

# **AN INFORMATION LITERACY APPROACH WITHIN THE “GUIDED WEEKLY REFLECTION PAPERS”**

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## **Abstract**

A group of lecturers from diverse areas of knowledge of the University of Alcalá have implemented an experience of teaching innovation based on “reflective diaries”. The students hand in to the lecturer every week their “Weekly Reflection Papers” (WRP), in which they schematically express the most important ideas related with the topic presented during the classes of the previous week. They must include their reflections about the aspects they found especially interesting. After having applied this tool for some academic years we introduced a modification called “Guided Weekly Reflection Papers” (GWRP), where the professors suggest a series of questions on which the students must apply the most significant concepts studied each week. This modification enhances student’s motivation, encourages them to achieve more significant and reflective knowledge and generates interest in emergent topics.

However, we often detect that the information management needed to solve the proposed questions in the GWRP is not the most suitable one. Therefore our present work is aimed at helping students develop the necessary skills and acquire a searching criterion in the framework of the information literacy. The strategy was focussed on some important items for the acquisition of information competencies. In this communication we analyze the progress of the GWRP tool and we explore the response of students to the information literacy approach.

Keywords: Guided weekly reflection papers, teaching-learning tool, information literacy, information competencies.

## **1 INTRODUCTION AND OBJETIVES**

Reflection is a mental process that may be used to meet a purpose or to achieve some anticipated results [1]. The reflection is applied to events or thoughts relatively complicated that have no obvious or unique solution and is based on post-processing of concepts we have known and understood previously.

Reflection in the academic context is directly involved in learning and therefore with the construction, transmission and appropriation of knowledge. One of the most important aspects is the medium used to express the results due to the fact that the reflective work implies modelling the structure of our reflection. The written form is considered one of the most suitable representations firstly because it lets to express coherently thoughts in a deeper and conscious way and secondly because it allows the diffusion, analysis and evaluation of the reflection. The current educational context calls for an alternative to conventional teaching based on an active and reflective student-centred learning such as reflective diaries [2-6]

Our teaching innovation group, composed by teachers from different areas of the University of Alcalá, very much concerned for that disjunctive since 2007, appreciates the reflection as an important aspect in the teaching-learning practice. Our initial tool called “Weekly Reflection Papers” (WRP) [7, 8], provided a creative contribution to this “reflective field”. The design of our preliminary strategy was focussed in the development of the ability of reflecting about the most relevant concepts studied during every week along the semester and expressing correctly those reflections together with their opinions about their own learning process. In this way the students write their WRP after having had time enough to assimilate, summarize and acquire the required knowledge in a reflective way.

In some of our previous work we have described the strengths, the opportunities; the weaknesses and the threats (SWOT) of our tool [9]. In order to correct some of the weaknesses we implemented in 2010 a modification of the methodology, called “Guided Weekly Reflection Papers” (GWRP) which remains active until today. The changes accomplished in this methodology were focused on

encouraging the students to write the WRP in an enthusiastic, original and interesting way, avoiding the mere repetition of the notes taken in class, but at the same time, not following a classical "question-answer scheme" as in an exam. The students have to apply the concepts developed during the week to solve some questions or problems stated by the lecturers as well as find solutions to situations of the real life or certain problems which might appear in a professional future situation. Finally, the students have to search correspondence among related concepts taught in other parts of the same subject or, specially, in other subjects. It is necessary to avoid studying the topics as isolated compartments. As in the former methodology, once the students finished the filling of each "Guided Weekly Reflection Papers", the professor corrects and returns them in the shortest possible time. Each lecturer monitors the activity by filling in a table in which the number of papers handed in by each student and the corresponding mark are included.

Compared to our former actions, recently we have done a special remark on the reflective use of traditional as much as technological and digital literature resources both from the lecturer and student perspective. The strategy was focussed on the main important items for the acquisition of information competencies:

- Recognize, identify and determine the extent of information needed to accomplish a specific purpose.
- Understand the ethical and legal issues surrounding the use of information, which implies the correct citation of the selected materials.

Why have we decided to educate students in these information skills? The answer can be found in the opinion of Area [10]: *"because universities should offer citizens a higher education, where, among other goals, they become competent individuals to meet the complex challenges of culture, knowledge, science, economics and the social relations of the twenty-first century"* It is also consistent with the constructivist and participative model of Bologna, where students learn by doing.

The information literacy is an important topic in the student's learning. Recently, the information literacy is defined as *"the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning"* [11].

The objective in this work is to help students acquire the necessary skills to transform information into knowledge and to use this information in an honest and responsible way, all in the framework of the information literacy and in the reflective process.

## 2 METHODOLOGY

The methodology followed answers the following questions: What, How, When and Where.

### What

The strategy followed to reach the proposed objective consists in adding to the GWRP a complementary activity about information literacy related with the quality of the resources used by the students and their correct citation. In this way, the respect to the intellectual property would be achieved as much as the increasing of the quality of the work performed by using reputable and reliable sources. In some cases professors ask students to find information about a particular topic; in other cases the method is directly applied to the usual GWRP.

Students are provided with quality information sources managed by the Library of the University of Alcalá, where they can also find and view self-paced tutorials. In addition they can receive training by the library staff both on-line and in person.

Some of the implementation guidelines of the chosen method are equal for all professors of the innovation group whereas others might be different depending on the requirements of each field of knowledge and on the level of the student within the corresponding Degree. Each teacher applies the approach to the characteristics of his/her subject, in order to improve the ability of the students to access and to use quality resources in the writing of their reflection papers. This implies a change in their thinking when dealing with the information, respecting ethical and legal copyrights, which will constitute the structural basis of quality learning in the selection and management of information, not only in the academic level, but also for their future professional life.

## How

The group of teaching innovation deemed appropriate to be up to date on resources and library services, as well as on the use of the reference manager software RefWorks (subscribed by the Library of the University of Alcalá), for better appreciate what can be expected and the effort the students have to make to achieve the proposed objective. Therefore, the first step for the implementation of this new phase was a formative meeting of the professors with the responsible person of the university library expert on information literacy, who is a member of our group. In this meeting we improve our knowledge about finding academic and scientific literature, as much as checking the reliability of the web pages. Also the different citation styles were revised in order to consider which of them is the most suitable for every knowledge area.

As mentioned above there are two alternatives to carry on the approach: a) the professors ask students to find information about a particular topic, or b) the method is directly applied to the usual GWRP. In both options the works written by the students can reach different levels depending on the academic course they are studying. Students of the first year are expected at least to locate and report the literature information. Second year students could develop more analytical and evaluative skills whereas third year and fourth year students would be expected to seek a range of information resources and understand and apply the legal and moral values which are attached to the use of information [12].

The professor can supply the necessary information through the different media used for the communication with their students (Virtual Aula, My Portal, personal Web page ...).

Links available for the students:

- Tutorials, tutorial videos and guides: [http://www.uah.es/biblioteca/ayuda\\_formacion/autoformacion.html](http://www.uah.es/biblioteca/ayuda_formacion/autoformacion.html), especially AlfaBuah: tutorial assistance for the realization of an academic paper, the orientation of search and selection and evaluation of data for accomplishing academic work.
- How to cite: style guide, resources and examples: [http://www.uah.es/biblioteca/ayuda\\_formacion/como\\_citar\\_inform.html](http://www.uah.es/biblioteca/ayuda_formacion/como_citar_inform.html)
- Reference management software RefWorks: [http://www.uah.es/biblioteca/ayuda\\_formacion/refworks.html](http://www.uah.es/biblioteca/ayuda_formacion/refworks.html)
- Subjects guides: <http://wikibuah.pbworks.com/w/page/65722818/Inicio-Gu%C3%ADas>

The citation style is also indicated according to the subject taught: *Vancouver* for Health Sciences; *ACS* for Chemistry; *Harvard*; for Biology; *IEEE* for Engineering and *APA* for Education.

## When

The method started to be applied in the present academic year 2014-2015. The subjects of the first semester have got already the first results. In the second part of the academic year the rest of the teaching innovation group is going to implement this activity taking advantage of the teachers experience gained in the first semester, modifying improvable aspects and making new proposals. The preliminary results obtained are showed below.

## Where

This experience has begun to be implemented in October 2014 in two of the subjects taught by members of our teaching innovation group: Environmental Microbiology, elective subject in the last year of the Biology Degree and Chemistry, compulsory subject in the first year of Health Biology Degree.

In the Environmental Microbiology subject the information literacy was required to be included in the student presentations about specific topics suggested by the teacher or chosen by the students. They were asked to cite journals, books, web pages and images used to make the presentation in a final slide of references. Besides, they were informed about the importance to include the reference of the images used directly in the diverse slides. All the necessary instructions were only given at the beginning of the course.

The teacher of the subject Chemistry applied this approach in two aspects:

The usual GWRP in this subject contemplates the search of the organic compounds taught along the week in the real world. In each paper they have to look around and find where they have at home, in the car, in the food, etc, the compounds we were talking about in the class. To expand their answers very often they have to find out in the literature the usefulness of the different products.

Students had to write a review about the history of the development of the atomic theory along the years.

In both cases they were required to quote properly the consulted sources as mentioned above.

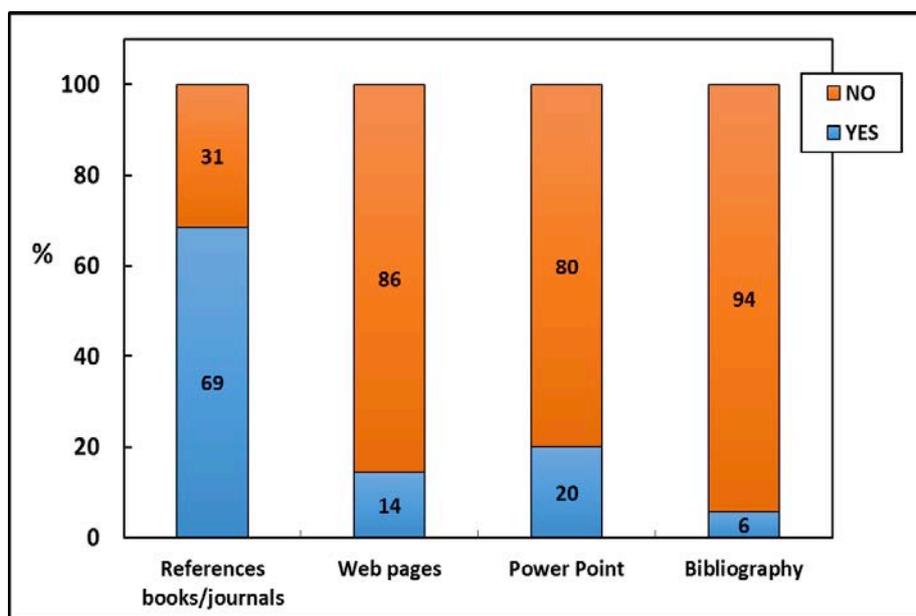
### 3 RESULTS

#### Results obtained in the Environmental Microbiology subject.

Environmental Microbiology is an optative course in the last year of the Biology Degree which has been followed by 35 students.

The student's presentations show in general a good performance about the information literacy. A high percentage of them cited properly journals and books but not the web pages (**Graph 1**). It was also observed the absence of the references corresponding to the images and/or their correct location in the text of the presentations. Some examples of references cited by the students of books, journals, web pages and images are showed in **Figures 1-3**.

Experience was deemed to be satisfactory despite the mistakes found in the works, having in mind that this has been the first time we included this task in our teaching method. Previously to the implementation of this experience the students never quoted the sources they have consulted to write their presentations.



**Graph 1.** Percentage of students that properly cite (YES) references from journals, books, web pages or images used in the power point presentation. The total number of students analyzed was 35.

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Figure 1. Image taken from literature section in a student presentation. It is possible to observe that the references from journals, books and web pages are cited properly.

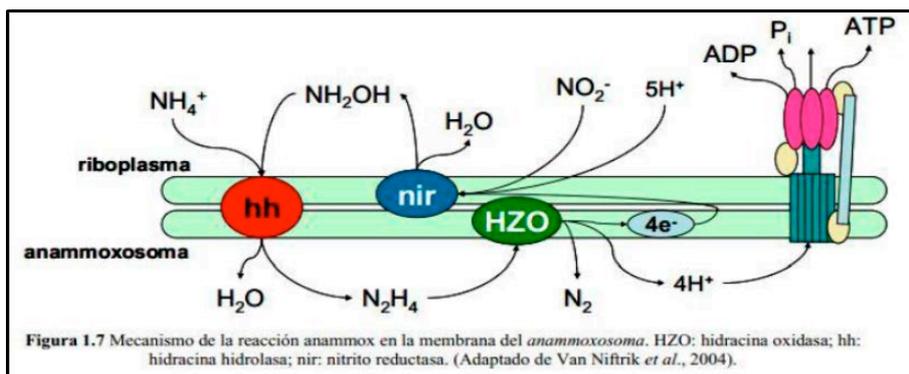


Figure 2. Image used in a student presentation correctly quoted.

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Figure 3. Literature section of a student presentation. It is possible to observe that journals and thesis were correctly quoted but not the web pages visited.

## Results obtained in the Chemistry subject.

Regarding the aspect A of the methodology: in former edition of the GWRP, when the students had to consult literature in order to answer the guided questions, they merely copied the text found in the different books or web pages without even saying that this information came from literature sources. In the present edition the results were very promising because the main objective of this method was achieved, as most of the students revealed the origin of the given answers.

The professor did not explain the students the correct way to cite literature, so they were expected to wonder about how to do it and to look in the University Library the different ways to quote. Some of them pose questions such as “is it possible to cite phrases said by a professor?”, “how would be the method to cite this kind of phrases?”, “may I decided by myself the citation system I have to use?” ...

The professor valued positively the answer although the method used for the citation was not the most suitable one, having in mind that they were first year students.

Concerning the aspect B, the results were also very encouraging. We have to remark that the students have used more text books than expected instead of looking up mainly in web pages.

The lack we have found is that they scarcely write the year corresponding to the book or web site consulted.

We have also observed that just one student placed the reference along the text; the rest of the students wrote the references at the end of the text without specifying their exact position.

We deemed that the results in both modalities A and B were quite successful for first year students. As these are voluntary tasks, it will be preferable not to be too demanding with the citation rules. The main objective of this method is to make the students conscious of the need of the information literacy but avoiding an excessive load of work to cause the abandon of the writing of the GWRP.

## 4 CONCLUSIONS

We have noticed different aspects that make us to deem that our experience is truly important in the academic training of our students:

- Students are taking a more critical and ethical attitude towards information, in accordance with the spirit of GWRP, which intends to help the students express knowledge, experiences, values, attitudes, etc. in a reflective and critical way.
- Students are learning to use and to become aware of the quality resources managed by the Library, which will improve the quality of their work and the more effective and efficient use of expenses made by the institution in literature resources.
- Students are acquiring the necessary skills to quote in a correct way and to make an honest use of information, which will provide a best level of their work. This will help them not only in the matter where this method is applied but also in other subject of their Degree, as much as for their future professional life.

Librarians belonging to libraries of the Science, Medicine and Health Sciences of the University of Alcalá are embedded in the learning process to help students improve their information literacy skills and to achieve successfully the proposed goal. Librarians and teachers have established a closer cooperation in which “they learn together because they work together” [13].

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