

MINUTES OF WORKSHOP: EXPERTS MEETING FOR CAPACITY BUILDING THROUGH EDUCATION AND TRAINING IN OCCUPATIONAL HEALTH, OCTOBER 22-23, 2009,

SALLE G, WHO BUILDING, GENEVA

1. Workshop conveners

GPA 3 Managers: Timo Leino and Leslie Nickels

Learning Repository Initiative Leaders: Jonny Myers and Linda Grainger

2. Overall goals

The workshop was convened for experts from collaborating centres and international partners to develop a proposal for scaling up international and national efforts on training and education in occupational health. The overall goals of the workshop were to:

- 2.1. develop a plan for creating an open educational resource repository and a community of educators for increasing access to occupational health education and training; and
- 2.2. define a mechanism for maximizing participation of local and regional educators and dissemination of good practice programs in OH education and training.

3. Specific objectives

The specific objectives were:

- 3.1. 3.1.1. To describe assets and gaps arising from the experiences of, and needs identified for, educational and training resources in the activities of the WHO CCs e.g. in Africa (WASA/Fogarty), Central America (WASA) and Asia (Afghanistan, Thailand and Vietnam), these include: learning methodologies, partnerships, technologies, successes and barriers, and strategies for sustainability from the regional case studies. Specifically to discuss features, advantages and limitations of online or e-platforms for education and training in capacity building in low and medium income countries.
- 3.1.2. To produce an inventory of existing CC projects and how they fit with proposed facilitating projects (partially defined in CC work group session).
- 3.1.3. To link the above to a broad preliminary framework for OH disciplines and competencies (distribute materials prior to meeting) including common and unique elements.
- 3.1.4. To develop and plan for creating an open educational learning repository.
- 3.2. To identify a community of educators for increasing access to occupational health education and training in resource-constrained (low and medium) countries (background material circulated prior to meeting).
- 3.3. To create an outline for the way forward for communicating, promoting, facilitating maximal participation, acquisition and evaluation of educational resources and activities outlined above, in ways that emphasise local and regional ownership and sustainability.

4. Intended outcomes of workshop

- 4.1. Map of competencies in relation to discipline descriptions.
- 4.2. Annotated list of existing resources potentially suitable for inclusion in an occupational health education and training repository.
- 4.3. List of educators willing to participate in a global network linked to the repository.
- 4.4. Strategic outline for:
 - 4.4.1. Establishing sustainable housing for occupational health education and training resources in the above repository.
 - 4.4.2. Establishing a mechanism or structure for continued participation and contribution to the repository or network in ways that are inclusive of local and regional needs. This could begin with the subset of WHO CCs actively engaged in educational and training activities.

5. Participants

There were 28 participants (see Annexure 1).

6. Programme

Details of the programme are contained in Annexure 2. Support for the establishment of the LR was confirmed by participants. Initially the meeting deviated from the original plan due to lengthy discussions about the different professions, confusion about the functions of an LR and how these could be accommodated within an online platform. However, as the meeting progressed, consensus on key aspects was obtained.

7. Plan for creating an open educational resource repository and a community of educators and maximizing participation of local and regional educators

Points agreed by participants on the plan for creating an open educational resource repository and a community of educators.

7.1. Functions that the LR must incorporate

Must be easy to use, based on a menu-driven process. For example, someone asking to start a course must be able to find a curriculum and competencies, LMs and experts to advise or assist with training.

Must consist of digital learning materials and have a social networking component.

Include virtual marketing spaces.

Respond to requests regarding the LR: Essential to have a person available to direct them to the appropriate assistance - must be a quick response and the quality of the assistance must be good.

Provide advice and support on using the LR and its contents.

Allow feedback from users to improve content and continually improve LMs.

Provide streaming lectures.

- Include a search facility to make it easy for the end user to find materials:
- index/ topic;
- classification by level; and
- Google search model.

7.2. Materials

- Materials to be OERs
- Initially contain existing LMs in different formats that are easy to use. Upgraded, adapted and new ones can be added over time.
- Uploading and downloading of LMs should be easy.
- Accommodate different software types.
- Incorporate a tracking/versioning system.
- Appropriate licensing

Content of LR

The LR should include a content-based learning management system. Learning materials should include:

- BOHS;
- Sectoral areas;
- Substance areas;
- Training/ pedagogy – helping people to use materials and good training practices;
- LMs to include a section or guidance on how to use them (e.g. FIOH and dust measurement training guide);
- Toolkits could be embedded in training materials, provided there is a section on how to use them, the context etc.; and
- Practical case-based material - every country is involved in some OH teaching, so request good cases that they can share.

Metadata

Identification of source, contact details, some method for referencing the products of the CCs.

Quality of learning materials

Different types of reviews – range from simple review with mentoring, to intermediate publication, to an advanced review system. Consider staged process, starting with minimum criteria and then develop further.

Policies and procedures will need to be developed. They will need to be updated periodically.

Disclaimer needed – for example, clarify that they are not WHO endorsed LMs.

Review team:

Editor-in-Chief and reviewers.

Develop profile of experts from which to select reviewers.

Language – find experts in that language, use CCs which are working in that language.

Users are often the best reviewers – obtain feedback on their experiences of using the LMs.

Consider using appropriate post-graduate students to assist.

Make the LMs that are well developed available first.

Minimum criteria can be applied:

Is the material interactive?

Are topics appropriate?

Is it an OER free to the end-user?

Ease of use.

Specify the technology used.

Evaluation/ review should be done by at least two people who will examine all aspects of the LM - content, pedagogy, etc. Aspects to be considered:

- audience;
- subject;
- length;
- framework approach, for example Frank van Dijk suggested the development of a guidelines grid; and
- pedagogical review.

Important to mentor contributors to encourage ongoing participation, especially if their LMs have received a negative evaluation. Inform them about what could be improved. Provide a list 20 items relating to good pedagogy, good content, etc.

Look at Finnish model (Timo Leino).

Material development

Involves three key components:

- technical;
- content; and
- pedagogy.

7.3. Technological aspects

Geolibrary\Finnish system – platform.

Where possible, use free software.

Blogs.

Tweets.

Wikipedia – e.g Toxipedia is good.

Technical capabilities – must ensure front end users find use easy and simple as possible, in order to stimulate use of the LR.

7.4. Social networking dimension

Membership

Open for anyone who wishes to search the LR for materials to use or adapt, or contribute new materials.

The process of becoming a member should be easy.

Mechanisms for communication

News group

Skype calls with group members

Virtual group – need a convenor

Linkedin – need a loader

WHO-EzCollab

Project management website

Small group email notification

Purpose of communication – to begin process of establishing the LR and then create small groups to continue the communication and work on components such as quality of LMs.

Discussion fora

Various fora could be set up, such as:

- general groups;
- core interest groups;
- a group to communicate with users to monitor use and obtain feedback on the LMs (part of the Steering Group function); and
- a group to obtain a annual report and evaluation session.

Core groups

Establish core groups on topics

Make the establishment of these easy.

Request information from both contributors and end-users to develop a profile consisting of information such as:

- details;
- interests;
- needs; and
- what they could contribute.

Include a simple registration process.

Have a context to link into.

Establish a notification system of uploads of LMs that individuals are interested (they indicate these) rather than being overwhelmed by alerts for all LMs.

Communication networks

Link into CCs networks.

Local networks.

People wishing to offer training should be able to enquire what courses are available regionally and possibly link to these sources of expertise when wishing to mount training programmes.

Blog

Include this to drive traffic to the site.

Have space for a detailed training session on how to create/maintain elearning materials (i.e. meta-level materials) to help to promote use.

Links to databases

Email facility

For example, to send alerts to core interest groups on new LMs.

RSS feeds

Make it more actual, current.

7.5. Geolibary in relation to LR

Not the same as the LR as it does not have the personal contact component. However, it does allow sorting by various topics and it contains learning materials and documents that are already in the public domain. New materials received for the LR can also be linked into the Geolibary. There should be some link with the LR.

7.6. Evaluation of the LR

Follow up to identify users' experiences of using the LR. This feedback will form part of the ongoing evaluation and improvement of the LR.

7.7. Mechanism for maximizing participation of local and regional educators:

Marketing the LR

WHO authenticity is important selling point

How do we want it to be used?

Have a person to provide a quick response.

Core group blogs (can have general blog and specific core group blogs).

Tap into local and existing networks to publicise, for example the core group network can push information on the LR into other networks with which they are linked (e.g. Claudina – international programme and NIOH activities).

7.8. People who agreed to work in subgroups

Technology

Max Lum, Timo Leino and Suvi Lehtinen

Quality of materials

Tom Robins, Frank van Dijk and Wendy McDonald

7.9. Way forward for establishment of the LR

Important- it is a complex project/ vehicle.

Have a staged approach in the activities.

Start with the simple – core discussion groups and a storage facility.

Have a vision of where we want to go (what we want to achieve) and then start with easy, achievable objectives and activities.

Therefore working with the CCs is a good place to start.

Ask GPA members to inform us about available courses.

NIOHs are involved in networks, tap into these.

Identify key people who are doing networking.

Find a place to start – tap into the fraternity – CCS, ILO ICOH etc.

Do not start marketing until have some good materials. If people have a bad experience initially they will not return and it is difficult to reverse such perceptions.

Staged approach small group interacting before open it up to broader community

Item 19 of GPA plan of OH – WHO has mandate to provide guidance.

8. Broad preliminary framework for OH disciplines and competencies

A literature review and draft of competencies for each of the core disciplines was initiated. Each of the core disciplines (occupational medicine, occupational health nursing, occupational hygiene, and safety) has a professional scope of practice and defined educational background, yet they all share the common goal of occupational health and safety. The findings were shared with experts working on developing discipline specific competencies to meet national and regional needs. The education and training workshop explored defining core competencies in basic occupational health and safety. Meeting materials included a description on a process for defining competencies. The Workshop participants were asked to review the process and recommend a strategy for developing competencies in basic occupational health and safety. The challenge of defining competencies with relevancy to low resource settings included a lack of a common terminology or agreed upon definitions that are shared among the different professions and an overlap in specialty or sphere. The challenge seems particularly responsible for the difficulties that exist when trying to formulate a shared set of competencies based on professions within occupational safety and health. It appears that the discipline model for

defining competencies will not result in a satisfactory set of competencies in basic occupational health and safety.

Workshop participants agreed to use competencies developed for family medicine in resource constrained countries and competencies defined in the Basic Occupational Health for All document. The focus on creating a recommended set of competencies will include: activities, level of activity, good practice, definition of roles, and evaluation. A committee was formed to review and adapt competencies. The committee includes: Tom Robins, UM; Norbert Wagner and Leslie Nickels, UIC; Berenice Goeltzer, IH; Suvi Lethinan, FIOH; Wendy McDonald, Latrobe University; Ina Naik, NIOH; and Linda Grainger, UCT.

The following basic competencies were discussed and will be used as a basis for modification.

Occupational Health Competencies for Primary/General Practitioners (example)

- Take an occupational health history and use investigative questions in the medical practice.
- Recognize and assess for risks of adverse events from exposure to physical, chemical, biological or psychosocial hazards in the workplace and recommend corrective and preventive action.
- Recognize occupational illnesses and injuries.
- Possess knowledge and skills to provide clinical evaluation and treatment for injuries and illnesses.
- Possess knowledge and skills to determine if a worker can safely be at work and complete required job tasks.
- Apply principles of disease and accident prevention and recommend corrective and preventive actions
- Possess knowledge and skills to recognize, evaluate, and treat exposures to toxins at work. This most often includes interpretation of laboratory or environmental monitoring test results as well as applying toxicokinetic data.
- Possess knowledge and skills necessary to comply with national or regional regulations essential to relevant workers' compensation, accommodation of disabilities, public health, worker safety, and environmental health and safety.

9. Occupational Safety and Health Disciplines

In Europe and North America, occupational health and safety disciplines are well defined with established practice and professional guidelines. This discipline model represents an evolution of professions into specialty areas within public health, medicine, nursing, and/or engineering. The OH disciplines structure provides for depth within each discipline area. For example, industrial hygienists have expertise to address risk assessment, management and control for a long list of known agents and exposures and skills to deal with emerging agents. Recognizing the primary benefit of having a basic core set of competencies, it is none the less important to also promote the expertise within individual disciplines. An essential set of competencies is needed to provide basic occupational health services, however, understanding the asset

experts in the OH disciplines bring to workplace health and safety is important for expanding the scope of worker protection.

As part of the education and training workshop, participants agreed to draft a publication on education and professional opportunities in occupational safety and health modelled after the American Public Health Association document “Occupational Health and Safety: Education and Career Opportunities for You”. A committee was formed to review and potentially adapt this publication. Committee includes: Katija Radon, LMU; Anabela Simoes, ISEC; Wendy McDonald, LaTrobe University; Berenice Goeltzer, Ina Naik, NIOH; and Norbert Wagner and Leslie Nickels, UIC.

10. Conclusion

1. Continue to explore the creation of an open classroom learning repository, as a system for the storage, location and retrieval of electronic content which provides access to an increasing supply of digital educational content. The type of components accommodated in a repository are varied, and include graphics, images, texts, applets, videos, documents and integration of them as parts of a course or even complete courses. An additional requirement for ensuring access to the content is the aspect of openness.
2. Form a committee to review draft competencies for basic occupational health and good practice guidance.
3. Development of a publication for WHO on education and professional opportunities in occupational health and safety and a detailed paper for each occupational health and safety discipline.
4. Draft a proposal for creating an umbrella organization to coordinate capacity building activities.

ANNEXURE 1: GPA 3.2 LEARNING REPOSITORY WORKSHOP PARTICIPANT LIST – OCTOBER 2009

Name details	Date	CC/WHO	Country	Organisation*	Contact
	22/10	23/10	Reg Office		
Catherine Beaucham	√	√	NIOH	USA	htn9@cdc.gov
Jovanka Bislimovska	√	√	IOH	Macedonia	bislimovska_j@yahoo.com
Sture Len Bye	√	√		Norway	NIOH slb@stami.no
Benjamin Fayomi		√	URESTE/LUSTE	Benin	bfayomi@intnet.bj
Brigitte Froneberg		√	√	BAuA	Germany
					froneberg.brigitte@buaa.bund.de
Diana Gagliardi		√	ISPEL	Italy	diana.gagliardi@ispesl.it
Berenice Goelzer	√	√			berenice@goelzer.net
Linda Grainger		√	√	UCT	South Africa ICOH
					grainger@telkomsa.net
FU Hua		√		Fudan University	China
					hfu@fudan.edu.cn
Daniel Hryhorczuk		√		Univ. Illinois	USA
					dhryhorc@uic.edu
Rohko Kim	√	√	WHO/Europe	Europe	rki@ecehbonn.euro.who.int
Barry Kistnasamy		√	√	NIOH/ NHLS	South Africa
					barry.kistnasamy@nioh.nhls.ac.za
Suvi Lehtinen	√	√	FIOH	Finland	suvi.lehtinen@ttl.fi
Timo Leino	√	√	FIOH	Finland	timo.leino@ttl.fi
Max Lum		√	√	NIOSH	USA
					MRL1@cdc.gov
Wendy McDonald	√	√		Australia	CEHF
					W.Macdonald@latrobe.edu.au
Jonny Myers	√	√	COEHR, UCT	South Africa	La Trobe Univ.
					Jonny.Myers@uct.ac.za

Inakshi Naik	√	√	NIOH/NHLS	South Africa	
ina.naik@nioh.nhls.ac.za					
Leslie Nickels	√	√	UIC	USA	lnickels@uic.edu
Claudina Nogueira		√	√	NIOH/NHLS	South Africa
claudina.nogueira@nioh.nhls.ac.za					
Buhara Önal	√	√	İSGÜM	Turkey	
buharaonal@yahoo.com					
Katja Radon	√	√	LMU	Germany	
Katja.radon@med.lmu.de					
Tom Robins	√	√	Univ. Michigan	USA	
trobins@umich.edu					
Bonnie Rogers		√	√	USA	ICOH/ Univ.
rogersb@email.unc.edu					
Anabela Simoes		√	√	North Carolina Portugal	ISEC/
anabela.simoes@isec.universitas.pt					
				UNIVERSITAS	
Frank van Dijk	√	√	Coronel Institute,	The Netherlands	
f.j.vandijk@amc.uva.nl					
				AMC	
Norbert Wagner		√	√	UIC	USA
nlwagner@uic.edu					
Adel Zakaria	√			Egypt	HIPH/EMRO
zakaria1959@yahoo.com					

Total participants - 28

* Organisation indicated for participants who are not from a CC or from an institute in process of designation as a CC

ANNEXURE 2: WORKSHOP PROGRAMME

Thursday 22 October 2009		
Time	Topic	Outcome
1:00-1:30	Welcome, review of CC work group outcomes and purpose of Workshop	
1:30-2:15	Case study presentations on capacity building, including learning methodologies, partnerships, technologies, successes and barriers, and strategies for sustainability	Case study documents for Work and Health in Southern Africa and Afghanistan provided. Models for capacity building emphasizing educational and training needs for appropriate services configuration. Not discussed.
2:15-3:00	Review and discussion of existing assets and gaps in ed. and training projects	List of resources emphasizing needs – questionnaire results. Recommendations for desired features for users in different regional settings.
3:00-3:30	Break	
3:30-5:30	Demonstration and discussion for CC participation in creating a repository	List of content and features Online demonstration of repository sites (Annexure 3), Powerpoint, participants showed examples of their materials (Barry Kistnasamy, Katja Radon, Tom Robins and Wook Kim. Jonny Myers did not have an opportunity to demonstrate his interactive learning programme.
5:30-6:30	Dinner	
6:30-7:30	Creating a global network for education and training	List of experts and teachers – list is in the process of development (names obtained from pre-workshop questionnaire, at the GPA 3.2 Working Group meeting, and from participants at the workshop).
7:30-9:00	Discussion for feasibility and operationalizing contributing	Obstacles, serious questions about what this is all about, problems and barriers. Partly addressed during discussions in the first part of

		the workshop. Strategic outline for creating structural mechanisms for partnerships to support implementation, housing, ongoing contribution and use of E&T resources and sustainability – partly completed, process to initiate it was outlined.
9:00	Adjourn	
	Friday 23 October 2009	
9:00-10:30	The way forward for promoting, communicating, facilitating participation, housing and evaluating the educational and training repository and the global educators	Further development of preliminary planning detail for workshop – addressed except for the housing of the LR.
10:30-10:45	Break	
10:45-11:30	Next steps and closing	Plan for next 2 years for GPA 3.2 – partly completed.

ANNEXURE 3: REPOSITORY SITES FOR ONLINE DEMONSTRATION

1. Repositories Support Project
<http://www.rsp.ac.uk/index>
2. ROAR – Registry of Open Access Repositories
<http://roar.eprints.org/index.php>
3. OpenDOAR – Directory of open access resources
<http://www.opendoar.org/find.php>

Examples from OpenDOAR

- 3.1. [JHSPH OpenCourseWare](#) (Johns Hopkins Bloomberg School of Public Health's OpenCourseWare)

Organisation: [Johns Hopkins School of Public Health](#), [Johns Hopkins University](#) (JHU), United States

Description: This site is an institutional repository providing access to a portion of the courseware used by the School of Public Health. The site is

available in English or Chinese (both simplified and traditional). Each course includes at least a syllabus and lecture notes. The following are also included for some of the courses: assignments, reading lists and examination materials.

Software: OpenCourseWare
Subjects: Health and Medicine
Content: Learning Objects
Languages: English; Chinese
Policies: Metadata re-use policy explicitly undefined; Re-use of full data items permitted for not-for-profit purposes; Content policies explicitly undefined; Submission policies explicitly undefined; Preservation policies not stated
Remarks: Funders: William and Flora Hewlett Foundation.

Example of occupational health materials:

<http://ocw.jhsph.edu/courses/vulnerablepopulations/>

[NSDL](#) (National Science Digital Library)

Organisation: [NSDL](#) (National Science Digital Library), [National Science Foundation](#) (NSF), United States
Description: This site is a subject based repository providing access to educational resources aggregated by the National Science Digital Library relating to science, technology, social sciences, and medicine. In addition, documents about the NSDL itself are freely available. Most educational items are links to external service providers which may or may not be available to external users, depending upon local or personal subscriptions. The site is well supported with background information and guidance documentation.
Software: Fedora
Subjects: Science General; Health and Medicine; Technology General; Social Sciences General
Content: References; Unpublished; Learning Objects; Special
Languages: English
Policies: Metadata re-use policy explicitly undefined; Full data item policies explicitly undefined; Content policies explicitly undefined; Submission policies explicitly undefined; Preservation policies not stated
Remarks: Special Items: Aggregated educational website links.

Multiple materials related to occupational health. One example given below:

University of Massachusetts, Lowell - Occupational health and construction work:
<http://www.uml.edu/college/she/WE/COHP/Resources/Resources.html>

Example of 2-hr training programme in ergonomics and construction work at Masters level in this repository:

<http://www.uml.edu/college/she/WE/COHP/Resources/Ergonomics.html>

4. JISC Centre for Educational Technology and Interoperability Standards

<http://jisc.cetis.ac.uk/> JISC CETIS is an Innovation Support Centre for UK Higher and Post-16 Education sectors funded by the Joint Information Systems Committee (JISC), and managed by the University of Bolton. The Centre provides strategic advice to JISC, supports its development programmes, represents the sector on international standardisation bodies and works with the educational community to facilitate the use of standards-based e-learning.

One example of a domain on this site is: Metadata and digital repository work

<http://jisc.cetis.ac.uk/domain/metadata>

5. Merlot - Multimedia Educational Resource for Learning and Online Teaching

<http://www.merlot.org/merlot/index.htm>