



Erasmus+

Science and Global Education beyond the barriers  
of learning difficulties 2015-1-IT02-KA201-014774



# *Schooling by Design*



**ADi workmaterial elaborated by Silvia Faggioli from Paola Varonesi's previous work**

# WHAT WILL WE DISCUSS?



**We will introduce the planning by competence**

**We will see how it is possible to structure a disciplinary backwards planning by competence**

**We will show examples of interdisciplinary teaching modules structured by competence**

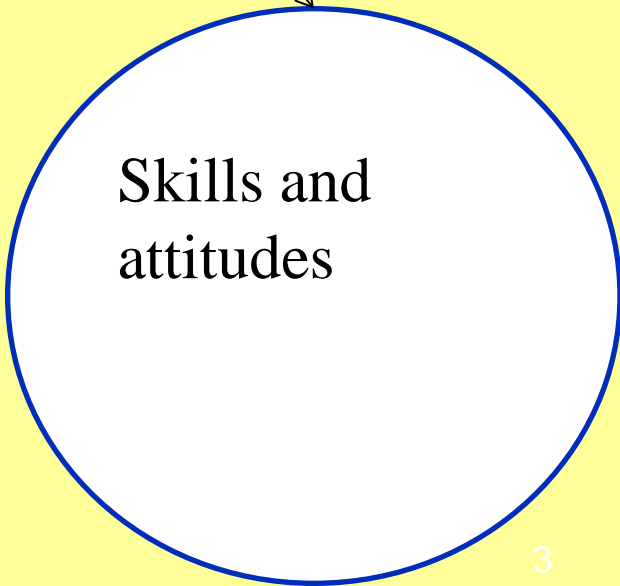
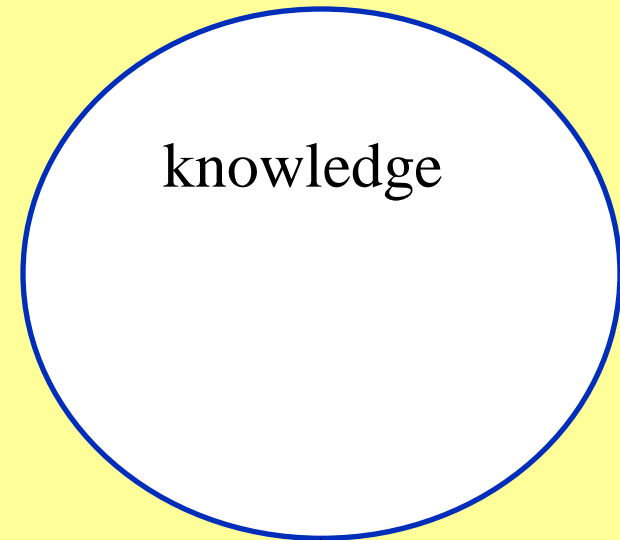
# Introduzione

CONTEXT :  
SCENARIOS IN  
LIFE, STUDYING  
OR WORKING

require

8 key competences  
1) Communication in the mother tongue;  
2) Communication in foreign languages;  
3) Mathematical competence and basic competences in science and technology;  
4) Digital competence;  
5) Learning to learn;  
6) Social and civic competences;  
7) Sense of initiative and entrepreneurship;  
8) Cultural awareness and expression.  
+  
Specific disciplinary competences

Depending on



# PLANNING BY COMPETENCE : THE PROCESS IN REVERSE

What should the students be able to know, understand and ultimately do?

What deserves to be fully understood?

What kind of solid and longlasting understandings we want to build?

1<sup>^</sup>  
Identificare i  
risultati desiderati

2<sup>^</sup>  
Determinare  
evidenze di  
accettabilità

3<sup>^</sup>  
Pianificare  
esperienze di  
istruzione

How will we know if the students reached, or not, the intended results and matched the standards?

What will we accept as an evidence of the students full comprehension and mastery?

# PLANNING PROCESS STEPS

Identify the results  
wanted

```
graph TD; A[Identify the results wanted] --> B[Determine what element will make the understanding evident.]; B --> C[Plan learning experiences];
```

Determine what  
element will  
make the  
understanding  
evident.

Plan learning  
experiences

# Why the planning process backwards?



- ✚ It allows an analysis of the duty finalized to clarify what targets to pursue and how to get evidence of their achievement;
- ✚ It allows to clarify which teaching and learning targets we must pursue;
- ✚ It allows a wider coherence between intended results, basic performances and teaching/learning experiences.

# Interdisciplinary planning by competence : learning experience planning



- Identify the disciplinary specific competence to be developed.
- Identify the transversal skills to develop, reaching a maximum of three
- Identify the evaluating times through the learning process
- Identify methods and tools
- **Identify a realistic task**
- Plan the activity



# INTERDISCIPLINARY FORM BY COMPETENCE

realistic task :

## PLAN A LEARNING EXCURSION TO SIRACUSA



- Reference classes n. **3 FIRST CLASSES** One of each sector  
disciplines involved : **LINGUISTIC AND MATHEMATICS**
- Transversal skill : **COLLABORATE AND PARTECIPATE**
- Times schedule: **Details planning** and module-end test: **20est of January**
- Starting of the teaching activity: **by the 30est of January**
- End of the teaching activity: **middle April**

# Transversal skill :Collaborate and participate



- To understand the different points of view.
- To contribute to the common understanding, giving accent to our own abilities and the ones of the others.
- To contribute to the implementation of collective activities.

# CULTURAL AXIS: LANGUAGE AXIS



**Competence 1) read, understand and interpret different types of written tests ( including graphs and tables )**

**Competence : 2) use the fundamental tools for a conscious fruition of the literary and artistic heritage**

**Competenze: 3) use and create multimedia texts**

**We suggest to start with only one of them!!!**

# CULTURAL AXIS : mathematical axis



Competence: **identify the appropriate strategies to solve problems**

# RESULTS INFORMATIONS



**Task or product to be carried out:** Full organization of a learning excursion with a pre-visit work, carried out by the students, that includes also some cultural aspects related to the excursion (explanation of the route)

**Characteristics of the test to be given to verify the pre-requisites :**  
reading test and math tests INVALSI to be given to 3rd year, secondary school students (year 2008/2009)

**Characteristics of the test to be given to verify the learning achievements prior the excursion :**

*Reading and language output:* Multiple choice test and essay questions test

*Use and create multimedia works:* Creation of multimedia works

*Collaborate and participate :* Students survey through rubric

Identify the appropriate strategies to solve problems :**Test**

# STEPS OF THE EDUCATIONAL ACTIVITY



## ■ **Step I**

- The teacher introduces the argument to the students and invites them to discuss it to verify their knowledge on the subject proposed;
- Pre-requisites verification test

## ■ **Step II**

- Brainstorming to establish the destination of the educational excursion
- Creation of work groups
- Reading guidebooks, historic, artistic and/or socioeconomic texts related to the excursion's context
- Analysis of videos and multimedia material

## ■ **Step III**

- Data collection, needed to draw up an economical budget to carry out the excursion.
- Analysis of all the informations gathered in order to ensure the best possible budget.

## ■ **Step IV**

- Compilation of a final report in the form of multimedia text

# Process 1 data

**Total time** :30 hours. Duration: January – april 2011

**Time spent to verify the learning achieved** :4 hours

## **Tools:**

- Text books
- Texts photocopies
- magazines, newspapers , novels
- websites

**Environements** : multimedia class,  
school labs



# PROCESS DATA 2

## Methodology

- traditional class, dialogue
- brainstorming
- cooperative learning
- Individual research
- analysis of the cases and problem solving
- Reading, analysis and summary exercises

## Teaching units to be carried out

**T.U. 1 Gathering of informations ( geographical, historic, socioeconomic and artistic) regarding the site to visit**

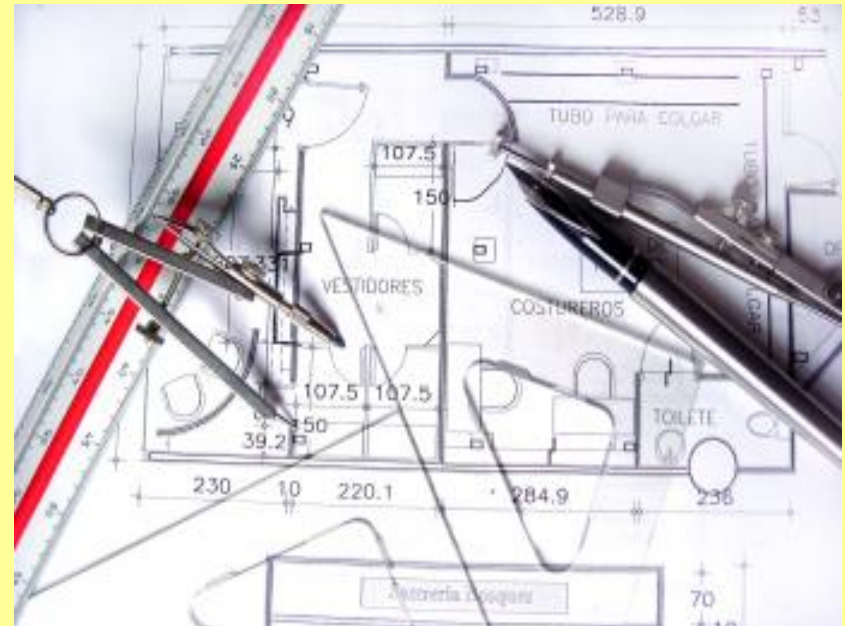
**T.U. 2 Collecting and analyzing all informations about budget and expenses, validating the results through allegations**

**T.U. 3 Creation of multimedia text**



# Conclusions

An essential act in our profession is the **curriculum planning**, involving all learning experiences that meet specific goals and the evaluating tools of verification to diagnose the students needs and establish if the targets have been achieved



Thank you all for your attention!

