

# ICTs For Capacity Building: ITOCA's Experiences Implementing Research4Life Courses Using Moodle

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## Abstract:

This paper details the experiences and challenges of ITOCA (Information Training and Outreach Centre for Africa) in rolling out distance learning courses from its e-Learning Moodle based platform. The paper takes results from an initial implementation in 2012 and compares them to results from a second roll-out in 2013 after making changes as a result of lessons learnt. The two online courses followed a similar design where course material was posted on the platform in PDF format. The first and second courses were designed to deliver training to researchers, scientists, information specialists and students on how to access scientific literature using the Research4Life ([www.research4life.org](http://www.research4life.org)) portals. The courses were offered in three languages - English, French and Portuguese. Multilingual announcements of the course were made on various networks for example AHILA NET, Research4Life User Forum and HIFA2015.

This paper also shares the lessons learnt and attempts to outline best practice in rolling out online distance learning for building skills on e-resources. Experiences on communication strategies to improve enrolments and completion rates are highlighted. For instance communication- with a distance learning initiative there are a lot of stakeholders for example administrators, teachers and students that need to be constantly kept in the loop. Team collaboration is therefore very essential. Another lesson relates to completion rates, many register but a lesser number actually complete the required exercises. This rollout proved to be a faster, cheaper and more convenient mode of training, when compared to use of material like workbooks or face to face delivery. This mode of delivery however requires much time in planning and effective communication between the course coordinators. The paper concludes by making recommendations for further ITOCA online courses.

**Keywords:** ICTs, Online course, ITOCA, Databases, Health information.

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## **1. Introduction**

Increasingly capacity building and training institutions are facing a lot of challenges. One primary challenge is decreasing internal and external budgetary support due to the global economic recession, as well as the rising cost of face-to-face training. For example, the costs of putting together and delivering a week long face-to-face workshop range from \$600-\$1000 per participant (unit cost) in the Sub-Saharan Africa region taking into account travel for resource persons, participants' subsistence, venue, and associated material costs (Chimwaza, Chimalizeni, & Chataira, 2011).

The above scenario has been a major motivating factor for the Information Training & Outreach Centre for Africa (ITOCA) and its partners to deliver distance online courses to increase the reach of Research4Life programmes and complement the face-to-face trainings. Using comparative methods and descriptive data, this paper details the experience ITOCA has gained in implementing two online distance learning course and shares some lessons learnt.

## **2. Background**

### **2.1 Research4Life**

Research4Life (R4L) is the collective name for a one-of-a-kind initiative which encompasses four public private partnerships seeking to help achieve the UN's Millennium Development Goals by providing the developing world with access to critical scientific research, empowering universities, colleges, research institutes, government ministries as well as non-governmental agencies, extension centres and hospitals ([www.research4life.org](http://www.research4life.org)).

Since 2004, Research4Life programmes -Health Internetwork Access to Research Initiative (HINARI), Access to Global Online Research in Agriculture (AGORA), Online Access to Research in the Environment (OARE) and Access to Research for Development and Innovation (ARDI) - have given researchers at more than 7,700 institutions in over 100 countries in the developing world, free or low cost access to more than 44,000 peer-reviewed international scientific journals, e-books and databases provided by over 150 of the world's leading science publishers. Due to the fact that these programmes are electronic and based online, they need a basic level of ICT and information literacy skills among the intended beneficiaries. The partners realised early

on the need to integrate training and outreach interventions as part of the total roll-out package, in-order to create awareness and contribute to the building of the capacity of users to fully make use of these gateways.

## **2.2 ITOCA**

ITOCA (Information Training & Outreach Centre for Africa) is a capacity building organization aimed at enhancing information and communications technology (ICT) skills for African librarians, information specialists, scientists, researchers and students in Sub-Saharan Africa.

In Sub-Saharan Africa, ITOCA has been the lead organisation in facilitating face-to-face training workshops for HINARI and other Research4Life programmes targeting Universities, ministries and research institutions. With specialist trainers among its staff, the organisation has successfully organised over 100 workshops reaching over 5500 professional librarians, researchers, lecturers and ICT personnel in the last 10 years.

Recent years have however, seen a reduction in the number of face-to-face workshops organised, from the average of a dozen workshops per year to half of that. This has mainly been due to dwindling funding sources and increasing delivering costs.

In addition to funding challenges, studies have shown that despite considerable investment in training and outreach activities, awareness of the existence of HINARI and other Research4Life programmes among faculty members in academic and research institutions remains low (FAO, 2009; Harle, 2010).

## **3. Objectives**

Specific objectives of the review were:

- To review and identify important lessons from the delivery of two online courses
- To implement lessons learnt and recommendations from the roll out of the online courses

- To respond to the combined challenges of limited funding and low awareness and usage.
- To document and disseminate findings on lessons learnt

#### **4. Method**

An initial pilot course was developed and run in June 2011 targeting 20 English speaking HINARI users. Using results from the pilot a more comprehensive course in English, Portuguese and French was developed a year later.

To start off enrolment for the first course, an announcement was sent out via various online platforms. The idea was to advertise it as widely as possible to primarily health related discussion platforms and e-mail groups. The announcement with instructions on how to enrol was translated into French and Portuguese and was sent to the Research4Life User Forum (*research4life@dgroups.org*) and HIFA2015 network (*www.hifa2015.org*). A total of 266 people registered mostly from Sub-Saharan Africa (SSA) region and also from other eligible regions of the world. Initially a target of 60 participants was set, 20 from each of the 3 languages.

After the registration process, the course was opened and ran for thirty days from 1-30 June 2012 with a week's extension given to allow for late submissions. The course modules were delivered via a basic PDF document downloadable from the Moodle platform as well as a sharable Drop-box folder. The document contained exercises that the participant was expected to go through at their own pace. Participants were expected to be from HINARI registered institutions and were required to use their institution's username and password to complete the practical exercises. The HINARI course covered a streamed down version of the standard modules delivered during the face-to-face courses, that is; the Web interface; Research4Life programmes Do's and Don'ts; Programmes sign-in procedures; Search tools and strategies; Partner publishers website features; PubMed searching; HINARI access problems and solutions and Training materials overview.

Upon completion of the exercises, two options for submission were available. One could either upload a completed set of exercises directly onto the Moodle platform in a Word document or submit the word document by e-mail.

At the end of the course, grading of exercises was shared between Librarians Without Borders (LWB) and ITOCA for English, WHO-Mozambique for Portuguese and WHO-Rwanda for French. Feedback was given to participants and certificates were issued to successful participants electronically.

The second course followed the same procedure but implemented the following changes based on recommendations from the first course:

- Designated one central coordinator
- Clearly instructed participants to have their usernames and passwords before enrolling for the course
- There was a more streamlined administrative process

## 5. Results

As shown in Table 1, below for the first course in 2012, of the 266 registrations, a total of 69 complete exercises were submitted by the end of the course. There were no provisions made to break-down participants by gender and profession. By language there were 30 English submissions, 34 French and 5 Portuguese submissions, giving a completion rate of 26%. This surpassed the initial target of 60 participants.

The second course held in October 2013 had a total of 111 registrants of which 63 completed the online course. There were 50 completions in English, 10 in French and 3 in Portuguese. This gave a completion rate of 57%.

**Table 1 Number of Registrations and Completions For The Two Online Courses**

<b>Number of Registrants</b>	<b>June 2012</b>	<b>October 2013</b>
English	104	75
French	90	21
Portuguese	72	15
<b>Number of Completions</b>	<b>June 2012</b>	<b>October 2013</b>

English	30	50
French	34	10
Portuguese	5	3

## 6. Discussion

Although the first course had a higher number of registrations 266, the completion rate (26%), was low compared to the completion rate of the second course (57%). The difference can be attributed to the changes that were implemented as a result of lessons learnt in the first implementation. The literature does not give an indicator of average completion rates as these vary between online courses. Generally it is argued that completion of a course is a function of factors to do with course design. Alastair Creelman and Reneland-Forsman (2003) reported that Courses with the highest completion rates had three things in common; active discussion forums, complementing media and collaborative activities. In these courses, however, adhering to this model was difficult due to the nature of the target audience which is set up in mostly low-bandwidth territories. A conscious decision was made from the outset to make the mode of delivery as basic as possible.

The differences in completion rates by language could be attributed to the demography of the target audience, the majority users of these programmes were in English speaking countries. The course seemed to also appeal to English-speaking users because the majority of the content available through the Research4Life programmes, was in English.

The results also mean that certain outcomes of the course were attained namely; equipping the participants with the basic skills to use HINARI as well as creating awareness even among those that did not finish the course. The outcomes as they relate to the ability to apply and practice a certain skill fulfils basic cognitive competences as espoused by Bloom (Mayes & Freita, 2003).

## 7. Lessons Learnt

The HINARI online distance learning course gave ITOCA experience in an area that it had not explored hitherto. Several lessons learnt coming primarily from feedback gathered from the various role players can be summed up as follows:

**7.1 It is comparatively cheaper to run an online distance course:** A crude cost estimate put the cost of course per student at \$43.50 taking into account the time spent by the resource persons organising and grading the participants' submissions. This is a fraction of the cost of face-to-face training which ranged from \$600-\$1000 per student at the time.

**7.2 What worked well:** The use of already established partnerships to design and implement the course was effective. When it came to actually implementing the course, the use of multiple platforms for accessing training materials also worked well. If one had challenges accessing Moodle, the Drop-box service was a good alternative thus combining server-based and cloud computing to anticipate possible access issues.

Publicity and promotion platforms chosen worked well, leading to over 300 enquiries, a combined 377 registrations and 132 successful candidates receiving certificates. This led to exposure and outreach to people who had not been able to attend face-to-face training and attests to the demand that exists for more technology enhanced learning. For grading purposes, the use of a standard template made work easier for the tutors.

There were generally high quality answers to the exercises. For those reviewed, almost all the participants had a grade of 85% or higher. This reflects that the Power Point slides and step-by-step exercises were well organized and, via this distance learning mode, the students have sufficient time to properly complete the required work. It also reflects that the Moodle platform is user-friendly and easy to use.

Translating the course into three international languages enabled the participation of a wider audience. Traditionally non-English speaking participants had been left out in the face-to-face workshops. The course was therefore a great opportunity for increased outreach.

## **8. Recommendations**

From the experience gained and the lessons learnt from implementing the two courses, the following recommendations can be made:

- Course quality and design can still be improved taking into account new platforms and technologies for delivering distance learning courses.
- To enhance participants' completion rates, use of multiple communication mediums should be made, that is, a combination of email, online discussion groups and individual courseware.
- In order to improve course design and delivery follow-up surveys and/or interviews for participants should be made with the cohorts of both those that completed and those that dropped out of the course.
- To replicate the course design for the other Research4Life programmes (i.e. AGORA, OARE and ARDI) adequate funding for the projects is required to ensure effective implementation of the courses.

## **9. Conclusion**

The second implementation of the course was more successful when compared to the first one. This could be attributed to mainly the experience and lessons learnt from the first course and implemented in the second. This paper has shared some of the lessons learnt from the two online courses. With the rising costs of face-to-face training and global economic challenges, ITOCA and its partners continue to explore implementation of online learning for the Research4Life programmes audience as a way to contribute to the building of information skills for the users.

Notwithstanding the challenges that may be faced by learners, for example limited access to computers and internet, the benefits of this method of training are encouraging. With continued investments by research and academic institutions in SSA on ICT and Internet infrastructure – the use of online courses is set to widen in the sector. As with any training workshop, careful planning and coordination of resources and time is important in the virtual learning environment. This ensures an effective

learning process for the learner and a productive experience for the course administrators and facilitators.

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