**Lesson Plan Table**

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| Subject: | ICT | | | | |
| Authors: | Teachers: Duarte Duarte and Paulo Ribeiro  Students: Francisco Rodrigues, Ruben Ferreira and Vasco Raminhos | | | | |
| Date: | | | | \_\_13\_/\_\_03\_/ \_2018\_ | |
| Estimated time: | | Two 45 minutes’ blocks |  | |  |
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| Summary: | Exploring new technologies. | | | | |

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| **Objectives**  (Specify skills information that will be taught) | **Activity/ Information**  **Teacher Guide/ Student guide** | **Materials Needed**  (Other resources - web, book...) | **Assessment Methods**  (steps to check for student understanding) | **Time**  **Where?** |
| - Understand the need to continuously update knowledge and competences in ICT;  - Use de WWW to explore new technologies;  - Validate web search results information;  - Identify credible sites and quality information;  - Evaluate pros and cons on new technologies against already established ones. | **Motivation Activities**  Teacher shows students a technological evolution on a specific area, like mobile devices operating systems, languages, web programming languages, databases, or other.  **Teacher Guide:**  Teacher select 4 to 5 different new technologies to assign each of them to a student group and prepares 5 questions to which the student presentation has to answer. Teacher prepares an evaluation grid to share with the students, for final group work grades. | Computer or mobile devices with Internet Access  Video projector for presentations | Shared teacher and student observation supported on simple evaluation grid. | **In Classroom**  10 minutes to present the task  40 minutes to search and prepare the presentation  30 minutes for the student’s groups to present the new technology to the big student group.  5 minutes to gather and register evaluation from students  5 minutes for teacher debrief and feedback  Teacher´s preparation  30 minutes |

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| **Description of the activity:** | |
| **Introduction** | Technology fast evolution is very serious challenge for IT professionals in every area, especially for companies and employees. Programming students and future professionals must adapt to quick changes and demands from the market and competition to guarantee that their products and work outcomes are up to date with the new technology trends and attractive. Students face this reality when they start their work on Initial Vocational Training (IVT), but they will also have to deal with this during their entire work life in this professional field. During their training, students can have support from their IVT mentor, but on their future life, they will have to adapt autonomously to new technologies, hardware, software, programing languages, database information systems.  This lesson is a first autonomous approach to a new technology. The teacher will briefly present 6 technologies unknown to the students and assign each one to one student group. Then the teacher will share 5 questions/challenges to which the final group presentation has to answer. The questions can be the same or different, according to the technology. |
| **Main activity** | Students use search engines and surf the web to identify credible web sites and retrieve the information necessary to answer the questions related to the technology assigned to them. With the collected information, they built a presentation on any available application to present the nee technology to their colleagues. The presentation will include simple answers and the challenges suggested by the teacher to each group, which can include code samples to solve a posted simple problem. Each group will evaluate his colleague’s presentation using a common evaluation grid. |
| **Lesson Guide (Step by step)** | Teacher presents fast evolution problems and needs and introduces task;  Students gather in small groups;  Teacher assigns each group a new technology to explore and presents the questions that the presentation should answer;  Students search and surf the web for the answers to the questions and build a presentation to present the new technology to the big student group;  Each student group present the new technology to the group mates. Questions from the other students are posted at the end of the presentation; The rest of the students take notes and fill in the evaluation grid;  Teacher collects the grids, gives feedback and corrects or complement any information. |
| **Exercises (2 or 3 levels of difficulty)** | Example questions to every new technology:   * Define the new technology, referring to what devices or technological areas they are intended for; * Identify the advantages of the new technology compared to the actual or old ones and to alternative/concurrent technologies; * Present an example of its use on a common situation; * Solve the following problem using the new technology (it can be a coding challenge or another kind of exercise. |
| **Conclusion and Evaluation** |  |
| **Notes:** |  |

Bibliography

Depends on the technologies elected by the teacher.