

# Latin American Workshop on Biodiversity e-Learning Platforms Cusco, 10-13 Mayo 2010

## Summary Report

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By mean of this report, relevant issues, conclusions and discussions from referred workshop are presented. This workshop took place at the Engineering Faculty of the Universidad Andina de Cusco, in Peru, from 10 to 13 of May, 2010. It was organized in the frame of PIIB Project (Latin American Platform for Biodiversity Information, <http://www.recibio.net/PIIB.php>) that is funded by Science and Innovation Spanish Department (International Cooperation Complementary Action ACI2008-0737, Program for International Scientific Cooperation Promotion). Workshop organization and participant assistance were financed by PIIB and GBIF Secretariat. 14 people from 9 Latin American countries assisted: Argentina, Uruguay, Brasil, Venezuela, Colombia, Nicaragua, Costa Rica, Cuba and Peru. The instructors were Alberto González Talaván, from GBIF Secretariat, Herón Andrés Meza, from IIAB, Peru, and Maria Encinas from GBIF Spain.

### Introduction: workshop objectives

The use of e-learning platforms (Content Management Systems, Learning Management Systems or Virtual Learning Environments) as a mean to improve and spread biodiversity information outreach and capacity is becoming essential. This workshop came up with the aim of training experts to qualify them to manage these kinds of tools in the area of bioinformatics in Latin America and according to GBIF objectives.

So, the main aim of this workshop was to qualify workshop participants for e-learning platforms management in such a way that they are able to organize and create virtual training courses related to biodiversity and informatics and support instructors in their tasks as well as to train both, instructors and students, for and adequate design and implementation of e-learning projects in the frame of their institutions.

The development of these new Virtual Learning Environments or e-learning platforms will enable to increase biodiversity and informatics training opportunities for Latin America and according to GBIF objectives.

## Workshop contents

Although the detailed program of the workshop is attached in annexes (Annex 1) here we present a summary of main issues dealt with:

- **Introduction about e-learning:** Concepts definition and main characteristics; most important elements to be taken into account for the development and implementation of an e-learning Project. Relevant commercial and open source Virtual Learning Environments available. Alberto González Talaván and Maria Encinas. 2h.
- **Moodle platform.** Main characteristics. Main tools related to administrator, instructor and student interfaces. Herón Andrés Meza. 8 h.
- **ATutor platform.** Main characteristics. Main tools related to administrator, instructor and student interfaces. Maria Encinas. 8 h.
- **Interoperability among Virtual Learning Environments:** SCORM standard. SCORM packages usage in Moodle and ATutor. Creation of SCORM packages in RELOAD. Another ways of interoperability and information exchange. Maria Encinas y Herón Andrés Meza. 2 h.
- **Workshop discussion, assessment and conclusions.** Alberto González Talaván, Herón Andrés Meza y Maria Encinas. 2 h.

The workshop was designed from an eminently practical training.

For each of the Virtual Learning Environment the students practiced by mean of exercises, presentations or guided demonstrations the different functionalities and tools available for every user profiles: administrator, instructor and student.

As platforms administrators the students learnt basic tools and functions to properly establish platform settings as well as to configure modules and other essential functions for instructors and students.

As instructors, the students worked on the creation and configuration of virtual courses and on the practice and application of basic tools related to course implementation (interaction tools as chat and forum, evaluation tools, tracking tools, etc.) Teaching materials to design the course (ppt presentations, multimedia files, Word documents) provided from courses and workshops in a classroom setting at GBIF Spain, Unit of Coordination.

As students, those present at workshop explored different functions and tools in relation to courses previously created by instructors: course contents navigation, interaction tools, evaluations tools, tasks and activities provided, resources available, etc.

The last part of workshop was dedicated to interoperability among platforms. SCORM was the selected standard to achieve interoperability because it's supported by main platforms and it is one of the most popular. SCORM packages were created into ATutor platform and by mean of RELOAD software (specific tool to create SCORM packages and other interoperable standardized packages). The created packages were tested on the two platforms, ATutor and Moodle.

By mean of Moodle platform, a tool developed by IIAP IT specialists to share biodiversity information provided by different institutions was showed.

To close the event, a questionnaire to assess the workshop usefulness was delivered.

In relation to global workshop assessment, four participants evaluated the workshop with marks between 8 and 10 (8, 9, 9.5 and 10), 4 participants evaluated it as "excellent" and 6 participants as "very good".

From the results of this question and specially from the results of the question "Adquired knowledge" -related to that all the students agreed with the very useful of learnt issues to be applied to their work- it can be stated that a properly accomplishment of previously established objectives has been achieved.

In the same way another anonymous survey about platforms assessment and preferences (strength and weakness) and interests in e-learning Project implementation into own institutions was given out (both of them, survey and results, are attached in Annexes 2 and 3). A discussion about these issues started as a workshop close. Next we gather the relevant topics and conclusions from the discussion and from the results of the survey.

## **Discussion and conclusions: Moodle and ATutor, strength and weakness**

### **Discussion about platforms: strength and weakness; perceptions and notes from students interaction along the workshop.**

Next we gather relevant comments and opinions about studied platforms:

- Platforms may be used not only as tools to create virtual campus and virtual courses but as learning objects repositories or as contents management systems. Anyway online courses may be absolutely compatible to workshops in a classroom setting (blended learning).

- Moodle seems more flexible and scalable and it has more functionalities and tools. So it seems more suitable for a complex learning environment as University courses. However ATutor has a more intuitive interface that makes it more adequate for less complex environments as, for example, complementary training (short courses, post graduate courses, etc.)
- The content edition in ATutor (tasks related to creation and configuration of courses by the instructor) seems to be more complex than in Moodle, especially for those persons less familiar to html editors (although ATutor presents a visual interface that makes it easier, some functions are necessary to be made by mean of code as marking terms of glossary). However, and after being familiar to the content edition tools, the great majority of students agreed with the matter that finally it is not such a complex process.
- In relation to the relevance of Accessibility and Adaptability -one of the main specific qualities that differentiate ATutor from others platforms- several students underlined that although in a first phase it does not seem to be a relevant point to select a platform, in a exploitation phase it could be a differentiation factor and a good opportunity to increase e- learning offer.
- Although in the two platforms the availability of extra modules is broad, however in ATutor some basic modules as calendar are not integrated. It is necessary to install this module as extra and the results are not so good as in Moodle, where it is an integrated tool.
- Files downloads in ATutor was slower than in Moodle, perhaps because all the students were trying to work at the same time and the server was located in Spain, not in Peru. A student stressed that a module that allowed managing and synchronizing files and working out line would be very useful. Students asked about the capability of different platforms in relation to support a high number of courses and users.
- Technical support and number of users (popularity) was underlined as essential in selection a platform. The better the technical support and greater the number of users, greater the possibilities of solving problems during installation and exploitation of e-learning platform. In this sense is relevant to note that when searching Moodle in Google, the number of results is higher than searching ATutor.
- In ATutor, the different tools can be accessed from different points. This attempt to facilitate the location of functions turns into counterproductive and confused.
- The selection of one of the platforms depends on the e-learning Project objectives and characteristics. Both are good platforms and both have strength and weakness. Finally one gets used to that one with what she/he usually works.
- The most important is the e-learning Project, most than the platform used to show it. One of the students related her personal experience in the implementation of Moodle. Finally, motivation declined and platform usage failed. So it was necessary to resort to other external interaction tools to recapture the interest in platforms (as forum, chats or others tools).
- It would be very interesting to know how much time takes a student being familiar to a specific platform in order to have another factor helping in selection. Although ATutor seems more intuitive for students, however Moodle seems to have more functionalities and possibilities.

- Moodle seems to be easier for the student and ATutor easier for the instructor because of more organized contents.
- Restrictions in web connectivity should be considered in the design of e-learning Project and in designing courses. When connectivity are scarce or low it is necessary to replace heavy files (video files for example) for others less heavy as word or pdf files.
- The interfaces showed both in Moodle and ATutor are the most basic ones. It is necessary to take into account that they can be improved, especially if specific programming resources are implemented.
- Interaction and communication tools are not so relevant into the platforms; there are other tools as Skype or gmail, out of the platforms, much more effective and finally they are what are used by students.

### **Results of Survey about Moodle and ATutor assessment**

The survey was divided into two parts. The first one was about platforms preferences in relation to interface and tools for each user interface: administrator, instructor and student. The second one was referred to the interest in implementing an e-learning Project in the frame of participants' institutions.

#### *Preferences about Moodle and ATutor tools and functionalities*

- In relation to platforms usability (general interface) the preferred platform was ATutor with the 36% of the participants' votes (29% preferred Moodle and 29% preferred both).
- In relation to course content organization the preferred platform was ATutor with the 43% of the votes (29% preferred Moodle).
- However, in relation to both, interaction tools and evaluation tools, the preferred platform is Moodle (with 64% and 43 % of votes respectively).
- In the same way and in reference to administrator and instructor tools, the preferred platform is Moodle (43% and 50% of preferences respectively).
- Nevertheless, relating student's tools, the platforms with higher preferences was ATutor, with the 50% of votes (36% for Moodle).
- Global assessment shows a higher preference towards Moodle, with 50% of votes against ATutor, with 29% of votes).

#### *Implementing an e-learning Project in the frame of your institution*

- Referring future plans for implementing an e-learning platform, 93% of participants expressed their intention of implementation, either immediately (43%) or after a financial request to start a new related Project (50%). Only 7% of participants (1/14) did not have intention of implementing e-learning platforms within a short time.
- In relation to the kind of e-learning implementation 57% of participants tended to favor a blended learning and 28% of participants preferred a whole electronic learning (14% without facilitators and 14% with them).
- Referring the relevance of managing diverse languages, 64% of participants considered secondary this issue because of the main language of platforms and courses would be

Spanish. However a 29% of participants think that multilingual support is essential due to they need to use several languages in their e-learning project.

- Finally and in relation to the influence of a previously selected platform by GBIF or PIIB 43% of participants express that they will make their own decision maintaining interoperability (21% express that the decision made by PIIB or GBIF do not influence their decision and another 21% say that they will select that one platform selected by GBIF or PIB).

To close the discussion section, Alberto González Talaván proposed the creation of an interaction and work group into the GBIF Community Site in order to keep ourselves in contact and collaborate in future initiatives, ***Grupo de interés sobre formación electrónica en español*** (<http://community.gbif.org/pg/groups/6083/grupo-de-inters-sobre-formacin-electrnica-en-espaol/>). 7 people registered in this new group. The main objective of that was to be in contact in order to develop or participate in next e-learning initiatives.

## Annex 1. Detailed program of the workshop

### 10th of May, 2010, Monday.

09:30 – 11:00

- Welcome. Workshop introduction and objectives.
- Basic concepts about e-learning.
  - Main characteristics
  - E-learning project planning and design.

11:00 - 11:30 – Coffe break.

11:30 – 12:30

- **E-learning platforms**
  - Introduction
  - General characteristics
  - Kind of platforms
  - Most popular platforms
  - What one to select?
  - Platforms demos

12:30– 13:30

- **MOODLE PLATFORM**
  - Introduction
  - General characteristics and presentation.
  - Administrator, instructor and student interfaces: basic functions and first approach
    - Entering platform
    - Sending a message
    - Updating our personal profile
    - Changing our password
    - Navigating into a course
    - Calendar
    - Resources and activities
    - Forums
    - Practical exercises

13:30 - 15:00 - Lunch.

15:00 - 16:30

- **Moodle: Administrator interface**
  - Case study 1. System preferences and users
    - Roles user management
    - User Management
    - General settings

16:30 - 17:00 – Coffe break

17:00 - 18:00

- **Moodle. Administrator interface (to be continued).**
  - Case study 2. Modules and general management of courses.
    - Modules management
      - Installation, unistallation and settings
    - Course management
      - Categories

- Courses formats
- File manager
- Backups

**11th of May, 2010, Tuesday.**

09:00-11:00

- **Moodle. Instructor interface**
  - Case study 3: Creating a course. First part.
    - Editing a course
    - Content elements
      - HTML editor
      - Labels
      - Resources
      - Lessons
      - Glossary
      - Wikis
    - Learning materials: multimedia (videos), presentations, texts in pdf and word from two workshops in a classroom setting at GBIF Spain.

11:00 - 11:30 – Coffee break

11:30-12:30

- **Moodle. Instructor interface**
  - Case study 4: Creating a course. Second part.
    - Activity elements
      - Polls
      - Tasks
      - Surveys and exams
      - Questionnaire
    - Review, assessment and marks.
    - Learning materials: multimedia (videos), presentations, texts in pdf and word from two workshops in a classroom setting at GBIF Spain.

12:30-13:30

- **Moodle. Student interface**
  - Case study 5: Attending a course. Student' main functions and tools. First part.
    - Course contents elements
      - HTML editor
      - Labels
      - Resources
      - Lessons
      - Glossary
      - Wikis
    - Learning materials: multimedia (videos), presentations, texts in pdf and word from two workshops in a classroom setting at GBIF Spain.

13:30 - 15:00 - Lunch.

15:00 - 16:15

- **Moodle. Student interface**
  - Case study 6: Attending a course. Student' main functions and tools. Second part.
    - Course activities
      - Polls
      - Tasks



- Surveys
  - Questionnaires
- Marks
- Learning materials: multimedia (videos), presentations, texts in pdf and word from two workshops in a classroom setting at GBIF Spain.

16:15 - 16:45 – Coffee break.

16:45 - 18:00

- **ATUTOR PLATFORM**
  - General characteristics and philosophy
  - Installation notes
  - Presentation and first approach to platform
  - Practical exercises

**12th of May, 2010, Wednesday**

09:00-11:00

- **ATutor. Administrator interface: basic functions.**
  - System preferences
    - Home
    - Default preferences
    - Languages
    - Themes
  - Course management
    - Creating a course
    - Establishing course categories
    - Default course tools configuration
    - Others: Forums management and backups
  - Users management and enrolment
    - Creating a user account and administration account.
    - Changing a user profile and enrolling a user
  - Modules
    - Installing a new module
  - Practical exercises

11:00 - 11:30 – Coffee break

11:30-13:30

- **ATutor. Instructor interface: basic functions.**
  - Case study 1: Creating a course. First part.
    - First step: general configuration of the new course.
    - File manager
    - Content edition
    - Creating surveys and questionnaires
    - Enrolling students in a course
    - Learning materials: multimedia (videos), presentations, texts in pdf and word from two workshops in a classroom setting at GBIF Spain.

13:30 - 15:00 - lunch.

15:00 - 16:15

- **ATutor. Instructor interface: basic functions.**
  - Case study 1: Creating a course. Second part.
    - Announcements
    - Forums
    - Assignments
    - Chat
    - Course backups
    - Sending an email
    - Polls
    - Reading list and resources
    - Others: groups, course tools, links, grade book.
    - Learning materials: multimedia (videos), presentations, texts in pdf and word from two workshops in a classroom setting at GBIF Spain.

16:15 - 16:45 – Coffee break

16:45 - 18:00

- **ATutor. Student interface: basic functions.**
  - Case study 2: Attending a course.
    - Exploring course contents
    - Sending assignments
    - Surveys and Questionnaires
    - Forums
    - Polls
    - Links
    - Others: Glossary, FAQs, Reading list, directory, my tracker, Chat. Learning materials: multimedia (videos), presentations, texts in pdf and word from two workshops in a classroom setting at GBIF Spain.

### **13rd of May de 2010, Thursday**

09:00-11:00

- **E-learning platforms interoperability.**
  - Platforms interoperability and information exchange: SCORM and IMS Common Cartridge standards.
  - SCORM packages
    - SCORM and Atutor: creating and importing SCORM packages
    - Creating SCORM packages in RELOAD
  - Using SCORM packages in Moodle
  - Practical exercises

11:00 - 11:30 – Coffee break

11:30-13:30

- **Workshop discussion, assessment and conclusions. Platform assessment.**
- **Closing workshop.**

## Annex 2. Questionnaire about Moodle and ATutor e-learning platforms

### Questionnaire about Moodle and ATutor e-learning platforms

#### Instructions

There are a total of 14 questions in this questionnaire and its filling will take you about 5 minutes. Your opinion is relevant for us, so we thank you very much for your time.

**Question 1: Usability.** Referring the general platform interface (default preferences, functions appearance, etc.) What platform do you prefer?

- Moodle
- ATutor
- None of them
- Both
- I do not know*

**Question 2: Content organization.** Exploring a course and in relation to visualization of contents (lessons or themes, presentations, media,...) What platforms do you prefer?

- ATutor
- Moodle
- Both
- None of them
- I do not know*

**Question 3: Interaction tools.** About Chat, Forums, messages exchange, etc. ¿What platform do you prefer?

- Moodle
- ATutor

- Both
- None of them
- I do not know*

**Question 4: Assessment tools.** In relation to the creation of evaluations, exercises and polls, what platform do you prefer?

- Moodle
- ATutor
- Both
- None of them
- I do not know*

**Question 5: Administrator interface.** What platform do you prefer?

- Moodle
- ATutor
- None of them
- Both
- I do not know*

**Question 6: Instructor interface.** Relating to course creation and configuration, What platform do you prefer?

- Moodle
- ATutor
- Both
- None of them

*I do not know*

**Question 7: Instructor interface.** Referring tracking students tools, what platform do you prefer?

- Moodle
- ATutor
- None of them
- Both
- I do not know*

**Question 8: Student interface.** In relation to courses content exploration, what platform do you prefer?

- ATutor
- Moodle
- Both
- None of the
- I do not know*

**Question 9: Global assessment.** After being familiar to these two open source platforms, I prefer...

- Moodle
- ATutor
- Other open source platform
- I would select a commercial platform if this made my project easier.
- Other choice
- I do not know*

**Question 10:** My plans for implementing an e-learning Project include...

- To start immediately an e-learning project from those learnt in this workshop
- To start a new e-learning project after applying for a financial proposal
- I have no plans for implementing an e-learning project at a short time
- I have no plans to start an e-learning initiative
- I do not know*

**Question 11:** What kind of e-learning implementation would you prefer?

- Electronic learning, without facilitators
- Electronic learning, with facilitators
- Blended learning
- Other kinds
- I do not know*

**Question 12:** Referring languages, how much important is for you a multilingual support?

- It is essential, because I need to use several languages at the same time.
- It is secondary because the main language will be Spanish.
- It is not relevant
- I do not know*

**Question 13:** The selection of a platform in the frame of GBIF or PIIB will influence your decision?

- The selected platform will be too my preferred one
- I will make my own decision, maintaining interoperability.

- This decision will not affect my own decision.
- I do not know*

**Question 14:** Observations.

## Annex 3. Results of the Questionnaire about Moodle and ATutor e-learning platforms

### Questionnaire about Moodle and ATutor e-learning platforms

#### Statistics

Question	I do not know	Moodle	ATutor	None of them	Both
<b>Question 1: Usability.</b> Referring the general platform interface (default preferences, functions appearance, etc.) What platform do you prefer?	1 / 14	4 / 14	5 / 14	0 / 14	4 / 14
	7%	29%	36%	0%	29%

Question	I do not know	ATutor	Moodle	Both	None of them
<b>Question 2: Content organization.</b> Exploring a course and in relation to visualization of contents (lessons or themes, presentations, media,...) What platforms do you prefer?	1 / 14	6 / 14	4 / 14	3 / 14	0 / 14
	7%	43%	29%	21%	0%

Question	I do not know	Moodle	ATutor	Both	None of them
<b>Question 3: Interaction tools.</b> About Chat, Forums, messages exchange, etc. ¿What platform do you prefer?	2 / 14	9 / 14	0 / 14	2 / 14	1 / 14
	14%	64%	0%	14%	7%

Question	I do not know	Moodle	ATutor	Both	None of them
<b>Question 4: Assessment tools.</b> In relation to the creation of evaluations, exercises and polls, what platform do you prefer?	1 / 14	6 / 14	5 / 14	2 / 14	0 / 14
	7%	43%	36%	14%	0%

Question	I do not know	Moodle	ATutor	None of them	Both
<b>Question 5: Administrator interface.</b> What platform do you prefer?	2 / 14	6 / 14	5 / 14	0 / 14	1 / 14
	14%	43%	36%	0%	7%

Question	I do not know	Moodle	ATutor	Both	None of them
<b>Question 6: Instructor interface.</b>	1 / 14	7 / 14	6 / 14	0 / 14	0 / 14



Question	I do not know	Moodle	ATutor	Both	None of them
Relating to course creation and configuration, What platform do you prefer?	7%	50%	43%	0%	0%

Question	I do not know	Moodle	ATutor	None of them	Both
<b>Question 7: Instructor interface.</b> Referring tracking students tolos, what platform do you prefer?	1 / 14 7%	7 / 14 50%	4 / 14 29%	0 / 14 0%	2 / 14 14%

Question	I do not know	ATutor	Moodle	Both	None of them
<b>Question 8: Student interface.</b> In relation to courses content exploration, what platform do you prefer?	1 / 14 7%	7 / 14 50%	5 / 14 36%	1 / 14 7%	0 / 14 0%

Question	I do not know	Moodle	ATutor	Other platform...	I should select a commercial one if...	Other choice...
<b>Question 9: Global assessment.</b> After being familiar to these two open source platforms, I prefer...	3 / 14 21%	7 / 14 50%	4 / 14 29%	0 / 14 0%	0 / 14 0%	0 / 14 0%

Question	I do not know	To start immediately...	After applying for a funding proposal ...	I have no plans at a short ...	I have no plans...
<b>Question 10:</b> My plans for implementing an e-learning Project include...	0 / 14 0%	6 / 14 43%	7 / 14 50%	1 / 14 7%	0 / 14 0%

Question	I do not know	E-learning without facilitators...	El-earning with facilitators...	Blended learning	Others
<b>Question 11:</b> What kind of e-learning implementation would you prefer?	1 / 14 7%	2 / 14 14%	2 / 14 14%	8 / 14 57%	1 / 14 7%

Question	I do not know	Essential, I need it...	Secondary...	It is not relevant...
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Question	I do not know	Essential, I need it...	Secondary...	It is not relevant...
<b>Question 12:</b> Referring languages, how much important is for you a multilingual support?	0 / 14	4 / 14	9 / 14	1 / 14
	0%	29%	64%	7%

Question	I do not know	The selected platform will be my preferred ...	I will make my own decision...	This decision will not affect my own decision...
<b>Question 13:</b> The selection of a platform in the frame of GBIF or PIIB will influence your decision?	2 / 14	3 / 14	6 / 14	3 / 14
	14%	21%	43%	21%

Question	I do not know	Resultados
<b>Question 14:</b> Observations.	5 / 14	See results below (only about platforms, the rest were opinions about the workshop)

#### Results for **Observations:**

- Both platforms work well, however I think that ATutor is easy to implement and more versatile.
- It is complicated to answer what platform is better. I think that it depends on the institution objectives because both platforms have advantages and disadvantages. A monitoring of our implementation processes would be a good idea in order to learn from good experiences.
- It is necessary to go into the practice of both platforms in order to make a better decision about what is the most suitable one. RELOAD is a very useful and intuitive tool. My institution prefers open source platforms. We will implement what I have learnt in this workshop to create a new area related to e-learning into my institution.
- It is necessary more training in the management of platforms.
- It is necessary to have a good informatics infrastructure to achieve a smooth running.
- Both platforms are interesting and good; they are of great help in designing on line courses.