies enable the network to overcome bureaucratic and hierarchical barriers and challenges associated with physical infrastructure and competing parallel events. Activities of this network will not need to be cancelled and members of the network will not miss those activities because of competing or parallel events as it was the case for presentations that relied on bureaucratic arrangement and physical infrastructure. The web 2.0 technologies the network relies on enable asynchronous participation and contribution. Members of this network envisage taking advantage of these technologies and similar mobile technologies to create opportunities for underprivileged learners who qualify and wish to attend higher education but have not been included yet. While the network is still forming, it is too early to predict the exact outcomes of its practices. At the moment, however, there is at least certainty that the network has already started its contribution. The current article is one of its early contributions to advancing knowledge in the fields related to open education, open scholarship and digital scholarship.

5. Conclusion

The Open Scholars Network emerged from a research study on opening up higher education in Rwanda. The network intends to foster academics' professional development in open scholarship, digital scholarship, open education and eLearning without relying on rivalrous resources. This development may help the network members contribute to addressing the increasing inequalities in higher education linked to the shortage of funds for student loans. The ultimate goal of the network is to innovate in open scholarship, digital scholarship and non-rivalrous education with an agenda to contribute to

the accommodation of secondary education graduates who qualify and wish to attend higher education but have not been included in the system.

6. Acknowledgement

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