

**Post-Event Report**

**Teacher Training Workshop**  
**“Content Development and Lesson Planning using ICT”**  
**at Coldreed Training Centre, Lusaka, Zambia**  
**15<sup>th</sup> –19<sup>th</sup> January, 2007**

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## Context

The current IICD projects

1. ENEDCO (Enhancing the Visual and Presentation of Educational Content)
2. ESnet (Educational Support Network) and
3. CYP (Chawama Youth Project)

which are focussing on the development of didactical teaching materials and “Teaching Guides” (either by editing and enhancing existing materials or creating new), should be supported and pushed to deliver quality materials. 21 teachers, instructors, and content developers were selected to take part in a one week training.

Dr. Gabriele Kirchhoff was responsible for the design, preparation, and conduction of the workshop “Content Development and Lesson Planning using ICT”.

## Objectives

The following objectives were communicated to the workshop participants:

- To apply ICT meaningfully in teaching/learning activities
- To plan lessons effectively
- To develop content and prepare learning materials (text + images)
- To integrate active learning methods

The following goals and objectives were the guideline for the facilitator to plan and design the workshop (discussed and agreed in the preparatory meeting with the IICD country managers, December 2006):

Goals:

- Teachers apply and integrate ICT successfully in various contexts in their daily work
- Teachers enhance traditional teaching methods with state-of-the-art learning/teaching methods (align with the current international educational research and practice)

### Objectives:

- Teachers use ICT and discover helpful tools to manage work more efficiently and to enrich teaching and learning, integrate ICT meaningfully in teaching/learning activities
- Teachers search and evaluate useful educational resources (via Internet)
- Teachers develop and prepare appropriate learning materials (i.e. adapt existing resources, if needed: process existing materials and/or create new materials)
- Teachers reflect the own teaching style and experience new approaches to learning (learner-centered methods)
- Teachers plan more effective instruction and write quality lesson plans.

## Methodology

The workshop concept is based on the following basic principles:

- **Action-based learning:**  
This approach applies learning by doing, the workshop activities are hands-on, participants work on a concrete project, target is to solve real job tasks (here: to plan a lesson and prepare adequate learning materials).
- **Standard Operating Procedures:**  
Each work step is guided by a Standard Operating Procedure that is explained in the Workshop Manual. The Standard Operating Procedure is the main guiding instrument for the workshop activities, but shall also be usable after the workshop.
- **Self-learning materials:**  
Additionally the Workshop Manual includes rich link lists (hyperlinks) to useful online resources (i.e. learning materials, tutorials, templates, tools, background information etc.). The online resources are partly also made available offline. The selection of resources intends that participants can use these not only during the workshop but also afterwards as self-learning materials. It is not expected that all resources are to be accessed and used during the limited workshop time. - Additionally some templates and checklists esp. developed for the workshop are provided.
- **Self- and Peer-Assessments:**  
To foster the competency of critical self-evaluation, the methods of self- and peer-assessments are introduced. E.g. a checklist to evaluate the quality of a lesson plan and quality criteria for multimedia content are presented and discussed in the workshop. The intermediate and final work results of the participants are discussed individually, in small groups, and in whole-group discussions.
- **Active learning methods:**  
The facilitator has prepared the Workshop Manual incl. the selection of resources acc. to the analysed needs. The facilitator's role during the workshop is to guide and advise the work process, moderate discussions, give feedback and individual support. Participants work on their tasks individually, in small groups (acc. to the subjects of their project work) and in the whole group. Presentation and discussion of the work results foster collaborative, social learning processes.

## Materials and resources used

1. Workshop Manual (delivered as print-out and digital), authored by G. Kirchhoff.  
The word-document contains
  - a) Standard Operating Procedures for the process of lesson planning and development of educational materials
  - b) Workshop Activities
  - c) selected Internet resources (i.e. tutorials, how-to-articles, tools, templates, practice-related readings, and some additional resources for further studies), embedded as hyperlinks in the manual
2. Internet resources on instructional design, how to use ICTs in the classroom, how to design learning materials etc. (see 1c), partly also made available as offline materials (e.g. in PDF format)
3. Hardware and digital devices:
  - a) one computer per participant with Internet access
  - b) facilitator´s laptop with Internet access
  - c) one beamer
  - d) a LAN (in lack of a LAN: a number of memory sticks to transfer data)
  - e) 21 recordable CDs for storing workshop materials and results (handed out to the participants at the end of the workshop)Software:  
basically:  
MS Office or Open Office (Word, PowerPoint, Excel)  
Internet Explorer or any other web browser  
Adobe Acrobat Reader  
media player software  
optional:  
a Mindmapping-Tool, e.g. FreeMind  
an image processing software, e.g. IrfanView  
other:
  - a) print-outs (agendas, checklists, templates, important readings etc.)
  - b) flip charts, post-its

## Participants

- 21 participants (teachers, instructors and volunteer editors) of three different projects:
- a) ENEDCO (11 participants)
  - b) ESnet (8 participants)
  - c) CYP (2 participants)

The participant group was heterogeneous regarding age, teaching experience, computer literacy and computer usage.

The participants already had concrete ideas for their work projects at the beginning of the workshop and came with partly prepared materials.

(See participants list in the annex)

## **Evaluation**

### ***Onsite Preparations***

The workshop preparation and organisation was perfect.

The invitation and information of participants was smoothly, except the fact that some participants of the ESnet project did not reply to the preparatory questionnaires, presumably because the selection of participants has been modified in the short term.

### ***Overall impression***

The selection of participants seemed to be most congruent with the targets of the projects and the workshop. Since the projects were already set up and first experiences were made, a clear appreciation of the difficulties and a high motivation to learn effective methods how to plan lessons and how to develop educational content with ICT was observable. The expectations of the participants were as well high as align with the objectives of the workshops.

In my opinion, a good selection of participants, their high motivation and the fact that the training offer met a real need of the schools were the main conditions for the success of the workshop.

The workshop design and method seem to be most suitable and successful. The process and the results of this workshop proved that the method generally worked well. Both the methodology and the prepared and selected materials seem to be suitable for the target group and learning objectives.

The final results achieved by the participants are in my view on a high level of performance. It is also remarkable that all participants - regardless their previous ICT skills - worked successfully and achieved the learning objectives.

### ***Logistic and facilities***

The technical support provided by the local technical staff at Coldreed Training Center was excellent.

Deficiencies as already discussed in the After Action Review were:

- The computer lab was crowded with 21 participants, so it was pleasing to use additional small rooms and outdoor-facilities, e.g. for group work activities.
- The internet connection was most of the time reliable, however sometimes interrupted or much too slow. Few power cuts occurred.
- Enough computers (one for each participant) were not available from the very beginning, so some participants had to share the computers or use own laptops (in the first days only).
- The lack of a LAN wasted valuable time for storing and sharing data.
- The use of private laptops and memory sticks involved the danger to spread viruses.
- The beamers displayed some colours not properly.

## ***Participation***

All participants were interested to achieve tangible results which are realizable/usable in their classroom and presentable to colleagues and chiefs. They came with a high motivation and kept an excellent discipline. The work atmosphere during the workshop was good and supportive. The participation in all activities, incl. the small group discussions, was satisfactory.

I got the impression that the teachers were able to quickly pick up any suggestions, e.g. how to make teaching more participative for the learners. The formative evaluation showed that they were very interested not only to learn ICT skills, but also to learn how to improve their teaching methods.

In my experience, the heterogeneity of the group regarding computer literacy was not a disadvantage because of several reasons:

1. More advanced computer users helped the beginners - on a voluntary basis – as well as individual support was offered by the technical support staff and partly by the facilitator.
2. Participants could choose which software to use (MS Word or MS PowerPoint), acc. to their level of performance.
3. The workshop method allowed self-paced working and enabled to work and learn independently (using the learning materials provided).

## ***Suggestions for improvement***

- Availability of a LAN is most important to save time and make the data transfer more secure and efficient. This requirement must be met in workshops like these.
- Complete replies to the preparatory questionnaires would be helpful to estimate the prerequisites and needs of the participants.

## ***Next steps***

The workshop had the function to kick off successful project activities. Any kind of further support service, training, consultancy or quality management is not yet planned.

In order to make the achieved results sustainable and to foster the further progress, a concept for a support structure should be developed.

## “After Action Review” evaluation<sup>1</sup>

### *Overall evaluation:*

From the facilitator’s point of view, the learning objectives of the workshop have been achieved and successful work results have been delivered:

- All participants developed educational content (mostly in form of a ppt-presentation, only three participants produced a Word-document). The products are enriched with visualizations, are regarding design guidelines and showing reasonable didactic considerations. All participants presented and discussed their products at the end of the workshop.
- All participants embedded the developed content into the context of a planned lesson. They also partly finalized the documentation of the lesson, using a template which was adapted, discussed and agreed collaboratively in the workshop. Almost all lessons integrate active learning methods, at least some exercises and assignments.

### *Neglected learning contents:*

Because of time constraints the following issues were not discussed in depth or not at all:

- The WebQuest method
- Access and discussion of special sites for teachers
- Access and use of educational resources stored in online databases
- Image processing
- MindMapping
- Online tools – e.g. crosswords, worksheet generators
- Designing a rubric
- Finalization and evaluation of the lesson plans developed by participants

Background: The entire workshop programme includes content that would be enough to fill two weeks. The Workshop Manual consciously was designed as a rich resource for the purpose of further self-studies and independent work after the workshop. Depending on the participants’ previous knowledge, their rate of working and preferences some flexibility was to be included in the schedule.

Suggestion: If the need may be, a follow-up workshop of 1 week - perhaps some months after the introductory workshop – might be a possibility to deepen those issues that were only briefly mentioned or neglected.

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<sup>1</sup> An After Action Review took place one day after the workshop and was also recorded. The following evaluation summarizes the results of the After Action Review.

*“What worked well”:*

- The motivation of the participants was high and was kept up all the time.
- Participants were most impressed by how easy it was to find resources and images that related to their topics on the internet.
- Participants were interested in learning teaching methods and not only technology-based skills.
- Participants appreciated the method of the workshop (action-based learning), self-learning materials, and learning by doing instead of lectures. The experience proved and the feedback assured that the methods of the workshop were adequate for this group. Formative evaluation showed that the participants rated the method and the learning materials as effective. Evaluation feedback was extremely positive (it was fun, time went quickly, no-body was bored) which can be interpreted as an effect of active and self-paced learning.
- The readings that were provided seemed to fit for them (easy to understand, practical, tips on how to integrate modern teaching methods in classroom training).
- PowerPoint was not taught as a lecture, but most of the participants were so interested in producing content with PowerPoint that they learnt it by doing themselves (see discussion below).
- The building of small groups according to the subjects facilitated the exchange of ideas, especially concerning the didactics. Because participants had a lot of teaching experience already, and were able to integrate the input from the workshop in their previous knowledge and work experience, the discussions in the small groups were generally fruitful and effective<sup>2</sup> – participants managed to integrate that.
- The group atmosphere was supportive, they gave positive feedback, no competition, only positive competition. Reasons for that might be:
  - they are all members of the projects, with similar motivations
  - personal motivation – they really wanted to learn something, and to develop
  - no grading in the course
  - facilitator preferred a style that is supportive (e.g. in feedback, first appreciate the current performance, thereafter give tips for improvement but only as suggestions) that might have influenced the feedback-culture
  - facilitator’s “patience” (feedback first day) – half of the participants didn’t have much experience with computers, but when they realised that it was not expected too much of them, they relaxed into
- The individual feedback for each participant (which was unplanned to such an extent: sat with individuals, looked at their work, gave them feedback, took some time at least 15-20 min on average) was proved very effective. Participants picked up the

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<sup>2</sup> M&E evaluations indicated 12 participants (57,1%) saying group projects were only partly satisfactory, 1 participant (4,8%) saying group projects were partly unsatisfactory. 8 participants (38,1%) evaluate the group projects as strong. – The kind of question (“Group Projects”) however is not specific enough to give valuable hints how the participants evaluate the effectiveness of the group discussions in detail.

suggestions very quickly and came up with creative ideas themselves.

- It was needful and helpful that Saskia Harmsen and the Coldreed staff were around the first days to sort out the start-up difficulties (technical problems, computer usage).

“*What did not work so well*” or “*what went differently than planned*”:

- **Heterogeneous group:**  
Participants’ basic computer skills were not homogenous, the range was from experienced users (e.g. Gonzalo) to inexperienced (e.g. Phiri, Peter) – first day the facilitator was a little bit shocked and feared that she couldn’t manage the group; surprisingly it wasn’t as severe difficulty as expected; they coped with the tasks somehow, and it also is realistic to have heterogeneous groups; sometimes low-skilled participants felt hopeless/helpless when comparing themselves to Gonzalo, in other cases his high level of skills worked inspiring (e.g. final presentation, using him as co-facilitator, giving him a different role).  
It was experienced that the heterogeneous skills did not disturb the workshop too much because of the methods used in the workshop allowed for each participant to follow his/her own pace.
- **No LAN:**  
The lack of a LAN caused frustrations and delay because some Word documents were not stored in the individual folders on the PCs, on the last day collecting and compiling the data was difficult.
- **Discrepancy between the Learning objectives vs. stated Learning Points:**  
The fact that almost everybody wanted to produce a ppt-presentation (although they could choose to use either PowerPoint or Word) was not foreseen. Most of the participants were very interested to learn PowerPoint and highly motivated to produce a finalized presentation. Most of them put more emphasis on the production of the presentation than e.g. on the finalization of the lesson plan.<sup>3</sup>  
In the After Action Review it was discussed why the stated learning points of the participants centred around PowerPoint, while the entire workshop’s learning objectives were much broader. We assumed that the participants’ motivation is very high to come up with a visible, presentable, usable production of learning material. This may be caused by several interests: a) to use the material in the classroom  
b) to present it to colleagues and superiors  
c) to show a good presentation in the final workshop session on Friday  
d) to learn a presentation tool.  
Material produced with PowerPoint is probably more attractive and looks more professional than a Word-document (even if it is enhanced with images). It was observed that some participants who never before experienced PowerPoint put much effort on learning this tool quickly by themselves within the workshop time.  
A preliminary introduction to PowerPoint (1 day) for inexperienced users would have been helpful.

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<sup>3</sup> Participants did not finalise all lesson plans – they began with it, some finalised but not all; however everybody had concrete ideas on how to plan their lesson, but didn’t save it; they focussed on the content development, on finalising their presentations.

*“What to do differently next time”:*

- **Make sure the availability of a LAN:**  
The workshop should be hosted in a training environment where this is a LAN.
- **Test the facilities in advance:**  
The software and content installations was done lately (1 day before the start, even morning of the start of the programme) which was not optimal.  
Also the projectors must be tested in advance.
- **Plan for a sufficient technical equipment:**  
Each participant must have one computer.  
Internet connection must be reliable.
- **Avoid congestion in the computer lab:**  
A room for 15 should not be used for 21 persons.
- **Plan more time for individual feedback:**  
It was experienced that it is most effective to allocate enough time for individual feedback; next time the facilitator would like to plan some more time for individual reviews; the (part-time-) availability of a second facilitator would help to realize this.
- **Offer a basic skills pre-session:**  
Basic skills for such a workshop should be: experience with Windows, experience with Word; using the internet. Since some had experience but very beginning skills, it is needful not just having been trained on it once, but rather to have a little bit of work experience with it.  
A basic skills pre-session a day or two before the workshop starts for those that have very basic skills should be planned.
- **Offer an introduction to PowerPoint:**  
A short introduction on using PowerPoint for those who have no experience would be effective and probably save some time that could be used for neglected learning objectives.
- **Expand the duration of the workshop, offer a follow-up or online phase:**  
In order to avoid the pressure of time and the cutting down of content, a two-week-long workshop could be planned. (The original planning of the workshop was 2 weeks & 3 facilitators.)  
Alternatively, a follow-up workshop of 1 week could be planned to deepen and consolidate the learning contents.  
An online coaching phase (either for preparation or for follow-up) could also be effective. E.g. instructions how to download resources (e.g. images) from the internet could be given in advance, participants can take them with to the workshop, in order to save valuable time spent downloading. Content that doesn't necessarily require the facilitator's presence could be given in advance.  
A follow-up coaching online could ensure the sustainability.

## Annex

### List of participants

#### a) ENDECO

No.	Name	E-Mail-Address	Profession	Institution	Subject area	Topic of project
1	Gonzalo Portal	gonzaloportal56@hotmail.com gonzaloportal56@gmail.com	Teacher	Mpelembe Sec. School	Maths, Env. Sciences	Physics Forces / Turning effect of forces / principle of moments/
2	Bwalya Kalumba Joseph	bwalyakalumbaj@yahoo.co.uk	Teacher	Mpelembe Sec. School	Maths / Calculation of area	The Pythagorean Theorem
3	Jackson Bwalya Mulenga	jbmulen2000@yahoo.co.uk	Teacher	Mpelembe Sec. School	History, Civics	Introduction to the United Nations (1945-1991)
4	Joyce Nambela Nalwamba	joycenalwambalubindo@yahoo.com	Office Manager, Personal Secretary	Mpelembe Sec. School		Guide for students how to prepare examinations
5	Eddie Ncube	emazila@yahoo.co.uk	Section Head of IT	Mpelembe Sec. School	Computer studies	Multiprogramming, Multitasking, Multiaccess – how OS does multiple things at the same time
6	Patricia Mwansa Chileshe	chileshep@yahoo.com	Teacher	Helen Kaunda High School, Kitwe	Mathematics	Earth Geometry: Definition of terminologies (e.g. Longitude, Latitude, Circles etc.)
7	Sr Clara M Mulenga	mulengacla@yahoo.com	Teacher	Ibenga Girls High School	Computer/Computer appreciation for G10 – G12	What is the computer? (Parts of the computer Social & economic effects of using computers)
8	Aarone Sakala	aaronesakala@yahoo.com	Teacher	Chamboli High School, Kitwe	Mathematics G10 – G12	Geometrical Transformations / Isometric / Description (Translation, Reflection, Rotation)

9	Lukama Lucy	lucylukama@yahoo.co.uk	Teacher	Kabundi High School	Physics	Electricity /Light / reflection and refraction of light
10	Phiri Fackson W.		TEACHER D/Head	Kantanshi High School	Geography	Regional geography: equatorial region
11	Michello Kelly	kbmichelo@yahoo.com	Teacher	Mukuba High School, Kitwe	Mathematics	Set presentations using venn data

## b) ESnet

No.	Name	E-Mail-Address	Profession	Institution	Subject area	Topic of project
12	Kalonga Mwiinga	kmwiinga@yahoo.com	Volunteer Editor/ Teacher	Munali High School	Geography	Soil erosion and sedimentation processes
13	Isaac Lyson Zulu		Volunteer Editor	Roma Girls Sec. School	History, Physical Education	Great Depression, USA
14	Chibwe Mulenga		Teacher	Chikola High School	History – Essay writing	Way of life of San peoples (religion, politics, economics, social aspects)
15	Munalula Michael		Teacher	Caritas High School	Geography	Depletion of ozone layer – what it is? How is it formed? Effects of depletion, measures to be put in place
16	Kambole Richard	Kambolerichard@yahoo.com	Teacher	St Paul’s High School	History	British policy of splendid isolation
17	Peter Menenge		Teacher	Kafue Boys High School	Geography	Chitemene farming system, geography
18	Nkandu Bwalya	fatimaids@yahoo.com	Teacher	Fatima High School	Geography	Geography of South Africa / settlements
19	Patrick Chityaba		Teacher	Hilcrest High School	Geography	Weathering, mass movement

**c) CYP**

<b>No.</b>	<b>Name</b>	<b>E-Mail-Address</b>	<b>Profession</b>	<b>Institution</b>	<b>Subject area</b>	<b>Topic of project</b>
20	Venwell Musonda Jnr	mcvenwell@gmail.com mcvenwell@yahoo.com	ICT Trainer, Telecentre Support	Internet Cafe, Computer Lab	Video Recording & Software Development; Target Group: Chawama Community	How to upload (download) video files to the web
21	Fred Banda	tronicvenwell@yahoo.com	Auto Mechanics Instructor	Auto Mechanics, Trade Theory	Automechanics	What is an engine? Lubrication System