ONLINE ABSTRACT MENTORING FOR INDUCTING EARLY CAREER HIV RESEARCHERS INTO SCIENTIFIC LITERACY PRACTICES: EXPERIENCES FROM THE INTERNATIONAL AIDS CONFERENCES

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ABSTRACT
Many early career HIV researchers from resource-limited settings are not familiar with the practices of writing up and publishing research for competitive international conferences or journals. Yet, there is an increasing need for research – and its dissemination – by early-career practitioner-researchers, who are producing knowledge from the front lines of practice. This will support continuous improvement in scaling-up HIV prevention, treatment, care and support, and research capacity building. This paper reports on an online abstract mentoring programme conducted by the International AIDS Society aimed at early career researchers. The programme began in 2004, and, in its current form, took place before the AIDS 2008 and IAS 2009 conferences. The paper explores how online mentoring can, in addition to building useful skills, enhance the induction of novices into the literacy practices of a global learning community. With a situated and constructivist view of online teaching and learning, I consider the implications for redesigning future global AIDS conferences as collaborative capacity-building spaces, via the use of Web 2.0 technologies that can make access to desirable literacy practices more equitable.

KEYWORDS
Online mentoring, HIV AIDS, literacy, social practice, abstract writing, learning as participation.

1. ONLINE MENTORING FOR IMPROVING SCIENTIFIC WRITING

There is an urgent need for more and better research from the places where the issues and challenges of scaling-up HIV treatment, prevention, and care are being tackled currently, as they can impact the strengthening of health systems (Zewdie et. al, 2008). However, junior HIV researchers who work in resource-limited settings often lack both ‘hard’ resources, such as basic laboratory equipment, and ‘soft’ resources, such as rigorous mentoring in research design and writing. They thus find it challenging to disseminate their research at international, peer-reviewed conferences and in journals. This group of professionals comprises not only scientists and clinicians, but also advocates, activists, community workers and social counsellors working in HIV treatment, prevention and care. The situation is complicated by the lack of investment in improving national health research systems (Kirgia and Wambebe, 2006), which inhibits the emergence of a research culture. We recognise that this can leave many early career researchers low in morale, wondering when and if they would ever experience success in the ‘publish or perish’ academic culture.

As the custodian and convenor of the International AIDS Conference, the International AIDS Society (IAS) is tasked with enhancing access, widening participation, and increasing the quality of HIV research carried out by researchers from resource-limited settings. To this end, an online abstract mentoring system was created during the abstract submission period (Nov 1 08 - Feb 25 '09) of the upcoming IAS 2009 conference (July 19-22 ’09). This project was implemented by the IAS, and is an expansion of a programme from the AIDS 2008 conference. The programme’s aim is to help diverse types of HIV researchers from around the world prepare abstracts of their work. These researchers submit draft abstracts online by filling in a form that provides step-by-step guidance on the format and content of an abstract. In addition, self-help tools are provided online to increase the researchers’ understanding of the processes of abstract writing, submission, and selection. The mentoring is provided by experienced abstract writers, who give structured feedback on draft abstracts. The online platform is incorporated into the IAS 2009 conference website (www.ias2009.org/mentor), which all
delegates visit as the one-stop portal for the conference programme and services. The site is also marketed to networks of HIV professionals and researchers, including IAS members, and previous conference delegates.

Incorporating this online abstract mentoring platform into the conference programme can potentially improve the secretariat’s capacity to mentor early career HIV researchers from a distance. This is a response to the need to improve access among under-represented groups, and reduce the rejection rate due to poorly conceived abstracts. Before online mentoring was provided, previous abstract reviewers were surveyed to find out their reasons for rejecting abstracts. In addition, a set of FAQs and examples of good/bad abstracts was developed. A pool of mentors was then recruited for each track in the conference.

This innovative and creative use of technology, informed by research into learning as participation in a community of practice rather than the transmission of functional skills, offers new possibilities for inducting novice researchers into a global scientific learning community. It takes into account that reading and writing science is a literacy practice that is socially situated, so that learning to participate is about acquiring desirable literacy practices.

2. MENTORING TO INDUCT NOVICES INTO A LEARNING COMMUNITY

As the global HIV epidemic enters its third decade, medical, social-behavioural and policy developments worldwide need to be shared. Historically, developed-country researchers have dominated international dialogue on infectious diseases, thanks to intensive scientific mentoring in university-based programmes that tend to be longer in duration and allow greater scope for nurturing relationships. In contrast, the level of mentoring available for early career HIV researchers in developing countries has been insufficient. In recent years, the practice of online mentoring for professional development and distance graduate education has increased, whether for nurses (Melrose 2006), teachers (Brady and Schuck, 2005; Thomas, 2005), or librarians (Hines, 2007). In fact, the use of e-learning for inducting early career professionals has also expanded to professions such as scientists and engineers (Malchow, 2001), managers, and entrepreneurs (APESMA, 2003). All of these are examples of online mentoring networks with dedicated resources and systematic programming. The imperative is very clear: that more online mentoring, which directly targets young and early career researchers is urgently needed to socialize them into the HIV global community of practice, supported by collaboration between professional experts and peers, and newcomers.

The IAS began a limited mentoring service directed at early career abstract submitters for the AIDS 2004 conferences. Initially, it intended to provide abstract submitters an opportunity to improve their abstracts by asking questions to mentors through email. Over the years, it gradually expanded to include providing a downloadable abstract writing toolkit in a number of languages. The toolkit was prepared by John Miller from the Coalition for Children affected by AIDS, (CCABA), to support community-based HIV organisations prepare abstracts to present and share their work with international audiences. It walks abstract writers through a process with the help of a conceptual checklist, a writing guide, probing questions, and oral and poster presentation drafting templates. Figure 1 shows Page 6 of the toolkit, which explores the notion of ‘interesting’ from the point of view of abstract reviewers and potential audiences at conferences.
For AIDS 2008, this service was expanded to include other resources, such as a list of FAQs, a list of the ‘Top 5 reasons why abstracts are rejected’, and samples of good and bad abstracts for the purpose of comparison. While these self-study resources are enabling, submitters desired an opportunity for actual review and inquiry of their ideas with peers and experts that they were not able to access at home. Based on the evaluation of the 2008 programme, an online submission system was then developed in-house for 2009, with the collaboration of the Conference Programme, Education, and IT departments. The project team also felt that such a process, linked to delegates’ profiles, would strengthen relationships by providing a value-added service to the community we serve. With this in mind, the team designed and implemented a system leveraging online technologies to scaffold learning, rather than the informal Q&A approach used hitherto, thereby instituting a conceptual leap forward.

Through this system, submitters were guided to develop their draft abstract according to its sub-sections – background, methods, results and conclusion – as well as upload accompanying figures or tables, and ask questions on specific issues they might have. Figures 2 and 3 show screenshots, from the conference website, of the online form through which abstract submitters are guided to submit their work for mentoring:

Figures 2 and 3. Screenshots of the Online Abstract Mentor Programme for IAS 2009
It is anticipated that through such scaffolding, abstract submitters will learn how to compose an abstract sequentially, while being exposed to a rich online learning environment before actually submitting a completed abstract for review. Importantly, the abstract scoring guidelines were also published. This helped to familiarize submitters with the peer-review process for their abstracts, and enhance their understanding of what can be perceived as a confusing and opaque process. Mentors are recruited from the group of expert HIV researchers on the IAS Governing Council, as well as from the pool of high-scoring abstract submitters who had won scholarships and prizes at the previous conference. Mentors are provided with a feedback form to guide their responses, although some mentors prefer to use the "track changes" and "insert comments" function in Microsoft Word to edit the abstracts directly. The feedback is intended to: a) clarify confusion over research design (such as hypothesis testing) and the appropriateness of the methods used, b) provide suggestions on grammar, structure, and the choice of track and ‘category’, and c) clarify the maturity of the study, that is whether the data was too preliminary, or if the research would be a useful contribution to research on HIV. Figure 4 shows an example of feedback provided by a mentor who used the guidelines provided.
Online resources on scientific writing are also provided, such as linking to the AuthorAid self-learning resources and mentoring system (www.authoraid.info). This provides practical ways to stimulate the interest and understanding of early career researchers on the various genres of scientific writing.

The project is unique as it aims to induct abstract writers into scientific literacy practices, moving away from teaching them disembodied writing skills. This is in line with current thinking that literacy is a social practice (Street, 2001), situated and mediated through our connections with the world around us; the meaning of writing an abstract is thus produced and enacted in a particular social context. The International AIDS conferences provide such a context for young and early career researchers. Enabling and equipping them with online mentoring exposes them to the norms and practices of abstract preparation and submission, thus facilitating their gradual participation in a community of practice (Lave and Wenger, 1991; Wenger, 1998), even before the actual physical conference experience. Learning is now conceptualized as a process of “apprenticeship”, where apprentices collaborate in social practices with mentors to acquire and construct new forms of interaction and thinking (Vygotsky, 1978). Through such apprenticeship, abstract submitters (novices/apprentices) take on tasks, explore artefacts, and ‘learn to be’ through a process that has been described as ‘legitimate peripheral participation’ (Seely, Brown and Adler, 2008), consequently developing a sense of belonging and constructing their identity as they learn quite new ways to use and value their literacy.

3. THE IMPACT OF ONLINE ABSTRACT MENTORING
While the abstract mentoring programme for the upcoming IAS 2009 conference has just ended, there are promising results from the one conducted prior to AIDS 2008. Its impact can be assessed in two ways: the quantifiable outcome of the number of mentored abstracts that were successfully accepted for the two conferences; and the perceptions of mentors and submitters about the programme itself. The number of successfully accepted abstracts was obtained from the organization handling abstract submissions, while the perceptions of participants were gathered through online surveys sent immediately after the programme closed.

The total number of mentors and abstract authors, and the number of abstracts received, mentored, submitted and accepted for AIDS 2008 and IAS 2009 is summarized in Table 1 below.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>AIDS 2008</th>
<th>IAS 2009</th>
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<tbody>
<tr>
<td>Number of Mentors</td>
<td>42 signed up; 26 received an abstract, out of which 18 reviewed at least one abstract</td>
<td>63 signed up; of which 43 reviewed at least one abstract</td>
</tr>
<tr>
<td>Number of Abstract Submitters (some submitted several abstracts for mentoring)</td>
<td>66</td>
<td>95</td>
</tr>
<tr>
<td>Number of abstracts received for mentoring</td>
<td>80</td>
<td>118</td>
</tr>
<tr>
<td>Number of abstracts reviewed by mentors</td>
<td>78</td>
<td>118</td>
</tr>
<tr>
<td>Number of mentored abstracts submitted for the conference</td>
<td>59</td>
<td>73</td>
</tr>
<tr>
<td>Number of mentored abstracts eventually accepted for the conference</td>
<td>(30 Poster Exhibition, 13 CD-ROM, 2 Oral Abstract sessions, 1 Poster Discussion and 1 poster back up). Note: 6 authors had more than 1 abstract accepted.</td>
<td>(2 poster Exhibition, 25 CD-ROM, 1 Oral Abstract session, 18 Poster Discussion sessions). Note: 3 authors had more than 1 abstract accepted; 2 authors from non scientific background had an abstract accepted</td>
</tr>
<tr>
<td>Number of successful mentored abstracts from low- and middle-income countries (based on World Bank classification)</td>
<td>42</td>
<td>43</td>
</tr>
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The above table shows that for AIDS 2008, among mentored abstracts, 76% were finally submitted for the conference programme, out of which 80% were accepted. Therefore, the programme helped about 40 conference delegates successfully submit an abstract for AIDS 2008. In contrast, for IAS 2009, the data so far reveals an increase in the number of abstracts submitted and mentored. This can be attributed to better promotion of the programme, at workshops, and through the Internet.

As part of the continuous evaluation process, abstract submitters who used the programme were surveyed for both conferences. The vast majority of respondents (n=35, n=66) reported to have used the self-help tools available on the conference website and rated them as useful. The most commonly used tool was the “Top 5 reasons why abstracts are rejected” (71% and 70% of respondents). The three other tools, namely the online toolkit, FAQs and prize-winning abstracts from previous conferences were used by more than 40% of respondents. As for support from mentors, most submitters who responded (97%) indicated that their answers were “useful” or “very useful” and 73.5% reported it was quick. For IAS 2009, 45% of the 66 respondents perceived the feedback they received from mentors to be either ‘easy’ or ‘very easy’ to interpret. One positive indicator of the quality of mentoring was the decline in the use of the online self-help tools among surveyed abstract submitters to complement the feedback they received from mentors. While 95% of them accessed these tools at registration time, only 57% did so after mentoring.

As an indicator of the added value of such a programme, more than 90% of respondents for AIDS 2008, and almost all for IAS 2009, would recommend the programme to other abstract authors and would use it again. As one author commented,

“As a junior HIV researcher, I valued the opportunity provided by participating in the abstract mentoring, to get into print and present at AIDS conferences. It extended my sense of the worth of my contributions from Argentina, studying issues that are not discussed elsewhere as cryptococcal meningitis and Chagas’ disease. This programme allows fellows physicians to improve their writing skills and gain confidence for submitting abstracts to leading events such as IAS conferences.”
The opportunities to get into print and present at conferences enabled a professional valuing of the experience and extended the sense of the worth of early career researchers’ contributions. Learning to write and argue for a wider readership was significant in repositioning them as more than data collectors who fit their bit into developed country university researchers’ work. Showing their own research to the wider profession impacted their self-esteem, promotion opportunities and professional credibility.

The six mentors who shared their opinions on the AIDS 2008 programme indicated their willingness to offer their services again for the IAS 2009 conference. Of the 31 mentors who completed the online survey for IAS 2009, 83% perceived the guidelines provided for mentors had allowed them to save time, and were a good way to provide abstract writers with structured feedback.

However, the small size of the mentor team (18 for AIDS 2008 and 43 for IAS 2009 respectively) and their considerable existing workload precluded significant expansion of mentoring beyond the short abstract submission period, without allocating dedicated funding. Other suggestions for programme improvement include giving more attention to abstract writers for whom English is not a first language, and those from non-scientific backgrounds. Thus, in order to facilitate continuous collaboration between mentors and abstract writers, more investment in developing online forums and tailored mentoring would also be necessary, given the great unmet need.

4. THE PROMISE OF ONLINE MENTORING FOR PROFESSIONAL INDUCTION

Beyond the measurable outputs, there are also other factors that enable mentoring-at-a-distance to be successful in inducting novices into literacy practices. First of all, with online scaffolding, and exposure to relevant artefacts, writing becomes a social, visual and collaborative process, rather than a solitary one. Technology connects a learner in a ‘resource-poor’ setting to improve her learning engagement, thereby developing her expertise in a crucial literacy practice for success in the scientific community. Second, an online space contributes and builds on the social aspects of learning, which this pilot project can develop further. Third, while there is a strong history of North-South research capacity building projects for health workers and scientists, IAS understands that such projects often marginalize participants who do not come from a scientific background, but still have compelling evidence to share and need support to do so. Such research, from community-based NGOs, faith-based groups, and vulnerable populations, is crucial because it can provide alternative perspectives from those who have the experience of living with HIV, and how they translate such experience into programmes in community settings. As one mentor, who is also an editor for three international health and HIV journals, wrote, in response to the survey question “Would you be interested in becoming a dedicated mentor helping early career HIV researchers from resource-limited settings publish their research?”,

“$Yes I would. But there are obstacles. Mentoring after the event is more difficult than a process of preparation well in advance. Often it is not the writing or presentation per se, but the fact that the analysis or design is limited...Enhancing these aspects as well as mentoring would be a real boost and capacity contribution...In fact, there could be a selection process for promising endeavours with a good chance of publishability that could be allocated such assistance. I would be really interested in this process. $”

This project allowed a conference secretariat to connect with and engage potential abstract submitters online, to raise awareness of the scientific standards, and help improve the quality of abstracts. We now recognize that more attention needs to be given to social learning strategies aimed at preparing research and programme findings for conference submissions on a more ongoing basis. Such a development is made possible thanks to the rise of Web 2.0 technologies, such as social networking sites, wikis, blogs and microblogs, which support and expand the possibilities of social learning by inducting newcomers into the norms and practices of a particular community.

Web 2.0 also raises new challenges for organizers of scientific conferences by questioning a model of practice derived from medical education. It opens up the debate on how technology can facilitate ‘participation’ actively, beyond normative rhetorical claims. With the rise of digital technologies, what is pedagogically possible changes; digital technologies could change our instructionist, factory model of education into a constructivist model focused on the creation of knowledge, as McClintock (1999) argues. He contends that this can be accomplished through the creation of virtual learning communities that “engage a diversity of people with challenging learning activities, providing each with appropriate resources and useful intellectual tools.” (1999:136)
Given the need to scale up access to learning to complement the scaling up of access to HIV prevention, treatment, care and support, it is imperative that conference organizers seize the opportunity to leverage online technologies by reconfiguring conferences as ongoing learning spaces where what counts as literacy is developed and utilized. Otherwise, a ‘top-down’ approach to what counts as knowledge determines who succeeds and who is labelled as ‘lacking’. With platforms such as WikiEducator for collaborative authoring, and through synchronous communication tools, peers can rehearse presentations, provide instant feedback, clarify misunderstandings, and share perspectives. Experts in HIV research have a significant amount to offer based on their lengthy careers about what really supports early career researchers to learn and make successful careers as published scientists. In turn, novices on the frontline have vast experiential knowledge that can be captured by expanding their scientific literacy repertoire.

Achieving the vision of widening access to and improving the participation of early career researchers, so that they become legitimate HIV professionals in a ‘scientific learning community’, is possible through knowledge sharing at International AIDS Conferences. However, more research is required on the conditions for supportive online social learning, the struggles early career researchers encounter, and the systems of power in which science is conducted. This will happen as the HIV field develops models of online mentoring for scientific writing that can be extended to regional partners and regional conferences, thus enriching the induction of novices into the global scientific learning community. After all, as Dewey observed, a quality learning experience “lives on in further experiences” (1938:27).

In the 21st century, managing the ecology of learning, its interactions and activities, and the related epistemologies to create a rich space conducive for scientific apprenticeship is the next challenge for HIV conference programmers and learning facilitators.

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