



DESCI Alternating Training – How to

TOOLKIT FOR STUDENTS IMPLEMENTING ALTERNATING TRAINING PATHS BASED ON LIVING LAB ENVIRONMENT



Co-funded by the
Erasmus+ Programme
of the European Union

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COORDINATOR



PARTNERS



HELLENIC REPUBLIC
National & Kapodistrian
University of Athens
School of Philosophy
Faculty of Philosophy, Pedagogy and

**1° PROTYPO PEIRAMATIKO
GYMNASIO ATHINAS**



Project Reference:	DESCI ERASMUS+ KA2	Coordinating:	Adriana Valente, Claudia Pennacchiotti, Fabrizio Ricci
Work Package and Deliverable Code:	WP3	Editing:	Cinzia Belmonte, Angelo Cei, Fabrizio Ricci, Simona Rotondi
Version & Date:	Final Version	Contributors:	All Consortium partners involved in the IO3: CNR (Adriana Valente, Claudia Pennacchiotti, Silvia Caravita, Fabrizio L. Ricci); Formascienza (Cinzia Belmonte, Angelo Cei, Linda Leccese), Universitat De Valencia (Jorge Garcés, Irene Monsonis Payà, Paula Sabater), Science View (Menelaos Sotiriou, Alexandros Koukovinis), 1o Prototylo Peiramatiko Gymnasio Athinas (Konstantinos Kontogiannis, Maria Boubouka, Arsteidis Falagaras), ITT E. Fermi (Rossella Innocenti, Enrico Purchi, Antonella Attorre, Sara Rosati) Centro de Formación Somorrostro (Elia Urresola, Jon Lago, Maria Marin)
<p>We acknowledge the National Advisory Boards that contributed to the validation process of this toolkit (<i>Members of the Italian AB: Elisabetta Baldanzi, Stefania Belmonte, Priscilla Boccia, Claudia Ceccarelli, Antonella Ciocia, Paola de Castro, Daniela Donsi, Elisabetta Falchetti, Marco Ferrazzoli, Michela Mayer, Marisa Michelini, Patrizia Paciulli, Angela Maria Palumbo, Luca Pitolli, Elena Sturchio, Assunta Viteritti, Miriam Zanellato. Members of the Greek AB: Dimitris Babilis, Manos Spyridakis, Vassilis Komis, Nikos Papadakis. Members of the Spanish AB: Sergio San Martin, Alex Garai</i>)</p>			

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SECTION 1. Introduction to the context

The current context of job market requires a wide variety of skills: responsibilities (punctuality and presence); teamwork; autonomy; ability to take decisions; ability to solve problems; ability to present projects; ability to apply theoretical knowledge to real situations and problems. Furthermore a range of technical skills are requested, the following being just examples: ability to identify structural and functional features of an enterprise; ability to act autonomously in a specific work environment; ability to develop computer applications; ability to communicate to the public technical innovations; ability to devise campaign of information for a local community; ability to design and to differentiate marketing strategies per product etc.¹

DESCI approach to Alternating Training (AT) builds around these skills and competencies to let you use them in a context of school/job alternation. You will not go on the market knowing everything they would like you to know –that is not possible! Rather you will be able to easily detect and apprehend what they want you to do.

¹ European Community put forward “The new Skills Agenda for Europe” and is giving relevance to key competences for employability and personal development. <http://ec.europa.eu/social/main.jsp?catId=1223#competences>

1. What does Alternating Training mean?

1.1 Alternating Training in Europe

With “Alternating training” (AT) we refer to the alternation between education and practical **training**. European Countries adopt several Alternating Training systems (ATS). Traditionally, AT is mandatory in VET schools, in the last years recommendations were made to adopt AT for a large variety of schools other than VET as practical **training** in workplaces².

1.2 Your School, You and DESCI

Your school is part of a community with its rules, its culture and its economy. Their task with you is to help your development giving you an adequate cultural background and at the same time increase your competences making your profile suitable for the job market and, in principle, for social innovation. DESCI Alternating training meets the target of your school on the theme of employability: DESCI wants you to develop your creativity and hence increase your employability. In doing so we want you to act in the system and drive the innovation in your communities.

1.3 Knowing your system

Individuate the aims and essential elements of the ATS in your country. We advice you to talk to your teacher(s) about the details of your AT plan.

² To explore this issue in its details please see our *IO1 Comparative Analysis of European upper secondary schools and alternating training systems* (www.desci.eu)

2. DESCI Approach and Methodologies

The DESCI approach is based on the use of active and participatory methodologies to support the development of the skills necessary in workplaces. Active and participatory methodologies promote the development of creativity and innovation. They are, of course, in great number and in a continuous process of development, so you will not find here an exhaustive list. Our approach is based on active and participatory methods:

THE LIVING LAB APPROACH

The key dimensions of a Living Lab are:

- ☐ **Open innovation:** we take into account any possible source of innovation from common citizens to enterprises and research centres in an open context.
- ☐ **Real-life settings:** deliveries (services/products) are tested in a real life setting.
- ☐ **End-user engagement:** end-users are encouraged to cooperate with researchers, developers and designers to contribute to the innovation as a whole.

DESCI Living Lab is specifically addressed to school activities and alternating training. It includes a **participatory approach**, a form of **active learning** and it aims to grant **social inclusion**.

Students' Living Lab is a smart community – the Living Lab is the working methodology during the Alternating training experience we are offering. The Living Lab is a methodology that allows the exchange of ideas and collaboration between you as students, institutions, research centres, businesses and *people that will use the final product of your work*. We call all these subjects, including you students, stakeholders. Stakeholders who are the users of your delivery **are also called end-users**. The goal is to promote the active involvement of these *end-users* in order to detect their needs and dreams and allow you to construct your deliverable (a piece of technology or service or an infrastructure or whatever) around these aspects.

2.1 DESCI is an Opportunity for You:

- To discover and enhance your individual potential through direct contact with the business world and its aspects;
- To acquire powerful skills to be invested on creative and innovative work;
- To come in contact with other students from different places;
- To become an active and responsible individual within the local community of your school;
- To understand the importance of research as a vehicle for innovation;
- To take full responsibility for the change that your work will contribute to determine in the lives of your end-users (the people you are aiming to provide with a deliverable)
- To grant your end-users the space they deserve in the process through which you build new services/technologies/infrastructure they will use

2.2 DESCI's view of Schools

The basic idea of DESCI project is that schools become Living Labs for their territory and for their local community. The school is an “incubator” of innovation and creativity, a space in which students develop products or services of social utility, under the mentorship of teachers, companies, associations and research bodies. Schools open their doors to their territory/communities and become a hub for innovation. They have a two-way link with their territory since they receive inputs such as money or ideas or needs from the areas they are in and at the same time they offer resources ranging from the activity of their students to develop their deliverables to the capacity to connect the knowledge available in the research centres with the needs emerging in their own community.

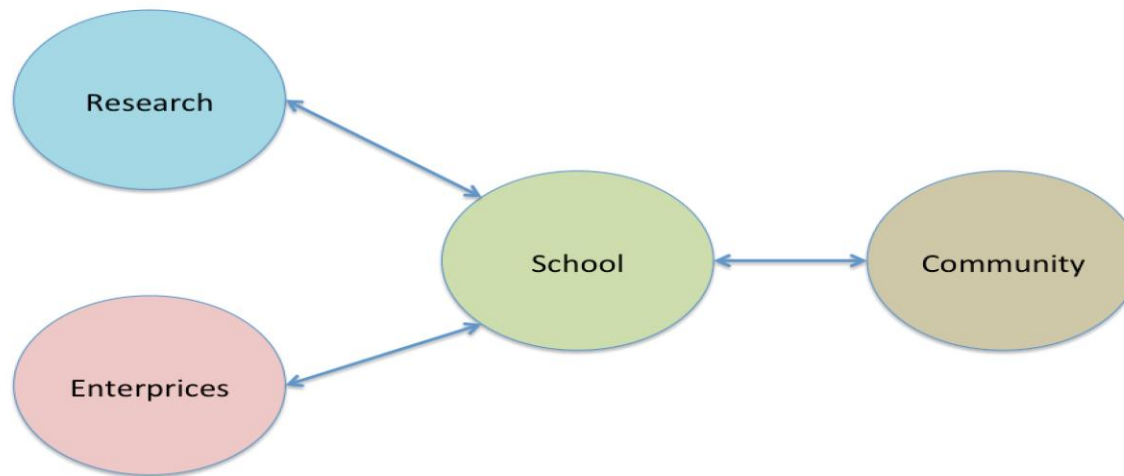


Fig. 1 - DESCI stakeholders

So the school establishes a two-way link with its local communities, in cultural and financial terms, and proposes itself as an agency that gives responses to the needs of its local communities. The school is an agency that offers services and resources and cooperates in reading the cultural and educational needs of its local community. Its students are an active component of this process.

3. Good Practices & Stakeholders

3.1 Good Practices in your School

The toolkit intends to provide tools to integrate the practices already existing in your school, not to replace them. We advice you to look for practices already existing in your school and to individuate practices suitable for becoming a Living Lab. Search for these practices and use the check list in the addenda. Finally, develop and enrich them with DESCI Living Lab elements. If you have already implemented a DESCI living lab, we advice you to plan with the analysis of the evaluation results related to the living lab and AT of the previous years to point out strengths and weaknesses.

3.2 Good practices in other schools

Before you plan your DESCI Alternating Training, please also explore experiences of other schools. To do so activate links and develop connection to websites of Ministry, Regional Offices and other public and private agencies in charge of AT and with schools networks.

3.3 Main stakeholders of Alternating Training: school, research, company/business, territory/local context and communities

In order to activate the Alternating Training your school is supposed to be linked to the local community and business companies. Local communities and business companies as well as research agencies and diverse types of agencies are, as we already remarked, stakeholders. The following list of stakeholders will help you to identify what a stakeholder is. However, consider that this is not an exhaustive list and many other types of stakeholders might exist: enterprises, research organizations, interested communities and associations (patients, citizens, consumers, environmentalists, etc.), other institutions (other schools, municipalities, policy institution, health units, etc.) cultural institutions, institutions active on human rights, equity, gender (trade unions, disabled people associations, migrants associations, associations for protecting women, children, detainees, GLBT associations ...), school departments, different group classes (internal stakeholders), individuals from all these entities and potential users of products and services.

A preliminary analysis of Living Labs points out that among the stakeholders, it is useful to identify the stakeholders that play the following roles:

- * **innovators** – they provide expertise/research needed to the development of innovation (service/system/product);
- * **producers** – they develop the innovation (service/system/product);
- * **end-user**– they use the innovation (service/ system/product).

It is important that you notice that innovators, producers and end-users are just roles. There are contexts in which an innovator may also be a producer and/or an end-user(s)³.

³ In Greece, for instance, in the 1st Experimental School of Athens, students were not only producers of a menu for organic food restaurants but also one of the end-users of an app that make such menus available online. The project of producing a similar app was a proper project for another group of producers in the same School.

SECTION 2. DESCI Alternating Training

1. Knowing

In the Knowing Phase we illustrate to you activities that have as their main aim to explore your territory and put together data and details that will be used to construe the background of the delivery you will attend to.

1.1. ACTIVITY 1 Orientation and Planning

The aim of this activity is to provide the resources for you to plan and organize your intervention on your territory. The first task to be performed in the knowing phase consists on taking the IO4 A1 Ex- Ante Questionnaire. Here you will be requested to provide a self-assessment of your current knowledge and preparation.⁴ Once this is done you will be ready to divide up in groups. Groups are realized in various ways and they can vary from class-sized to groups of 4 or 5 people (see examples below). The crucial feature is that you will be involved all the time in activities that concern you through the group you belong to.

1.1.1 Defining AREAS OF INTEREST.

You will cooperate in a discussion through an active and participative approach such a meta-plan or a world café or a roundtable⁵. In general you will have to take notes of your original thoughts (writing on post-it for instance) and ensure that your peers can have vision and discuss them. You will also ensure that such vision and the subsequent discussion is recorded and presented to the rest of your class during a plenary presentation. Ideas and cues not chosen are nonetheless preserved in a logbook or on a bill or are kept in a treasure box where they can be used in the future. Usually these articulation concern the group in which you are now operating.

⁴ The IO4 A1 Ex- Ante Questionnaire is in DESCI CONSORTIUM - IO4 Evaluation Toolkit.

⁵ Please see the appendix on methodologies for more details.

Below you can find examples from the three schools we run the testing phase with. They are Fermi ITT School in Frascati near Rome , Somorrostro, a VET school in Bilbao and the 1st Experimental School of Athens. In particular, Somorrostro, contributed with a group of 28 students. They provided a solution for a technical problem. Workers of Tecuni Company lacked of a proper training to detect and solve electrical grid failures. Tecuni proposed to the students the development of a technical solution: some kind of device for an “Electricity grid failure simulator trainer”, an electric installation able to provoke electrical failures in a public grid to be used as a trainer for the workers in different situations. Students between 18 and 30 years old were the producers and Tecuni was the end-user since they did not provide any technical indication on how to produce the “failure simulator”. Examples from Somorrostro are presented below in **yellow ochre**.

The 1st Experimental School of Athens took part to our tests with a scenario based on virtual enterprises: Greek students developed business plans to put on the market realistic products designed at school during After School Clubs of Interest and Excellence. Three clubs were involved: The Gastronomy Club, the Logical Games Club and the ICT Club. They interacted with the Virtual Enterprises students and realized menus, logical games and apps for Android. They were producers and also end-users since they were actively involved in testing and checking their products – the app produced by the ICT club was anyway put on Google Play. The 1st Experimental School of Athens involved in this project a group of 79 students of age between 12 and 15 years old divided up between Virtual Enterprises, Logical Games, Gastronomy Club and ICT. Their examples are presented below in **green**. In the case of Greece as well as in the case of Spain the project lasted a year. In the case of Fermi instead the project was designed to last two years. Fermi’s student belong to three classes of the penultimate year (now they passed to the final year) with specialization in electronics and informatics, age between 17 and 18. Their project is domotic equipment to improve elderly’ lives. So their end-users are the elderly living in the area of Frascati, a town near Rome, where their school is based. The examples drawn from the work of Fermi’ students are presented in **blue**.

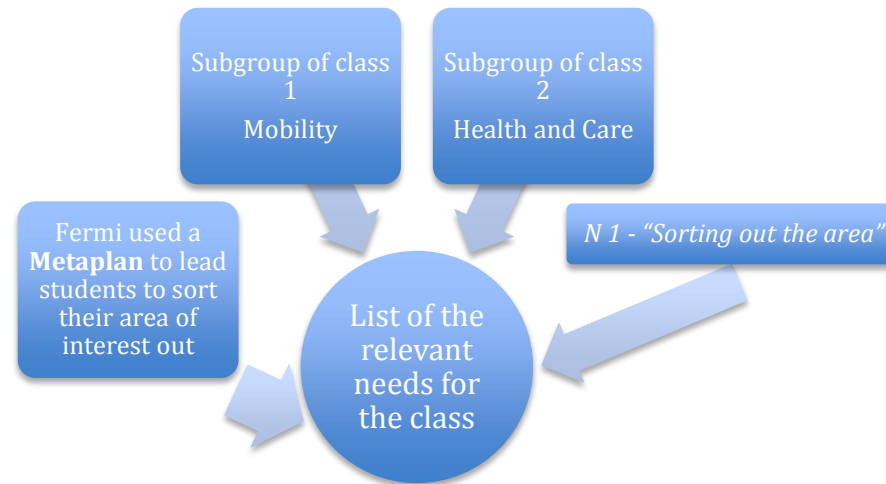


Fig. 2 – E. Fermi (IT) AT projects

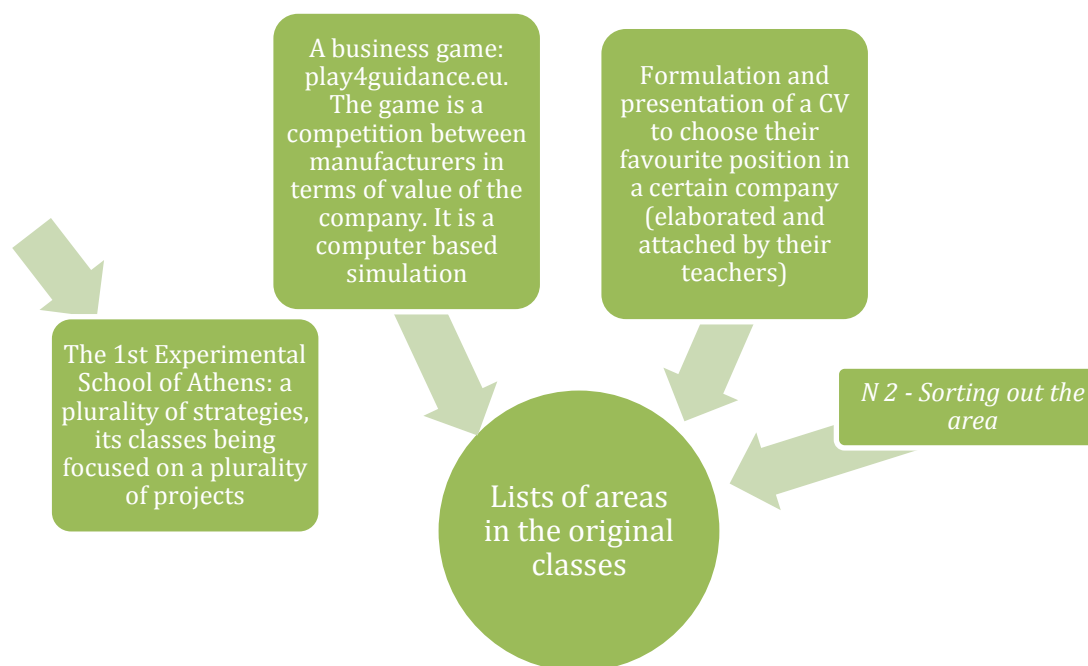


Fig. 3 – 1st Experimental School of Athens (GR) AT projects

1.1.2 Defining specific NEEDS

The aim of this step is to investigate the needs or desires of your end-user. Through an active and participatory methodology you sort out the specific needs or desires of your end-user. Your methodology can be such like a metaplan or a world café (see list of methodologies for details) or make use of other types of participatory and active techniques. In general you keep notes of your own views on such needs or desires and

then your group arranges for a discussion that will be annotated to lead to the choice of your relevant specific need. Through the use of a specific didactic tool you will also establish which needs or desires are more important or urgent for your end-user. Few examples in the graphics may help:

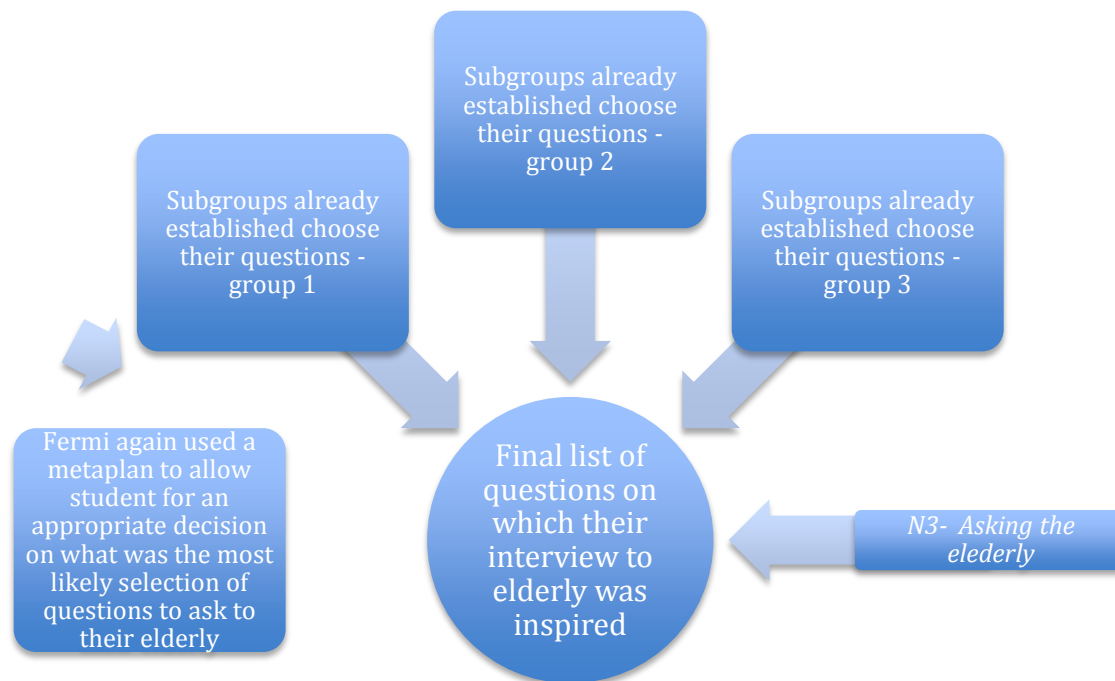
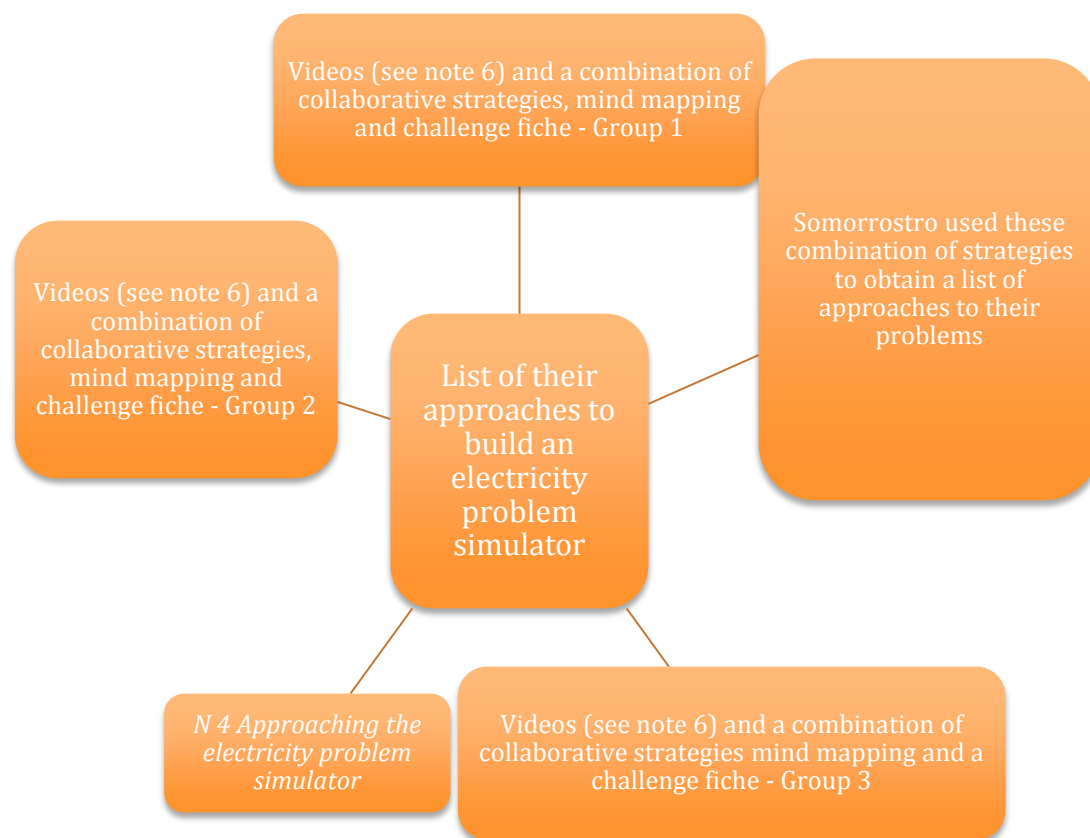


Fig. 4 – E. Fermi (IT) example



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⁶ https://www.youtube.com/watch?v=uR_EEZM6nVY (Braveheart Buenafuente)
https://www.youtube.com/watch?v=xb2GD_tHqbs (Trabajo en equipo en el baño)
<https://www.youtube.com/watch?v=j3JeMRWAa2Q> (For the birds)

Fig. 5 – Centro de Formacion Somorrostro (SP) example



Fig. 6 – 1st Experimental School of Athens (GR) example

The next step is to go on the ground and arrange an overview of your community. You indicate your choice of methodology (meta-plan, world café, roundtable, (again see list of methodologies in the appendix) for discussion of the nature of the work and division of tasks. Then you divide up into subgroups with different tasks using a track interview (an example is in the addenda Sheet 1) proceed to investigate the territory. Below you can see what Fermi students did:

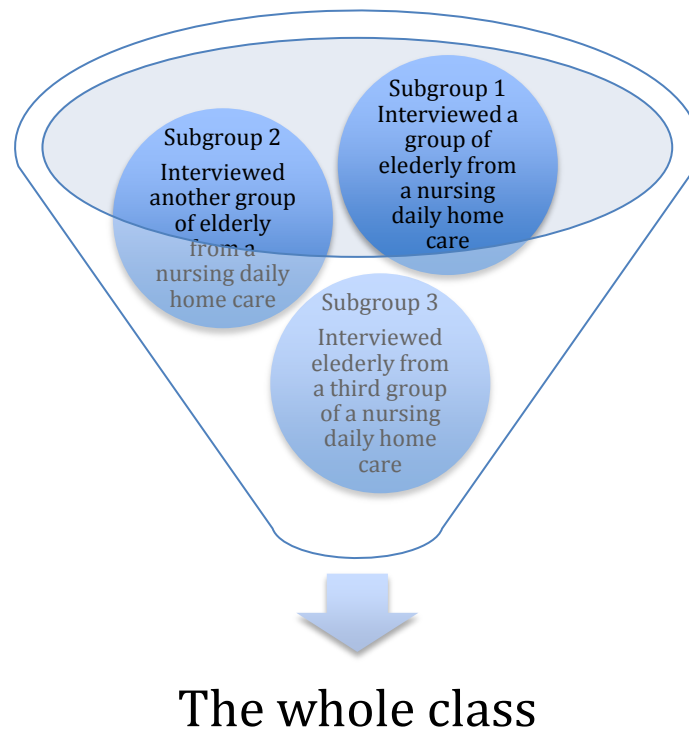


Fig. 7 – N.6 Interviewing in subgroups

1.1.3 Mapping

The next step is to work out a viable map of enterprises, research centres and, where useful, a further exploration of your targeted end-users. In order to implement the approach of Living Labs, we rely on the analysis and connection with the local community. How should you detect the needs of an area? How should you find companies and organizations? How should you start a relationship with these companies and institutions?

This is by no-means a list of potential sources of data on the subject:

- Detection by demographic databases and the major search sites and tools on the Internet and in social media
- Detection through the municipal archives and other local authorities
- Direct contacts of your school: the networks in which your school is already present
- Detection of teachers and students as part of the Alternating Training path through desk mode. *(Either through specific surveys and web inquiry or participation procedures such as futuring tours)*

If you intend to contact a specific stakeholder consider the following procedure:

- 1) Have a plan of what to ask before contacting them;
- 2) Have a clear vision of what to ask, why, how onerous it can be (for you and for the stakeholder),
- 3) Make an effort to motivate your stakeholder,
- 4) Consider time issues: do not send fast-response requests at last minute. They might need more time to respond
- 5) Consider how to accomplish with privacy issues;
- 6) Verify if you need tutor authorisation,
- 7) Check the specific office to be contacted and how (email, tel);
- 8) In certain cases is useful to be “insistent”? (e.g., send an email and then make a phone call);
- 9) Make a note of the email/call before sending it and ask to your colleagues or to your tutor for revision

A further important point is to use a stakeholder review sheet. It is a structured table with a list of entries in which you can write the name of the stakeholder; its role on the market or its societal environment; its products or services and several other characteristics that may help you in building up the foundations of your idea. A template for the stakeholder review sheet is a Technology review sheet: it offers a space for reviewing technologies in terms of their specifics, their cost, the further technology they interact with, their environmental cost and so on. A Copy of it is in the addenda Sheet 2.

A final important tool is a guide to contact stakeholder through email. The content of your message may vary depending on your topic and your aim. In general, use an appropriate language and consider that a proper process of interaction with your stakeholders starts with the way you address them⁸. In practical terms, you can begin with a formal acknowledgement of your contact, something like “Dear Doctor X” or “Dear Professor X” if you are writing to a scientist or a scholar. Something similar may be useful even for businessmen/businesswomen. Explain briefly and clearly the reason of your contact explaining to them who you are and then clarify your needs. State clearly your availability for further exchange. Once you get a reply even when your contact is denying her/his help reply calmly expressing gratitude for the attention: remember that although your contact is not available this time, you might meet he/she again in the future. So a kind reply can help maintaining your contact. Maintaining good relationships is key to your work. If your contact requests further details respond as soon as you can and make an effort to be exhaustive. At the end of your reply declare your availability for further exchange and maintain a constantly polite tone.

⁸ European Union, “Communication in the mother tongue” requires individuals to “monitor and adapt their own communication to the requirements of the situation”

2. Designing

This is the phase in which we give you an illustration on how to formulate and go about the architecture of the delivery you will attend to. Ideally you have details and data collected in the Knowing phase and now you use (part or all of this) background to develop your idea of what delivery your territory may prize.

2.2 ACTIVITY2 Choice of the Idea/Project/ Concept Design

Once the exploring phase is completed you are asked to design the idea you intend to pursue.

2.2.1 HYPOTHESES on IDEA/PROJECT.

The first step is to make hypotheses, industrial/business solutions, in order to solve the issue you have identified. Discuss with your schoolmates and your tutor hypotheses concerning the opportunities of the mapping phase and contrast them with your skills and resources. You may want to use a resource such like a metaplan, world café or roundtable, etc.⁹. During the mapping you have seen what your local area and your contacts can offer. For instance, researchers or enterprises are studying certain solutions. You also know how to contact these stakeholders because we have seen above how to do so and draw suggestions from them. These are the conditions in which your work ideally starts.

⁹ Consider the List of Methodologies in the appendix

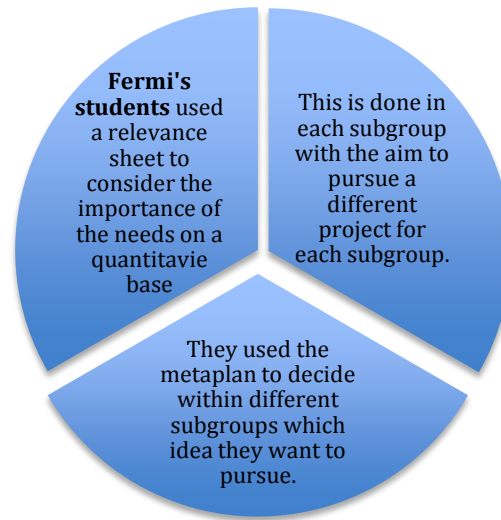


Fig. 8 –N.7 Relevance sheet for elderly problems



Somorrostro's students watched videos (see note 6) that they did not produce. They are part of the Challenge Fiche they adopted and they are motivational tools. Such videos insist on the importance of pursuing an aim as a group and on the value of such an achievement. They also stress the creativity and problem solving ability that each member of the group may gain through a similar collaboration.

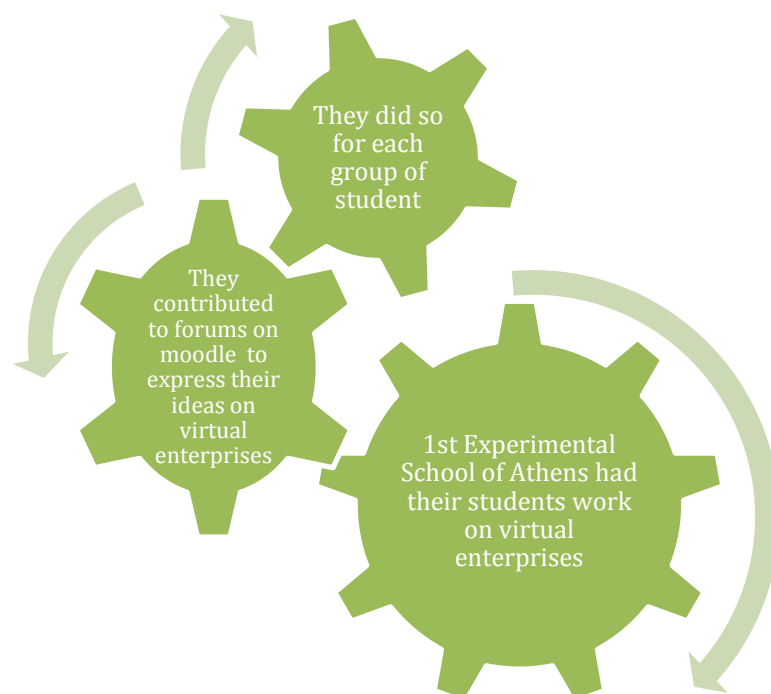


Fig. 9 –N.9 Virtual enterprising on doodle

2.2.2 ANALYSIS and EVALUATION of the IDEA.

Fermi students completed this phase filling up a Review Sheet. You could act accordingly filling up a sheet containing indications either on types of technology or on the nature of further partners you may want to get in touch with as explained above or you may just want to know about. A technology review sheet is available as addendum, Sheet 2.

Loop ACTIVITY 2.2.1 and 2.2.2 till you have a clear definition of your idea. In other terms, until the project of an industrial/business solution takes shape.

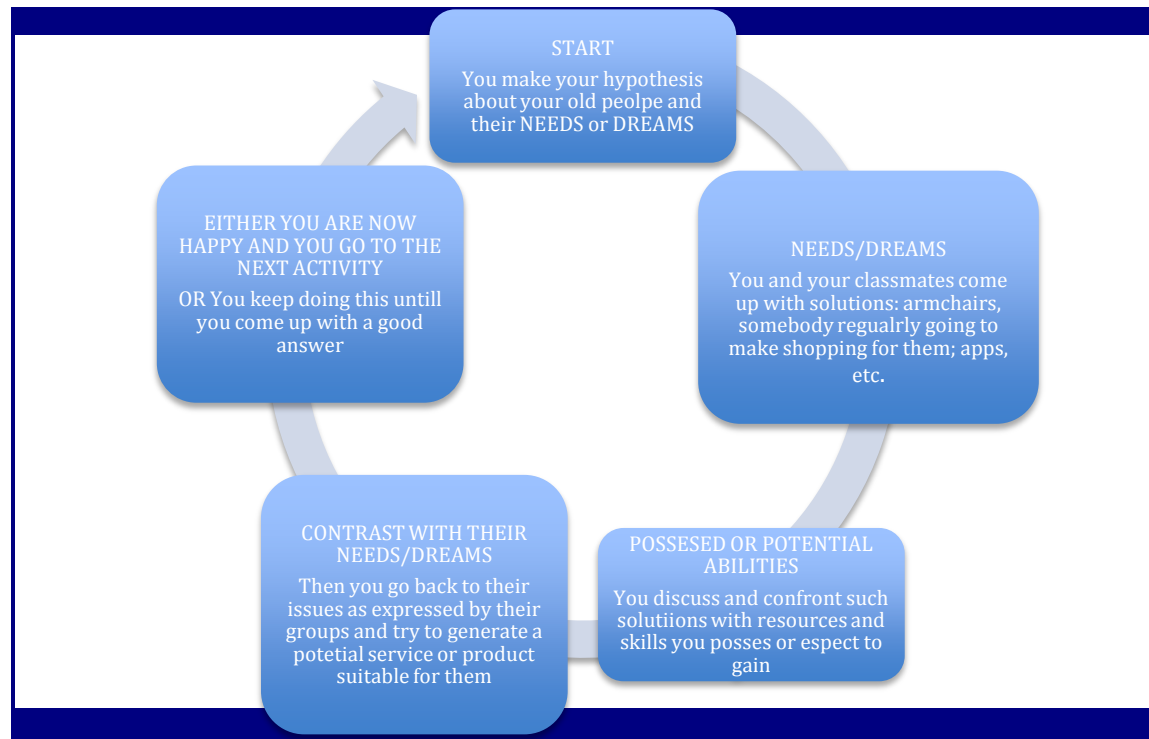


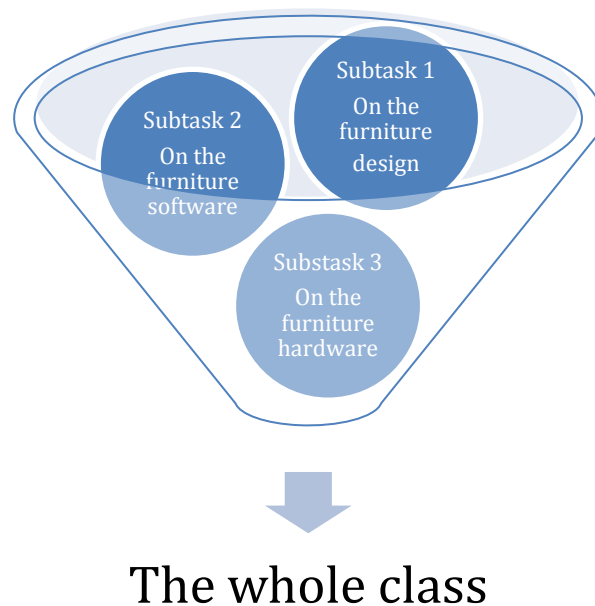
Fig. 6 – N 10 Looping to success

2.3 ACTIVITY 3 Organisation of your Activity

Divide up your project in subtasks aiming at realizing the industrial/business solution and then assign subtask to each group. This can be done through different means of organization. Aside from world café, metaplan and roundtable discussed above the main strategy is to use a training tool that you can find in appendix and works as follows:

Fermi' students use a Project Sheet. You can find a copy of it in the appendix. It allows each of your group to naturally divide up in sub-subgroups focusing different aspects of your original idea: you establish what project you are doing; who in each subgroup is doing it; what has been done before; what it has been proposed specifically; data analysis; examples; details from the market; solutions already available; comparisons. It also contains elements of the technical analysis done so far: proposed technical solutions; hw and sw; diagrams; problems of design and prototypal development; research of solutions already in use; components; technical sheets; documents; subroutine developments. Finally there is a Model section where you have to write technical tables and describe a tridimensional model.

These tools allow for a natural division in sub-subgroups focused on specific aspects of the original idea, following the picture below:



N 10 Division of furniture for elderly needs

In the case of Athens the strategy is to develop in class a *virtual enterprise organisation chart*. They assign each individual in the group a role captured in the chart. They develop the chart through a roundtable aiming to discuss each CV (see addendum Sheet 6) and assign each person an appropriate virtual role. The aim is to start the role-playing.

In the case of Somorostro the organisation of work group, is preceded by the reading of appropriate parts of *Six Thinking Hats*.¹⁰ Once this is done they can choose a technique of collaborative learning and use a graphical organiser to divide up their group in subgroups tackling the original problem posed by Tecuni and attacking it with the strategy students choose autonomously within their own group.

2.4 ACTIVITY 4 Elaboration and Presentation of your Personalised Project ---(to your officer for approval)

You and/or your teacher (depending on the education system) – together with the enterprise tutor where necessary – prepare the personalized Alternating project in which you identify the aim of your contribution. The personalized project is submitted for approval to your officer. A time frame is scheduled for the elaboration and submission of the personalized project and another time frame is scheduled for the approval. After having obtained approval for your personalized project by your own officer, you can go to Activity 5.

A model of personalized alternation project is addendum Sheet 4.

¹⁰ De Bono, E., 1985, *Six Thinking Hats*, Little Brown and Company

3. Implementing

This is the phase in which we illustrate the sequence of steps to realize your deliverable. Hence each single step will be tied up with examples of activities actually run in our schools partner.

3.1 ACTIVITY 5 Realisation Of Deliverables/Project/Simulated Enterprise

At this stage you are involved in the realisation of the industrial/business solution, product/service, and this phase can be thought of as follows:

- Concept Development
- Prototype Development
- Final Development

During this phase run surveys or interviews with your users in order to refine needs and collect advices. Specifically run Exogen evaluation SLLE1.1: Evaluation of the delivery by the final user

In this phase you build your piece of technology or your service or a cultural product through a process that follows the steps mentioned above. First, you will approach the phase of Concept Development: here depending on your aim your activities can be significantly different and the examples below will help you grasp the point:

Fermi's students are using the Project Sheet (see Addendum Sheet 3) designing those parts of their domotics projects that require accurate and refined design. In doing so they are following the indications of the technical tutor who is monitoring the activity of each single group engaged with the material realisation of each part of their projects for an hospitable home for fragile elderly. Fermi's students work at the prototype of a smart fridge, a medicine automatic drawer, a bracelet for basic hematic readings and medical transmission, a cardio reading strip, a device to control room light and a heating controller for a house. In the case of Athens students are constructing a virtual enterprise and the first step,

their Design Concept consists in formulating a business plan (see addendum Sheet 5) and developing a website. In the case of Somorrostro's students, they were given as a project the construction of a device to simulate illumination problems in a city and their task was to arrange various ways to sort that project out. Their end-user was the company Tecuni that manages the illumination in Bilbao.

At this stage of the project we ask student to contribute to elaborate a video to publicise DESCİ AT. The scheme to provide such video is in addendum as Sheet 7.

4. Evaluating

4.1 ACTIVITY 6 Discussion And Evaluation Of Product/Service (Delivery)

In this phase you will be involved in discussing the nature and quality of the product that you are developing. An important factor will be the involvement of your “end-user”. You may be asked to run surveys and interviews with end-users in order to evaluate the quality of the product through customer satisfaction. Your evaluation tool is Exogen evaluation SLLE1.1: **Evaluation of the delivery by the final user**

In the case of Fermi the questions you may think of are supposed to grant you the possibility of evaluating your own product. One of the projects concerns a smart fridge. Once it is adopted, is this change for good? Can you think of the direct consequences of their choice for the environment? Students are also designing an automatic cabinet for medicines. Is this a change for good? Are the direct consequences of this change economically sustainable? Etc.

In the case of 1st Experimental School of Athens they requested to their students a form of reciprocal evaluation of other students projects

4.2 ACTIVITY 7 Evaluation Of Exploitation

Consider pros and cons of commercialising (e.g. start-up) or providing a form of free diffusion of your product (in open source/ copy left).

In the case of 1st Experimental School of Athens they gave instructions to their students to upload their applications of the ICT club on Google Store

4.3 ACTIVITY 8 Evaluation Of The Alternating Training Experience

Your teachers plan activities to evaluate the training process, specifically aimed to measure your satisfaction in order to improve the training in the future.

4.4 ACTIVITY 9 Reports From Students

In the case of 1st Experimental School of Athens they used tools from the Evaluation Toolkit

4.5 ACTIVITY 10 Evaluation and Self – Evaluation Of Students’ Skills

Your teachers plan activities for evaluating your skills. In this context you as a student will also have means to self-evaluate.

Part of the process of developing your own evaluation of your path through the AT is to consider what you were before it with your strengths and weaknesses and what you are now. Think about this while you are taking some time before the self-evaluation. Few guidelines may help:

- Do you feel your original differences have been respected and appreciated?
- Do you think your needs as a student have been adequately considered?

Tools & Resources

Besides this document, “DESCI Alternating training – how to”, other DESCI support tools are:

- DESCi Implementation Scenarios, possible cases of implementation in specific school system and/or in relation to specific delivery developed by students, following the Living Lab methodology. Three DESCi school partners developed a series of scenarios. It is assumed that other scenarios will be further developed and uploaded by other schools after the dissemination of the third year of DESCi project.

In addition, the Student living lab (SLL) can be equipped with additional tools reformulated in accordance with the needs and characteristics of the school environment.

- Database of organisations /companies/users
- Presentation brochure of DESCi paths for companies/institutions/users
- Project Scheme for students
- Self-assessment Tools

Addenda

Sheet 1 - Guide to the Interview

At the beginning of the interview thank the interviewed for her/his availability and remind them that it is going to last about 30 minutes. Illustrates that it is going to serve the purpose of a DESCI AT activity in your school aiming at an industrial solution of social utility concerning people of their own age. Remind them that their answers will be used only in anonymous form in order to grasp the needs of users.

Tag each question after you ask them, revise your guide sheet to keep in mind important questions and take notes after each question.

1. *The story of a standard day*

a. Question: **Tell me about your standard day.**

Crucial Moments:

☐ morning on awakening ☐ morning activities, ☐ Lunch, ☐ afternoon activities, ☐ dinner, ☐ before going to sleep, ☐ night...

Collecting details: Do you live alone? Do you go out with friends, your mate? ...

2. *Details concerning problems, fears, desires:*

a. What are your

☐ **problems** and ☐ **fears**?

List them by numbered code (p1, p2,...) to keep track of them:

b. What are your

☐ **desires**?

List by numbered code (d1, d2,...) to keep track of them:

3. *Deepen few critical moments emerged before with specific questions (**repeat** questions for each problem, fear, desire, all code-numbered with p1,p2,...d1,d2,...)*

- a. **“Detailing”** Why is a problem/are you feared of it/would you like.....?
Example: Why is your own diet a problem?
- b. **“Relevance”** (priority) From 1 (none) to 10 (a lot) how much of a problem /desirable?
Example: From 1 to 10 how much of a problem is to be careful with your own diet?
- c. **“Past, Present and Future”**. Is your life style changed because of this problem?
Do not focus simply on the past. Focus on what is changed and what is going to change now on.
Example: Did you change your diet recently? Is your life style changed because of this change in your diet?

“User’s Solutions” What are in your view the appropriate solutions?

“Our Solutions” Would it be good to have a device that ...?

Scheme with Specific Questions (To be formulated before the interview)

4. *Specific questions to be asked for each problem already considered. Ask again for any problem already identified.*

Problem 1 :(Example: Remember to take medicine)

Possible solutions:(Example: Alarm)

- a. **“Specific Question ”** is it a problem to.....?
Ex.: Is it a problem to remember to take your own therapy?
- b. If so, why?
- c. **“Relevance”** From 1 to 10 how much of a problem is.....?
Ex.: to take your own therapy?
- d. **“Past, present and future”**. Has brought a change in your present life style? Would it be a problem in the future?

Example: Is the fact that you need to take your medicine a change in your life style? Would it be a change in the future?

- e. **“User’s Solution”** What would be good to solve this problem?
- f. **“Our solution”** Would it be good to have a device that?

Example: Would you like a device that helps you with taking your medicine? What about an alarm?

List problems and solutions that you and your elderly found

List moments of the standard day of an elderly and try to associate each problem to a moment of that day.

Write questions for each problem.

Problem 1 :

Possible solution to explore:

Moment in which the problem shows up

Questions

Problem 2 :

Possible solution to explore:

Moment in which the problem shows up

Questions

By the end of the interview ask the interviewed to write down the diary of his/her actual day for days and return her/his diary on .../.../.... Choose a day in which you will collect it. It would be better if you could yourself provide a diary to the elderly.

Thank the elderly for her/his collaboration!

Sheet 2 - Technological Review Sheet

For each device found during your internet search:

Indicator	Key Questions	Pros and Cons
Description of the device	Functional Requirements	
	Who does it?	
	What technology does it use?	
System efficiency	What do they say in the forums?	
Economic Sustainability	How much does it costs for the user to buy it? How much does it cost for the user to maintain it?	
Social Sustainability	How much is it spread around? How difficult is it to use it?	
Environmental Sustainability	How long does it last? Where do you throw it? Is it recyclable? How much does it consume? How much does it cost to do it?	
NOTE		

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Sheet 3 - Project Sheet

Project Name

Participants:

1. Name1, Surname1, Role, Class, mail
2. Name2, Surname2, Role, Class, mail
3. Name3, Surname3, Role, Class, mail
4. ...

Analysis:

- What it has been proposed
- Analysis of the problem
- Starting research data
- Examples
- Search for market references,
- Implemented solutions,
- Examples,
- Proposed solutions,
- Comparison and verification

Technical Analysis:

- Analysis of the problem from a technical point of view
- Proposed solutions for sw and hw
- Diagrams
- Design and prototyping issues
- Technical research of similar solutions already realize
- Components
- Datasheet
- Documentation
- Sub-routine development

Model:

- technical tables
- three dimensional model

With the project the following documents should be presented:

- sitography/bibliography, datasheets
Altogether with
- technical files (hw) and listed source file(sw) and
- Slide Presentation

Diary of Project:

- Date
- Participants
- Summary of the work previously done

- Current situation
- Any recoveries
- Personal research results
- Division by task
- Objectives of the day
- Results
- Documentation update
- Notes

Sheet 4 - AT Personalized Project

"The problem"	Need addressed by the idea of the project
Deliverable / Project idea	Proposed industrial, scientific, artistic, cultural, organizational solution that the student realizes during the alternating training.
Activities	Plan of the training activities.
Times and locations	Date, venue and timeframe of the activities
Expected results	<ul style="list-style-type: none"> - Training value compared to students professional profile - Product Impact on territorial system, business plan, targets - Skills to develop
Agencies: Network/stakeholders	Host enterprises
Link to other projects	Other projects of students of your school; other local or international project

Sheet 5 – Business plan

Name of your Virtual Enterprise

Table of Contents

Executive summary

Description, The concept, The vision, The mission

Market analysis and competition

Sales and marketing plan

Marketing strategy (Product, Promotion, Place, Price)

Management and organization

Organization chart

Operating plan

Legal issues, Social responsibility

Financial plan

Financial analysis

Sheet 6 – Virtual CV template

Personal information

Education & training

Work experience

Additional information

This CV is a version of <https://europass.cedefop.europa.eu/it/documents/curriculum-vitae/templates-instructions>

Teachers of the 1st Experimental Middle School of Athens have provided the light version you can see as Sheet 6 to give their students a more manageable document and one in which was easier to convey *personal* and *additional* information.

Sheet 7 - Video experiences about the implementation of the DESCi methodology

Objective: sharing the experience of the schools in the application of the DESCi methodology.

Short videos are a highly effective dissemination tool. They allow to sharing with other schools the experience of implementation of the DESCi project. The short videos can tackle different aspects of the experience of the school in applying the DESCi methodology and involve different agents who have participated in it.

Short videos can share the following experiences:

- Description of the scenario applied in the school.
- Personal experiences and perceptions about their initial expectations, the process and the outcomes of the project by the agents involved in the project, such as teachers, students and companies.
- Presentation of how a Living Lab works, how it is activated and how the meetings are managed.

All this experiences can be recorded with a smartphone and can be edited and uploaded in social networks.

The video should include a mention of the project, the name of the school where it is recorded and the names and positions of the people interviewed.

These experiences can be of great interest for other partners in Europe who want to apply the DESCİ methodology and get more information about how it was done in other schools who already did it.

While designing your implementation scenario, check that it satisfies DESCİ principles! You can use the check-list added in Appendix.

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