



INTOSAI
Working Group
on Environmental
Auditing

Guide for Project Leaders: How to Develop INTOSAI WGEA Training Materials

2011



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Background

Helping its members increase the impact of their work through the exchange of information and training is one of INTOSAI WGEA's important strategic objectives. The need for training on environmental auditing has been underlined by Supreme Audit Institutions (SAIs) themselves – results of WGEA's 6th Environmental Survey¹ indicate that WGEA's action regarding the topic is expected and appreciated.

Guided by these notions, WGEA's work plan for 2011-2013 proposes finding a partner for establishing a global training facility on environmental auditing and, in addition, foresees the distribution of three training "modules" – on topics of climate change, forestry and mining. The envisaged training facility should ideally become a hub available for all SAIs, providing annual courses on existing WGEA guidance and study documents. Several environmental training initiatives have also been embarked on already, e.g. INTOSAI Development Initiative (IDI) and INTOSAI WGEA joint Environmental Auditing Workshop (2003-2004)² and Biodiversity Training Module developed and carried out by SAIs of Brazil and Canada (2009)³.

The present paper aims at establishing a common framework for future WGEA training materials to facilitate their developing process and ensure materials' harmonious content and quality. The training materials should look professional and be compiled in a way that any given SAI would easily be able to use them. INTOSAI Development Initiative's guidelines for SAI trainers have been utilized for setting up a preferred structure of future WGEA training binders. *IDI has also provided WGEA with useful comments and tips with regard to the document at hand.*

The structure of the guide is following:

1. Guiding principles for developing training courses
2. Structure of training materials (training binder):
 - a. Introductory Sheet
 - b. Materials of the sessions
 - Session-at-a-glance
 - Participant Notes
 - Instructor's Manual
3. Developing process in cooperation with the INTOSAI WGEA Secretariat

¹ See INTOSAI WGEA, *The Sixth Survey on Environmental Auditing* (2009), page 23.

² See further: http://www.idi.no/listof_courses_details.php?pid=3&msid=2

³ The training module is based on INTOSAI WGEA guidance material *Auditing Biodiversity: Guidance for Supreme Audit Institutions* and was first carried out in January 2009 in Doha, Qatar, prior to the INTOSAI WGEA 12th Working Group meeting. See further on the special biodiversity webpage section at INTOSAI WGEA website: <http://www.environmental-auditing.org/Home/FocusonBiodiversity/tabid/229/Default.aspx>

1. Guiding principles for developing training courses

Guiding principles for developing INTOSAI WGEA training materials of environmental courses are following:

- 1.1 IDI's best practice and long-term experience in developing training programmes for SAIs should be observed and utilized. Main principles and the structure of training materials proposed in this document follow IDI's *Suggested Guidelines for SAI Trainers*⁴. The content of the latter has been used in a concentrated form for the purposes of a practical and easy-to-read guide, assisting specifically the development phase of WGEA training materials.
- 1.2 Adult learning principles can significantly contribute to the efforts of achieving effective results of training programmes. The learning cycle represented by David A. Kolb⁵ (see Figure 1 below) – educational theorist referred to also by IDI – provides a beneficial conceptual model well interpretable into training practice. The model underlines significance of experience and its transformation through different stages of procession leading to its reflection on personal experiences, formation of theoretical concepts to be yet again tested against new situations. Recurrence of the cycle results in an enriched understanding, i.e. learning.

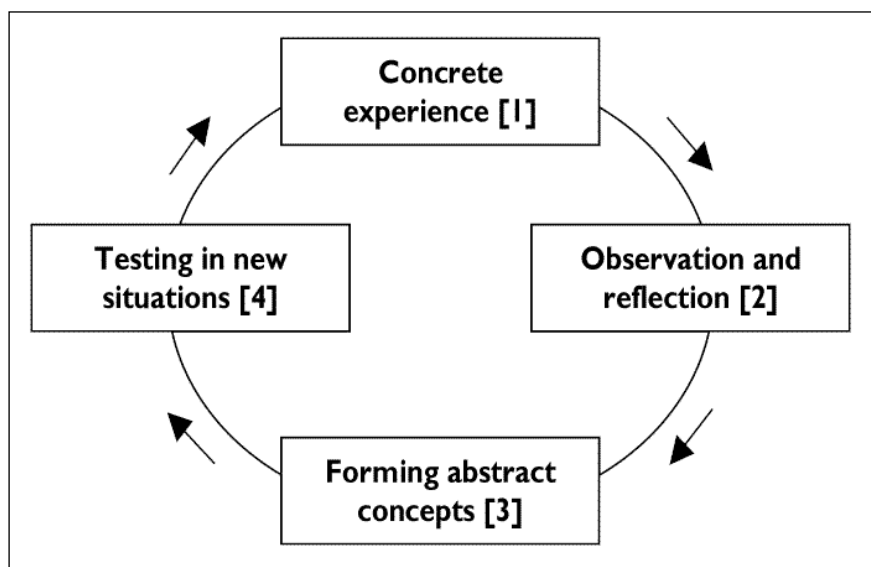


Figure 1. Kolb's learning cycle.

Essential implications that the model has in regards of training include the central role of experience and existence of different types of learning. Training instructors can intentionally build on these and thus make the whole learning process more motivating and effective.

The content of training materials must be composed accordingly for this to be possible, e.g. include considerable amount of practical exercises and case studies, leave sufficient amount of time for

⁴ See IDI, *Suggested Guidelines for SAI Trainers* (2001) for a more theoretical and comprehensive treatment of the subject.

⁵ Kolb, D. A., 1984. *Experiential Learning – Experience as the Source of Learning and Development*. Englewood Cliffs, New Jersey: Prentice Hall. Kolb's learning cycle is also referred to in IDI's *Suggested Guidelines for SAI Trainers* (2001, p 24-28).

group works and discussions, furnish training instructors with helpful tips for approaching key teaching points, using various interactive methods etc. In broader terms, this implies that besides the training binder material itself – certainly valuable for participants, supporting course participation and being a point of reference to turn back to afterwards – other, more interactive and creative training methods ought to be used to stimulate active participation and effective adoption of different steps in the learning cycle.

1.3 Training materials should be easily usable regardless of their developer or a given instructor. This means that materials' form and style ought to be anonymous, universally understandable and comprehensible also in their content. To the extent that its substance does not suffer, maximum simplicity and concision of training binder contents should be pursued.

1.4 The present guide should serve as a point of reference for INTOSAI WGEA training material developers, in regards of the main underlying principles of the courses as well as an overall desired structure and format of the binder.

2. Structure of Training Materials

“Training binder” stands hereby for a whole package of materials necessary for successfully carrying out a training course, i.e. the binder should include material meant for the participants of the course as well as all the additional guiding papers, background documents and notes facilitating the work of an instructor. Following the steps and principles of Kolb's learning cycle should be made a priority in each training module to ensure maximum effectiveness of the learning process.

The binder should be composed keeping in mind that the instructor has not participated in the process of developing the training materials, so good structure, forming and comprehensive content support carrying out a successful course. The structure of the binder should follow the logic of the course delivery. Thus, as a training course consists of modules (larger, non-defined number of single-topic segments of the course⁶) that are divided into sessions, the sessions-at-a-glance, notes of the participants and instructor's manual can best be followed when grouped together by sessions.

It is recommended that the training binder is structured as follows:

- a. Introductory Sheet
- b. Materials of the sessions (grouped under modules by sessions):
 - Session-at-a-glance
 - Participant Notes
 - Instructor's Manual

A. Introductory Sheet

A one-page introductory sheet of the training binder provides a brief opening for the course instructor: overview of the course topic and modules, general content of the sessions as well as an overall proposed timetable for carrying out the course. The sheet should also indicate how the binder is structured and the materials in it meant to be used. Exemplary format of the sheet is presented in Appendix 1.

⁶ For example, a climate change training course could be divided into two modules: adaptation and mitigation.

B. Materials of the sessions

B.1. Session-at-a-glance

Session-at-a-glance gives a short overview of the training session. Learning objective, main key teaching points, teaching methods⁷ and estimated time should be included. Exemplary format of the session-at-a-glance is presented in Appendix 1.

B.2. Participant Notes

Participant notes are in essence a comprehensive text material (conspectus), approximately 5-10 pages long, providing background information on the session at hand. Charts, figures, tables are preferable for adding visual impact. Ideally, the presentation slides content should also be integrated to this material. Examples and references to case studies and exercises (included in the session materials) can be utilized for illustrating key concepts. Participant notes of a training course session based on an INTOSAI WGEA environmental guideline could largely be based on the already existing guidance material contents.

B.3. Instructor's Manual

Instructor's manual should consist of all the instructions and other complementary documents that support carrying out the training course. Documents which ought to be included are following:

- *Instructors Notes* – step-by-step notes that guide the Instructor on how to deliver the course in each session. The more precise and detailed the notes, the more likely they are to contribute to the successful delivery of the course. For example, a list of questions and brainstorming topics can help the instructor organise participant discussions. The notes can also include anticipated learner response - “correct” answers, criteria for assessing the outcome of group exercises -, guidance on how to use visual aids and supplementary materials etc.
As the presentation slides largely support delivery of the course, notes and slides could be integrated (used interchangeably so that the slides are directly accompanied by relevant notes and discussion tips) and the instructor can follow them easily in a logical sequence. Exemplary format of the notes is presented in Appendix 1.
- *Case studies and exercises* – case studies and exercises should include separate instructions to the instructor (possibly integrated to the notes) and also solution keys.
- *Handouts* – papers that are handed to the participants during the course to illustrate a topic at hand, provide additional information etc. Handouts can include tables and graphs, articles, photos or anything else supporting the learning process.
- *Presentation slides* – copies of presentation slides should accompany the manual.
- *Other possible features* – a number of features that can further support the conduction and evaluation of the course: pre-course reading materials, pre- and post-course tests, feedback sheets to be filled during or after the course, a glossary of most important terms used in the course, bibliography, references to further information on the course topic.

⁷ An exemplary list of various training techniques is presented in a glossary at the end of this guide.

3. Developing process in cooperation with the INTOSAI WGEA Secretariat

Commenting the draft training materials

According to the approved timeline the training module's project leader sends the draft training materials to the Secretariat and the Secretariat in turn forwards these to the Steering Committee (SC) for comments. The time for responses is generally limited by setting a deadline. The list of documents presented to the SC includes:

- introductory sheet;
- sessions-at-a-glance with main learning objectives;

The rest of the materials will be reviewed by WGEA Secretariat.

Formatting and editing issues

Formatting and editing will remain the responsibility of the training module's project leader. Both WGEA's and/or project leader's document templates and logo can be used. As the training materials' format will change throughout the actual delivery process (adjusted to the needs of specific courses), flexibility ought to be ensured. Thus, the developed binders or the materials will not be desktop published, but uploaded to INTOSAI WGEA website's password-protected section.

Appendix 1: Examples of Training Binder Materials

Following examples give an overview of how to draw up an introductory sheet to a training materials' binder as well as compose a session-at-a-glance and instructor's manual. The content of these exemplary items is simplified and does not lay any other claims than to serve as an assisting conceptual template.

Introductory Sheet⁸

Illustration

ENVIRONMENTAL AUDITING COURSE Binder of the training materials	
Duration	5 days
Language	English
Modules and sessions	1. <u>Environmental auditing and main audit methods</u> (1 day) <ul style="list-style-type: none"> S.1.1. Financial audit method and environmental auditing (1,5 hrs) S.1.2. Compliance audit method and environmental auditing (1,5 hrs) S.1.3. Performance audit method and environmental auditing (3 hrs) 2. <u>Environmental audit topics</u> (4 days) <ul style="list-style-type: none"> S.2.1. Auditing climate change (1 day) S.2.2. Auditing biological diversity (1 day) S.2.3. Auditing waste issues (1 day) S.2.4. Auditing water issues (1 day)
<p>The Environmental Auditing Course aims at introducing the participants to the performance audit methodology and its application in an environmental auditing field. It is based on INTOSAI WGEA guidelines [name of the guideline] developed by SAIs of [developers]. [Further possible elaboration on the course aim and contents]</p> <p>The course is divided into two models, <i>Environmental auditing and main audit methods</i> (three sessions) and <i>Environmental audit topics</i> (4 sessions). The binder is structured by sessions, each containing session-at-a-glance, participant text notes and instructor's manual. [Further possible elaboration on the content and usage of the materials]</p>	

⁸ Gray text in italics refers to the need of further specific text in addition to the given simple exemplary template.

Session-at-a-Glance

Illustration

Session title: S.1.3. Performance audit method and environmental auditing	Session-at-a-glance
<p>Session Learning Objective: The session will give participants an overview of the possibilities to employ performance audit method when auditing environmental topics and an overall understanding of the performance audit process. The participants will be able to identify possible environmental performance audit topics and describe the main steps of the auditing process.</p> <p>Key Points to be covered:</p> <ul style="list-style-type: none"> - Nature and main techniques of performance audit; - Steps of the performance audit process; - Choosing environmental performance audit topics; 	
Teaching Method	Time
Introduction and warm up exercise Lecture and slides Flipcharting exercise Exercise and group discussion Walk through of the exercise solution	30 minutes 60 minutes 20 minutes 40 minutes 30 minutes Total time: 180 minutes

Instructor's Notes⁹

Illustration

Session: S.1.3. Performance audit method and environmental auditing

Instructor's notes

Introduction (10 minutes): show slides 3-1 to 3-3 and introduce the session overview, learning objectives and basic concepts.

[Slides and complementary text]

Warm-up exercise (20 minutes): hand out the exercise sheet 3-A and explain its objective.

[Description of the steps of the exercise, answer key and possible discussion points]

Lecture (60 minutes): show slides 3-4 to 3-30.

[Slides and possible specific instructions accompanying them ("Bring an example of...", "Ask the audience...", etc.)]

Flipcharting exercise (20 minutes): encourage participants to come forward with ideas and post them on wall.

[Instructions on how to encourage brainstorming and use the attained knowledge pool, e.g. group it]

Exercise and group discussion (40 minutes): form discussion groups and hand out exercises for each (sheets 3-B to 3-D). Explain the task and state the desired outcome.

[Instructions on how to form the groups (on the basis of the flipcharting exercise, e.g.), activities during the group discussion (observing each group, providing support, etc.)]

Walk through of the exercise solution (30 minutes): discuss the solution process of the exercise in a step-by-step manner.

[Answer keys, additional questions]

⁹ Gray text in italics refers to the need of further specific instructions in addition to the given simple exemplary template.

Glossary of Some Selected Training Techniques¹⁰

Brainstorming – a basic and highly popular tool for group problem solving. It can be used to identify problems, to suggest causes for problems, and to propose solutions for problems. The technique emphasizes deferred judgment and quantity to get quality. Also, a technique where creative thinking takes precedence over the practical. The idea is to get all possible ideas out before the group with no thought to how practical the ideas might be.

Case study – a test item that can be used by learners to demonstrate new analytical planning skills in an observable fashion.

Climate-setting activity (“ice breaker”) – a training procedure designed to start things off and set the proper climate; creates a desirable atmosphere within a given group.

Coaching – the art of by demonstration and practice, with immediate feedback, conducted by peers, supervisors, and/or experts in the field.

Delphi technique – in problem solving, a consensus-seeking technique wherein the ideas are generated individually and anonymously through the mail and “filtered” a number of times by the same participants. In a more “modern” version, the group is assembled and polled as to preferences; choices are still accomplished individually and without discussion.

Demonstration – applying skills and knowledge to a real-life situation; this situation can be set up in the classroom or in the actual job environment and can result in an end product, which is then evaluated.

Discovery method – means of teaching which avoids expository instruction. The trainee is presented with tasks which engage him in the search for and selection of clues on how to proceed. The effectiveness of the method depends on the design of these tasks which have two aims: to provide intrinsic means for unassisted learning; and to provide the experience upon which insight into key relationships can be developed.

Exercise – a training experience marked by a learning goal, high participation and structure. Its overall purpose is to generate data for participant analysis.

Flipcharting – process of securing participant ideas, recording them on easel paper, and posting the big sheet on the wall; it provides reference, recognition, motivation and atmosphere.

Game – an experiential training activity marked by a learning goal, competition, rules, scores or outcomes and winners and losers. Games may be content-laden or be a “pure” game devoid of content.

Group-centred discussion – a dialogue that takes place within a group setting where agenda and flow of discussion is determined by group members rather than the leader.

Lecture – the classical form of conveying information from teacher to student. The success of the transfer rests with the ability of the lecturer. Lectures are most effective when presented with ample teaching aids

¹⁰ Selectively chosen from IDI's manual

combined with active participation by the whole group, which may previously be allocated to syndicated groupings for follow-up discussions on the content of the lecture.

Lesson – a method of instruction incorporating a number of instructional techniques designed to ensure the participation of the learning group in reaching the specified behavioural objectives. The techniques used are those which give the instructor the necessary feedback to enable him ascertain whether the material is being assimilated and where necessary to take appropriate remedial action. The lesson should not be confused with the lecture which is a straight talk or exposition, possibly using visual or other aids, but without group participation other than through questions at the conclusion.

Multi-media learning – the integrated use of various communication media (print, audio, film, slide, video, computer etc.) in the construction of a learning program, in such a way that each part of the information being taught is carried by the most appropriate medium.

Open questions – a query expressed in very broad terms and capable of a wide variety of answers. It is usually prefixed by who, what, when, where, why or how.

Open-book test – a written measurement tool wherein the learner is allowed to consult a textbook or other reference when responding to questions.

Paper-and-pencil-test – a written measurement tool wherein the learner is required to respond to questions without any extraneous interaction or assistance.

Post-test – a criterion-based tool administered at the completion of a course or module to determine how much of the course or module information the student acquired during the course.

Pre-test - a criterion-based tool administered at the beginning of a course or module to determine how much of the course or module information the student already knows.

Role playing – a learning technique in which students are presented with a situation which they are required to resolve by acting out the roles of those represented in this situation.

Round-robin reporting – an efficient way of gathering information from a large group which involves in hearing one response from each individual, moving from person to person in a circular fashion, until all responses have been given.

Seminar – a short course or conference making extensive use of participatory methods and devoted to the exclusive study of one subject with the object of furthering knowledge in that area.

Session – a planned, organized sequence of activities designed to prepare individuals to perform their jobs, meet a specific position or classification need and to maintain or improve their performance on the job.

Simulation – applying skills and knowledge to a preset situation that resembles or duplicates a real-life situation or results in the creation of an end product (work sample).

Test – a series of questions, exercises, simulations, demonstrations or other means of measuring the knowledge, skills or judgement of an individual or group.

Visual aids – things which can be seen or observed and which help with the communication of a given idea or concept.

Walk through – a simulation of the steps required in a given process.

Workshop – a “hands on”, highly participative training effort wherein participants learn by doing. Typically the group is small enough to ensure adequate rapport and intimacy.