

**STEAM Lesson Plan**

# ERASMUS PLUS 20146-18

**2016-1-TR01-KA219-034227\_7**

**2016/2017**

**A STATISTIC ON CONSUMER MOBILE USAGE**

**HOW MUCH TIME DO YOU SPEND ON YOUR SMARTPHONE?**

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| **School & Country** | Ic Marconi Oliva, Locorotondo |
| **Teachers** | * Mathematics: Apollonia Netti * Translation Italian-English of the Italian Report: Lucia Martini * Lesson Plan Design and Diffusion: Paola Masciulli |
| **Class age of students** | 11 years old – Class 2A |
| **Lessons** | Statistics, Maths |
| **Themes** | **A SURVEY ON THE USE OF SMARTPHONES** |
| **Time duration** | * 1 hour lesson in each class (introduction and explanation) * 2 hour lab for each class (collecting data and organise them on the computers) * 3 hour work at home for groups of students |
| **What will be learn? Which methodology are used for these activities?** | First, each participant has interviewed at least 5 people of different ages asking them how much time they spend on their mobiles. Later, all data have been collected on a spread sheet and put on a table with the following titles on different columns: interviewee, age, sex, time spent on mobile (minutes per day). In order to make a class survey we have grouped 5 data each following the interviews made to people of different target ages. The main data concerned the amount of time spent on mobile in minutes per day for several aims: working, studying, playing, chatting etc. Collected data (about 100) have been processed on an excel spreadsheet and shared in the ICT lab at school.  DATA PROCESSING: all data have been organized and the average result has been calculated. As a result, an amount of 152 minutes per day is the average time. Students have also calculated the size of the range and the result has been divided by 12 classes. Afterwards, they got the absolute frequency for each class.  Finally, absolute frequencies have been calculated and organized in a different column of the table and tabulated into a histogram. **:** after inserting data, they have been put in ascending order according to the age and sex of the interviewee. Students calculated the size of the range (10-720 minutes): 12 classes of 50 minutes each have been identified and absolute frequencies have been calculated, that is the number of interviewee spending their time on mobiles in a well-defined range. Student has tabulated data on a histogram: on x-axis they put the range of time in minutes per day, on the y-axis they put the number of interviewee concerning the defined range.  Moreover, excel formulae has been set for the calculation of averages (about 154 minutes). |
| 1. **Materials** | Computers in the ICT lab, tables on excel spreadsheets. |
| 1. **Science** | Students have been encouraged to assess the effects on the human body of different lenght of time spent on phone devices. |
| 1. **Technology** | Students have been using and improving the ICT skills involving Excel Data Filing and Data Management on Computers. |
| 1. **ICT and Web 2.0** | Considering that some classes has reached a zero rating, all data over a frequency of 430 minutes have been eliminated and all data between ages 10-18 have been filtered in the histogram shown below: |
| 1. **School Activity** | Students made a poster displaying their survey procedure and results in graphics.  The poster is displayed in Italian on our School Erasmus Board, so everybody can read it and think about it. This may lead to further activities. |
| 1. **How to measure these activities?**   **Measurability** | This activity is measurable: when students fill the surveys, they also get different views of the topic, they improve their know-how in technology and their teamworking abilities (soft skills). Teachers can then evaluate their work and outcomes. The Surveys are assessed and evaluated by the teachers and the students (sel evaluation). |
| 1. **How Innovative is it?** | Students become interviewers, journalist, critics on a topic that is very close to their everyday life. They have to interface with different roles that motivate their learning by doing and reflecting. |
| 1. **Creativity** | Students improve their creativity by swapping roles and adding their creativity in the poster design and making phases. |
| 1. **Interdisiplinary** | Maths, Statistics, Science, ICT, Values and Environment |
| 1. **Sustainability** | Every school can carry out these activities in their school and in real life. |
| 1. **Applicability** | This topic is applicable to different subjects and is important for everyday real life.  It can give way to other related discussions close to the students world. |
| 1. **Collaborative** | The activity was organised to improve collaboration, cooperation, respect, honesty, and all teamwork values related to group working. |
| 1. **Economic in save of time and money** | All the activities can be integrated in real life and the materials are very cheap. |