Integration of the Autonomous Learning in the subject

Tempus Tacis Project nº 159305
Advanced M.Sc. Program in Ecology for Volgo Caspian-Basin
Barcelona Meeting Training

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ETSEIAT - UPC
Integration of the Autonomous Learning in the subject

SUMMARY

- Background
- Learning Degrees
- ETSEIAT Experience
- Rubrics
- Ideas for Autonomous Learning
BACKGROUND: Bologna process

Magna Charta of European Universities (1989)

Bologna Declaration (1999)

European Higher Education Area (2010)

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From the higher, university and adult teaching, the design using competencies helps us to develop programs based on academic and professional profiles who must respond to the needs of the environment.

Beyond a list of contents to learn or to teach subjects, the design using competencies contributes to reducing the gap between education and the reality of the labor market that has traditionally characterized the Higher Education in Catalonia.

http://www.aneca.es/publicaciones/libros-blancos.aspx
What is a Competence?
- Set of knowledge, skills and abilities necessary to perform a certain task. The competence requires a combination of technical, methodological and social knowledge which are the result of a learning process and that can be applied in both academic and professional fields.
- Being competent means, therefore, combine, coordinate and integrate this knowledge into professional practice.

The training programs must work the:
- **Specific competencies**: which are related with a specific knowledge and professional activity.
- **Generic competencies**: which are transversal because can be applied to various fields of knowledge and are necessary for any professional action.
UPC believes that all curriculum must include at least the following generic competencies:

- Entrepreneurship and Innovation
- Sustainability and social commitment
- Third language
- Effective oral and written communication
- Teamwork
- Solvent usage of information resources
- **Autonomous Learning**
Level 1: CONDUCTED

- Is capable of writing short reports and productions on what he learned.
- The scheduled time for tasks and learning are practically accomplished.
- Is capable of following strictly the guidelines on how to do tasks
- Work with sources of information that the teacher tells or makes available.
Level 2: GUIDED

- Is capable of doing tasks and individual and group reports about what he has learned, and proposes future actions.
- Decides what time use for each task from a approximate given time.
- Is capable of proposing improvements in the guidelines for how to do tasks.
- Work with sources of information that the teacher tells or makes available and with which he expands.
Level 3: AUTONOMOUS

- Is capable of analyzing if what he learned is true and important enough for his knowledge.
- Is capable of deciding how long to spend learning the content, working the subject and doing tasks.
- Is capable of deciding how to perform the tasks to be as professional as possible.
- Decides if the information sources will agree to reach the learning objectives.
ETSEIAT Experience

- **GUIDELINES**
  - Level 1: First year (selection phase).
  - Level 2: Second and third year.
  - Level 3: Fourth year.
  - Every subject can evaluate any competencies.
  - But only one level in the subject.

- **OBJECTIVES**
  - Avoid pre-requisites in the subjects related to the generic competencies.
  - Simplify the process of academic evaluation without limiting the handling of the competencies.

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### MAPA DE LES COMPETÈNCIES GENÈRIQUES ALS ESTUDIS D’EI - TECNOLOGIES

<table>
<thead>
<tr>
<th>QUADRIMESTRE</th>
<th>NIVELL 1</th>
<th>NIVELL 2</th>
<th>NIVELL 3</th>
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<tbody>
<tr>
<td></td>
<td>C1 - C2</td>
<td>C3 - C6</td>
<td>C7 - C8</td>
</tr>
<tr>
<td>CG1 EMPRENEDURIA I INNOVACIÓ</td>
<td>EXPRESSIÓ GRAFICA I (C1)</td>
<td>EMPRESA (C3)</td>
<td>CREACIÓ I ORGANITZACIÓ D’EMPRESES (C7)</td>
</tr>
<tr>
<td>CG2 SOSTENIBILITAT I COMPROMÍS SOCIAL</td>
<td>QUIMICA I (C1)</td>
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<td>TECNOLOGIA DEL MEDI AMBIENT (C7)</td>
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<td>XXXXX</td>
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<td>CG4 COMUNICACIÓ EFICAÇ ORAL I ESCRITA</td>
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<td>AUTOMÀTICA (C4)</td>
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<tr>
<td>CG5 TREBALL EN EQUIP</td>
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<td>ELECTRÒNICA DIGITAL (C7)</td>
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<td>ALGEBRA (C1)</td>
<td>MÈTODES NUMÈRICS (C5)</td>
<td>TEORIA ESTRUCTURES I CONSTRUCCIONS INDUSTRIALS (C7)</td>
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<td>CG8 CAPACITAT D’ANÀLISI I SÍNTESI</td>
<td>CÀLCUL II (C2)</td>
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<td>DISSENY D’EXPERIMENTS I CONTROL DE QUALITAT (C6)</td>
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ETSEIAT Experience

- **EVALUATION:**
  - D = failed subject
  - C = approved subject; failed competence.
  - B = approved subject; approved competence.
  - A = approved subject and good achievement of the competence

- **DIPLOMA SUPPLEMENT**
  - Valoration A : Level 2 A or B and level 3 A
  - Possibility of consolidating voluntarily Level 3 at the Final Thesis.
“When students are apprised of grading criteria from the start, they can be more involved in the process of working toward success.”

* http://schoolofeducators.com/2008/07/how-to-design-a-rubric/

- A **rubric** is a scoring tool for subjective assessments. It is a set of criteria and standards linked to learning objectives that is used to assess a student's performance on papers, projects, essays, and other assignments.
- Rubrics allow for standardized evaluation according to specified criteria, making grading simpler and more transparent.
The components of a rubric:

Scoring rubrics include one or more dimensions on which performance is rated, definitions and examples that illustrate the attribute(s) being measured and a rating scale for each dimension. Dimensions are generally referred to as **criteria**, the rating scale as **levels**, and definitions as **descriptors**.

- One or more traits or dimensions that serve as the basis for judging the student response
- Definitions and examples to clarify the meaning of each trait or dimension
- A scale of values on which to rate each dimension
- Standards of excellence for specified performance levels accompanied by models or examples of each level
Interesting Links for rubrics

- **Rubsitar**: Create Rubrics for your Project-Based Learning Activities
  [http://rubistar.4teachers.org/index.php](http://rubistar.4teachers.org/index.php)

- **Teaching with writing**: Creating grading rubrics for writing assignments:
  [http://writing.umn.edu/tww/responding_grading/creating_rubrics.html](http://writing.umn.edu/tww/responding_grading/creating_rubrics.html)

- **CARLA (University of Minnesota)**: Creating rubrics

Example of evaluation of level 1: **Conducted**

<table>
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<tr>
<th>Criterion</th>
<th>Well achieved</th>
<th>achieved</th>
<th>Non-achieved</th>
<th>Not evidence</th>
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<td>Communicate what you learned</td>
<td>It is capable of short reports and productions on what he learned.</td>
<td>It reports that do not completely determine what is learned.</td>
<td>The reports are poorly informed about facts of learning.</td>
<td>It has not communicated anything or that has not learned anything.</td>
</tr>
<tr>
<td>Does work on schedule</td>
<td>The expected time for tasks to comply are ok.</td>
<td>Often exceeds the expected time for tasks and learning, but not excessively.</td>
<td>The work has been far beyond schedule.</td>
<td>Has not done the job.</td>
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# Rubrics

## Example of evaluation of level 1: Conducted

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<td>Does a professionally work</td>
<td>It is able to follow strictly the guidelines on how to do tasks.</td>
<td>Some key guidelines on how to do the job does not follow with sufficient rigor</td>
<td>Do not follow the guidelines, although it does the job.</td>
<td>The work is not done.</td>
</tr>
<tr>
<td>Acquires and uses information from different sources</td>
<td>Work with sources of information that the teacher tells you or makes available.</td>
<td>It is not clear that is working with sources of information that the teacher tells or makes available.</td>
<td>It is not using the prescribed sources of information.</td>
<td>The work is not done.</td>
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Integration of the Autonomous Learning in the subject

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Some ideas for Autonomous Learning

- **Youtubue**: Low cost educational videos
  [http://www.youtube.com/user/jordimarce](http://www.youtube.com/user/jordimarce)

- **Web Resources**: Wikipedia, javascripts, articles, ... Is a free content!

- **Prismatic**: Generation of specific educational material:
  [http://www.upc.edu/demormee/prismatic.html](http://www.upc.edu/demormee/prismatic.html)

- **Hot Potatoes**: interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises

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Some ideas for Autonomous Learning

- **MOODLE:** (abbreviation for *Modular Object-Oriented Dynamic Learning Environment*) is a free and open-source e-learning software platform, also known as a Course Management System, Learning Management System, or Virtual Learning Environment (VLE).
- Is a free web application that educators can use to create effective learning sites online.
Some ideas for Autonomous Learning

- **MOODLE Demos**: [http://demo.moodle.net/](http://demo.moodle.net/) (Login as a guest)
Some ideas for Autonomous Learning

- On-line courses:
  - http://www.sc.ehu.es/sbweb/fisica/default.htm
  - http://digsys.upc.es/ed//index.html

- Mathematical Tools on-line
  - http://www.wolframalpha.com/

And all the content that all you want to create Autonomous learning Tasks!

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Examples for Autonomous Learning

1) Integration of web resources in tasks: exercice_1.pdf

2) Integration of videos in tasks: exercice_2.pdf

3) Add guided tools in tasks: exercice_3.pdf
Благодарю вас за внимание. Есть вопросы?
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