

**FIRST MOBILITY REPORT**

**PROJECT NAME**

***“roBOT (Bilingual Open &Tablet) classes” A teaching project based on bilingualism and use of tablets.***

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| **0. DETAILS ON THE PARTICIPANT** |
| **Name of the participant**: Calandra Angela Natalia  **Subject**: Maths and Physics  **Sending institution**: Liceo “Manzoni” - Caserta |

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| **1. Mobility details** |
| **Receiving organization**: Karl-Franzes University in Graz, Institute for Mathematics and Scientific Computing, Center of Education, Heinrichstrasse 36, 8010 Graz - Austria  **Course title**: Introduction to iPads in Maths Teaching at High Schools, Cloud Computing, Wolfram Cloud - Mathematica in the Classroom, Examples for Teaching and Learning Mathematics on Functions, Differentiation, Integration, Linear Algebra and Statistics.  **Start and End dates of the mobility period**: from September 5th to 12th , 2015 |

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| **2. Professional motivations** |
| Digital Technologies are more and more pervasive of every aspect of our lives. This continuous improvements give schools a challenge and teachers have to face it so that also schools can take advantage of the technology progress. Digital technologies in particular can facilitate the improvement of teaching and learning if they are used to create new teaching strategies and methodologies. This has been my main motivation to look for a training enabling me to use new technologies in mathematics and physics teaching. Another motivation has been the desire to open my mind and get in touch with educational and cultural experiences through teachers coming from other European countries. |

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| **3.**  **Professional skills** |
| **Prerequisite of the course:**  • Ability to use Microsoft applications and MS Office package.  **Ability after the course:**  • Initial knowledge of OneDrive cloud storage environment. • Initial knowledge of Apps Office Lens, Safari, Desmos. • Initial knowledge of the learning platform Edmodo and how to use it to create a learning network in a class of students and exchange information. • Initial knowledge of the apps GeoGebra, WolframAlpha and Web Sites S.O.S Math and Math Planet • Ability to search videos on the web through the app Khan Academy • Ability to use iPad teaching methods like blended learning and flipped classroom |

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| **4.**  **Apps e web tools**  **OneDrive:** It is an online free storage space for all your personal documents or files that you can manage using any of your electronic devices: laptop, desktop, iPad, mobile. The interesting thing is that you do not need to make copies: the same OneDrive space is on cloud so it can be seen with any of your devices. The version OneDrive for Business enables additional capabilities such as files exchange among colleagues at work or school. A powerful version is the OneDrive via web (onedrive.live.com): you can create Word, Excel, PowerPoint and OneNote documents very quickly with the online versions of those packages.  **OneNote:** It is a digital notebook where you can record any kind of information at home, work or at school. The OneNote blocks never fills up completely and you can easily reorganize, share and print. There is also a very powerful and quick search feature. In OneNote there is not a “save” button: all is automatically saved as soon as you write something. This allow you to fully concentrate on the project rather than on files organization. When you open OneNote, a note book is automatically created and you can also create a personalized one.  **Office Lens:** It transforms your laptop in a scanner always ready to use. It allows to capture and save on OneNote information from screens, blackboards, and any other support avoiding the need to take notes. It is ideal to capture sketches, drawings, and images without texts.  **Wolfram Alpha:** It is not a search engine, it is not an encyclopedia, and it is not a calculator, but it is a little bit of all of that. It is a kind of unique, online tool that answers factual queries directly by computing the answer from external sources rather than providing a list of documents or web pages that might contain the answer (like a search engine). It is a very sophisticated software and the way you raise a question it may influence the effectiveness of the answer. As of now Wolfram Alpha is more oriented in technical knowledges such as Maths, Physics, Chemicals, Biology, Astronomy etc. and it is only in English.  **Geogebra:** It is an interactive Mathematics application useful for learning and teaching mathematics and science for every level of school. You can draw points, vectors, segments, lines, polygons and change them dynamically but you can also make use of variables, find derivatives and integrals of functions and prove geometric theorems. It has 2 visualization windows: an expression in the algebra window corresponds to an object in the geometry window and viceversa.  **Desmos:** It is an advanced online [graphing tool](https://en.wikipedia.org/wiki/Graphing_calculator) that you can use through a browser or a mobile application.In addition to live graphing, it features lists, plots, regressions, interactive variables, polar function graphing. It manages several different languages. Desmos screen has 2 parts: a column where you can insert formulas and a larger section with a Cartesian coordinate system where graphs appears. The tool offer an easy and amazing way to create images using mathematical formulas. You can also save and share with other people what has been developed.  **Edmodo:** It is an easy and secure social learning network where teachers and students can stay connected, interact and collaborate online so they can safely collaborate, get and stay organized, and access assignments. Students can also be divided in groups and interact with other groups or with teachers sending any kind of information that is useful for learning. All this on a platform that is very similar to Facebook.  **Khan Academy:** It is an application that provides free tutorials, videos (more than 2700) and interactive exercises for a free world-class education for everyone and everywhere. The Khan Academy was created in 2006 in a form of non-profit organization by Salman Khan (a US engineer with Bangladesh origin) with the scope of offering free material for learning.  Reference websites :  <https://www.coursera.org/>  https://doceri.com/  <https://www.educreations.com/>  [www.geogebra.org/](http://www.geogebra.org/)  <https://it.khanacademy.org/>  <http://www.mathplanet.com/>  <http://www.screencast.com/>  [www.showme.com/](http://www.showme.com/)  <http://www.sosmath.com/>  <https://www.wolframalpha.com/> |

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| **5.** **Follow up**  At the end of the training period I have shared and discussed the value of what has been learned with other members of the maths and physics department. To facilitate the dissemination of the project results and exchange ideas and lessons developed during the training, an online collaborative website has been created on the school Moodle platform and on the Erasmus platform, enabling the possibility to upload and share activities. In the long run, as staff members, we will spread the results of this activity organizing courses and seminars with the aim to share the educational materials and the experience gained through the training activities. The mentioned website will also be very useful as a forum in order to discuss and share ideas about new teaching approaches based on bilingualism, the use of tablets and applications. |

Signature Date

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