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Food and Agro-industrial Schools Toward Entrepreneurship by Storytelling and Digital Technology

Intellectual Output 4

METHODOLOGICAL HANDBOOK/ GUIDELINES for the efficient use of digital storytelling to learn entrepreneurial skills in a school context

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List of Partners

NO.	PARTNER	SHORT NAME	COUNTRY
P1 - COORDINATOR	CISITA PARMA Srl	CISITA	Italy
P2 – IO4 LEADER	S.P.E.L.L. srl	SPELL	Italy
P3	ISISS GALILEI BOCCHIALINI SOLARI	BOCCHIALINI	Italy
P4	Centrul de Incubare Creativ Inovativ de Afaceri	CICIA	Romania
P5	Bulgarian Chamber of Commerce and Industry	BCCI	Bulgaria
P6	Professional High School of Food technology	PAVLOV	Bulgaria
P7	Confederaçao Nacional de Jovens Agricultores e Desenvolvimento Rural	CNJ	Portugal
P8	Liceul Technologic Aurel Rainu	RAINU	Romania
P9	Escola Profissional Agricola Quinta da Lageosa	LAGEOSA	Portugal
P10	G.G. Eurosuccess Consulting Ltd	EUROSUCCESS	Cyprus

Foreword

F.A.S.T.E.S.T. project is about involving VET students and teachers from agro-industrial schools in digital storytelling practices, aiming at:

- adopting digital storytelling as an innovative tool to encourage participatory practices, thanks to the creation of mini-companies of students taking the role of digital videomakers

- developing entrepreneurial skills in students, leading them to self-entrepreneurship

- developing digital and cross-curricular skills in VET teachers

Starting from the assumption that storytelling is in itself a powerful mean of transferring knowledge, values, beliefs and ultimately cultural heritage as well, F.A.S.T.E.S.T. project is particularly significant for the countries and industrial sector involved in the project.

From the teacher training side, it is important to note that Southern Europe countries (such as Italy and Portugal) and Eastern Europe countries (such as Bulgaria and Romania) report similar criticalities: a low number of secondary education teachers taking advantage of training / update opportunities on one side, and very few training courses available for the development of teachers' skills.[1]

Taking into account the FDMP industrial sector (Food and Drink Manufacturing and Processing), it is notable that the percentage of highly-skilled workers across Europe is very low when compared to other industrial sectors (14% in agro industrial sector vs 30% average of other sectors). Furthermore, young workers seem to prefer other fields of employment, as number of workers under age 24 is very limited.[2]

On this basis, F.A.S.T.E.S.T. project aims at involving students in telling stories of success of FDMP companies from their own countries, encouraging them to make videos as they are really familiar with such technology as digital natives.

1 See "OECD TALIS 2013 Results – An International Perspective on Teaching and Learning"

2 See the recommendations of the European Council in the "Conclusions on entrepreneurship in education and training" (02.17.15)

Of course telling stories means becoming familiar with companies and entrepreneurs, getting to know how they established their businesses, from which idea and by which means they got started, and how they succeeded at last through hardships and obstacles.

Project's impacts foresee that students become passionate and enthusiast about how business people from their own countries and cultures established healthy companies. Processing the different elements of a story also help them elaborate various levels of meaning, making them progress from a purely notional learning to a transformative and reflective learning.

The expected result is that secondary education students develop their own entrepreneurial skills and attitude, thus taking into consideration the idea to found their own agro-business after completing their studies.

This also results, from the students' side, in a greater engagement and motivation towards education, thanks to an alternative and innovative method of learning, very different from the traditional one. Increased students' motivation is also expected to contrast ESL (early school leaving) from low achievers students with high risk of school drop.

F.A.S.T.E.S.T. project's program doesn't involve teachers in delivering traditional frontal lesson, but on the opposite students have to work together with teachers in getting to know companies and their stories, writing down the scripts of the stories to tell, and making the videos.

This is a cross-curricular way of learning, because students do not deal with just one particular topic but they have to take into consideration multiple aspects:

- The structure of a story
- The relevant topic of the peculiar company and productive chain they want to talk about (for example the story of a dairy company with all the issues attached to it)
- The relevant historic period the story takes place in
- The digital issues attached to it (the making of the video and its editing)

The digital side of the storytelling activity should engage students even more, as young people are very familiar with digital technology and very happy and motivated to use it in a learning context.

On the other hand, digital technologies are exactly the ones to be developed in VET teachers, as they aren't normally trained to such use of the digital media. Even if they are ICT teachers, they are not used to developed cross-curricular didactic programmes, where technical notions (such as economics or food processing techniques) are learnt together with history and humanities skills.

F.A.S.T.E.S.T. project involves both VET students and teachers in developing 8 hypervideos about 8 stories of success from local FDMP companies.

The partnership is composed of 4 countries – Italy, Portugal, Bulgaria and Romania-, where a VET secondary school and a business expert respectively work together.[3]

Each country is expected to make 2 videos telling about the story of 2 different local companies from the FDMP sector. Videos have then to become hypervideos, as they should be enriched with links that allow navigation among different sequences, with multiple references to didactic notions attached to the story or to the curricular school program (IO2).

Once finished, hyper videos will then be manipulated again by teachers who will adapt them to become proper didactic tools, suitable to be develop blended training cross-curricular school programmes (IO3).

As final Output of the project, a full set of methodological guidelines will be released, as a sort of handbook for the effective use of digital storytelling as a didactic tool for the development of entrepreneurial skills in a secondary school context (IO4).

Intellectual Outputs will be released as OERs (open education resources), available to the widest possible number of users to take advantage of the hyper videos and of the blended training programmes. IOs will then be uploaded as OERs on specialized databases for resources sharing and teachers' professional development of teachers such as the institutional Open Education Europa platform https://www.openeducationeuropa.eu/en,

[3] F.A.S.T.E.S.T. partnership is completed by an italian technical partner, videomaking expert and responsible for activity C1 (transnational teacher training), and a dissemination expert partner from Cyprus.

the international OER Commons https://www.oercommons.org and Edutopia https://www.edutopia.org/ platforms, the British TES.COM learning community and the Italian Portal Alexandria Http://www.alexandrianet.it/htdocs.

Both hypervideos and the text file, combined into an OER, are freely available for download, reuse & remix under the Creative Commons Attribution-Non Commercial-Share Alike 4.0 Licence (see www.creativecommons.com for further information).

IO1 is a Research-action meant as preparatory study describing the current state of the situation in the 4 participating countries about the effective exploitation of storytelling & digital storytelling for didactic purposes. IO1 is the starting point beyond which local VET schools need to go to efficiently make profit of the educational potential of storytelling and digital technology.

Intellectual Output 2 is the very core of F.A.S.T.E.S.T. project, consisting of 8 student-made hypervideos, available for public consultation on the project's official website www.fastesteu.com, on the official page @fastesteuproject on Facebook social network and on the popular YouTube platform www.youtube.com, as well as paper drawing a full picture of the logistical and pedagogical organization chosen by each school to implement the project's activities and running the videomaking experience, plus the students' and teachers' learning outcomes.

Intellectual Output 3 at last aims at applying to the regular school program the tools which have been developed in Intellectual Output 2. In this phase of the project, Partners explored the chance to use hypervideos during the school curriculum testing them on pupils who did not take part in the videomaking process nor did they watch them before. This aims at verifying the didactic potential and sustainability of the project activities themselves, as well as putting the bases for future replicability and transferability of hypervideos as a new blended learning and teaching model.

As conclusion of the FASTEST project, Intellectual Output 4 consists of a set of guidelines for the effective use of digital storytelling to foster entrepreneurial learning in the school

context, with particular but not exclusive reference to the VET sector of Secondary Upper Secondary Education. The present study is intended as a vademecum, a kind of instruction manual addressed to VET teachers and students, VET institutes, educators who would like to replicate the experimentation carried out during the project, in order to ensure its widest replicability and transferability. The Output contains useful information not only from the participating schools, but also by the technical partner P2 SPELL Output Leader and videomaking and corporate storytelling expert, as well as by business oriented partners as facilitators of learning entrepreneurial.

I. Intellectual Output 4 and its overall structure

I.2 IO4 parts

Intellectual Output 4 basically consists of 3 parts, involving different partners according to their profile and competencies:

	Actions	*Main partners involved*
Part 1	Revision of Didactic Programs about Entrepreneurship for final release	Education Oriented Partners: P3 Bocchialini - Italy P6 PHSFT G. Pavlov - Bulgaria P8 – Liceul Technologic Aurel Rainu, Romania P9 Quinta da Lageosa, Portugal
Part 2	How to make an hypervideo: technical guidelines and recommendation by Spell	P2 Spell as IO4 leader
Part 3	Business consultation: how to facilitate profitable relationships between companies and VET schools to enhance entrepreneurial learning, both in general and in the agribusiness sector	P1 Cisita Parma P4 CICIA, Romania P5 BCCI, Bulgaria P7 CNJ, Portugal

According to the above mentioned structure, IO4 has in general the following objectives:

- How to effectively use the project's OERs (IO2 Hypervideos & IO3 Teaching programmes)
- How to use/transfer OERs to other education levels:
    - Higher /Lower education
    - Industrial sectors (other than agroindustrial)
    - Different countries / cultures
- How to use the technological tools at school:
    - To convey teaching contents (teacher-led approach)
    - To organize a WBL setting for the creation of hypervideos (mini-companies of students on a project-work)

On such basis, the partnership elaborated on the specific IO4 contents:

- What it takes to make the Hypervideos “usable” again
- What to change to adapt them to different contexts
- What it takes to make Hypervideos from the start
- Organizational issues (new skills for teachers)
- How to establish relationships with entrepreneurs, companies and institutions (like Chamber of Commerce, Federations, Incubators...)

I.3 Part 1. Validation of the training programs

As last activity in the project, the experimenting schools were involved in a review of the experiments carried out. Thanks to the guidelines set by Coordinator General P1 Cisita Parma, each team of teachers from each of the four countries involved in the project (Italy, Bulgaria, Romania and Portugal) has worked to highlight:

-problems that have arisen in the experimentation on the didactic use of Ipervideo (IO3)

- any changes made to the initial program due to circumstances arising in the course of the work

- variable and invariable conditions that must necessarily be present for the purpose of the didactic effectiveness of experimentation, the achievement of learning objectives and repeatability.

In order to model the outcomes of the activities, to promote its transferability to another context and the subsequent development of entrepreneurship learning beyond the design boundaries, it was finally asked to all partners to collaborate for the release of a unique educational program on entrepreneurship integrated with hypervideos as an educational tool, released as OER - Open Educational Resource.

Below evidence will be given of the issues and problems involved, as well as of the solutions adopted and of the variables and invariables identified by the four interdisciplinary team of teachers.

First of all, teachers were asked to collectively report about any problems met during the hypervideo experimentation:

	Problems	Solution Found
Students' attitude/motivation	Teamwork and interactive lessons have tended to become quite noisy, sometimes complicating the handling of it	Adding a competition component among the classes within the experiment has made the teams more creative and reflexive, hence less noisy
Students' behaviour	No problems occurred. Students were active and engaged.	
Organizational / planning problems	Difficulty in engaging other colleagues/teachers Lesson planning was done before the making of the hypervideos, but in fact the didactic program should be designed or revised after the creation of the hypervideos.	The teams have counted on the appropriate interdisciplinary composition as key to success. It was decided for the school year to plan the insertion of the theme of entrepreneurship in appropriate times and didactic spaces.
Teaching Contents	It is necessary to consider how to integrate hypervideo-themed themes into didactic programming	Teachers generally opted for the following solution: - Hard Skills (content related to the production and processing of animal and vegetable products of local tradition) - Soft skills (study of entrepreneurial approach)

Secondly, teachers were asked to collectively report about any changes occurred either accidentally or intentionally during the hypervideo experimentation (IO3):

	Planned	**Done**
Duration of the	Duration was exactly how it was planned	Much time has been spent on creating videos and transforming them into

experimentation		hypervideos, but since this aspect has now been capitalized, it is anticipated in the school years to devote more time and energy to the exploitation for educational purposes of these tools.
Teaching contents	Teaching contents were delivered as they were planned	New themes related to sectorial skills (agroindustry and milk and meat supply chains) have been introduced, thanks to the ideas that emerged in class during the experimentations, as well as to the highly participative and interactive features of the activities. In addition, the soft skills proposal encountered greater difficulty in understanding and approach by the pupils, thus requiring more thoroughness.
Didactic Methodology	As planned: brainstorming, frontal and participated lessons, systematization of the topics learned, team works with research on crosscurricular topics, role plays.	

Third, teachers were asked to collectively report about Variables and Invariables, namely about the conditions of re-use of the hypervideos: what it should be taken into consideration to repeat the whole project activities (creation of the hypervideos + teaching program about entrepreneurship) in other schools, in other study courses or in other countries.

	Variables (according to the context)	**Invariables**
Target students	In the course of the experiment, students were generally involved in the final years of study, in which the dynamics between them were tested and facilitated moments of comparison, exchange of ideas and experiences and support. Alternatively, it is possible to involve groups of pupils of the same age (coming from different classes)	Students of the same age, not under 16 years old

Teaching contents	Hard Skills: - Contextual aspects of production chains - Aspects of technical and production technology and transformation - Aspects of marketing - The complexity of the chains and businesses This approach can be addressed to both large and medium-sized enterprises, taking into account the relative complexity of both small and medium-sized enterprises, possibly family-run, as in the cases covered by this experiment	1) Identify and focus on soft skills: Problem solving Adaptability Resourcefulness Group work 2) Knowledge of the territory from a geographical, historical, cultural and productive point of view 3) History of local production realities (why did a particular industry develop in this area?) 4) Knowledge of the practice of storytelling 5) How to make an hypervideos from the technical point of view and from the point of view of planning and design
Organizational issues at school	It is necessary that all the teachers of a given class are involved to effectively run the project's experimentation	-Minimum five hours of work -Teamwork -Between a meeting and the other, leave the time for the pupils to explore the topics discussed with possible domestic work -Ongoing support from qualified and trained staff for videomaking, hypervideos and editing
Didactic methodologies	Students watch the videos and hypervideos. The initial approach is left to free and autonomous student's initiative and work. Subsequently the teaching team helps to systematize the acquired skills.	1) Brainstorming 2) Research about the soft skills of the entrepreneur 3) Core experimentation: role plays, personal work presentations, collecting information on local entrepreneurial realities, systematization of acquired knowledge and skills
Relationships among: Students and teachers Among peers (students) Among teachers Between school and companies	1) Between students and teachers: the hypervideos can also be proposed by teachers other than those who have accomplished it (e.g. also by humanities teachers to explore the historical-cultural aspects of the territory in which it operates) 2) Among students (peers): enrich the hypervideos with even more multimedia contents 3) Among teachers: Teachers can be from different disciplines. The number of the team members can vary	1) Between students and teachers: teacher as a guide to focus on soft and hard skills, enhancing the moment of evaluation of the work done 2) Among students (peers): envisaging sessions for in-depth study ans work in team. Teams should be formed according to the free initiative of pupils. 3) Among teachers: To have a referee teacher who is

		constantly updating and training himself to be a benchmark for other colleagues. For effective teamwork, the teams must be aligned from the point of view of goals and evaluations
	4) Between school and companies: the number of times an entrepreneur goes to school to bring his testimony to the pupils may vary	4) Between school and companies: Identifying a referee teacher within the work team that keeps all relationship with the companies 5) Planning the meeting where the entrepreneurs can be invited to bring their own experience to students

Students with special needs or learning impairments and/or fewer opportunities. In Bulgaria there is an ethnical Roma minority, sometimes with less-advantaged socio-ecomonic background. As far as P6 Pavlov experience is concerned, pupils from Roma minorities are about 30 percent in the working group and they have been successfully involved in all activities. Their knowledge of entrepreneurship has improved (higher scores on written tests) and fewer absences. Students with special educational needs (5 students) began to understand the learning content better. They felt more comfortable as participants in interactive lessons than in traditional frontal lessons.

Ethnical issues are generally faced also in Romania, where a small percentage of students of P8 Aurel Rainu are from a Roma minority as well. Nonetheless, they could fit easily in the experimentation without perceiving any sort of disadvantage or obstacle, as the strong experiential features of the activities promoted communication among students and collaboration towards a common goal.

As far as Italy was concerned, during Intellectual Output 2 (video creation and transformation into hypervideos) there were two ex-lege 104/1992-certified pupils in the class group, in particular a girl with Down syndrome and a severe mental retardation. This girl is supported by a team of two special education teachers and a professional educator. The other certified student ex lege 104/1992 is suffering from mild mental retardation, followed by a team of two support teachers, but unlike the partner, he's not in need of a

professional educator. In the classroom there are also two dyslexic pupils, safeguarded on the basis of Law 170/2010. As the school is very attentive to inclusive dynamics, all pupils were involved in planned activities. The point was to focus on learning strategies involving all students indifferently. These strategies have been developed following a period of observation of the class, which has made it possible to identify the talents of each pupil. Cooperative learning has been used to make all students feel comfortable and allow them to make their contribution based on their predispositions. Everyone's strengths were highlighted. By way of example, one of the dyslexic pupil, with a great passion for the drawing, in the phase of the IO2 was included in the working group whose task was to create the storyboard. The other was appointed as actor in the video. The boys, certified ex lege 104/92, participated as the other classmates at all the shootings, and in particular collaborated on the selection of videos and photos that were chosen for the editing. As for the classes involved in the experimentation of Intellectual Output 3, it is noted that there are no students with cognitive disabilities. There is an alien with physical disability that forces her into a wheelchair, but has been involved in any design activity like other comrades. In order to carry out the verification activities envisaged during the experiment, the benches were prepared for horseshoes, also in order to allow the pupil to move easily with each partner. Group work has served to give each student an individual and group responsibility through which positive relationships have been established between the students thanks to a constructive interaction between both classmates and the relationship with the teacher is placed as a facilitator of knowledge. The peer tutoring methodology was very much used in the editing phase: the more experienced involved the other pupils, including disabled, to whom they were sent, under the supervision of the teachers, how much they learned in the development of the phases of the project.

I.3.2 Release of didactic programs about entrepreneurship

As final stage not only of Intellectual Output 4, but also of the entire project, all partner schools have been asked to collaborate on the writing and release of OER (Open Educational Resources), a unique didactic program that had the following characteristics:

- Purpose: to introduce the theme of entrepreneurship education in not only VET contexts but in general in educational contexts

- Content: cross-curricular and cross-curricular aspects of a variety of disciplines, in a coherent whole with the delineation of a entrepreneurship course

- Methodology: Blended learning, i.e. combining traditional frontal lessons with multimedia use of hypervideos created in the Intellectual Output 2.

Below are three different validated programs, all devoted to the didactic exploitation of hypervideos, but each carrier of different characteristics. Each program is flexible and adaptable to the didactic needs of the reference context, and, for optimal enjoyment, it must be integrated with hypervideos already available (such as those created as part of Intellectual Output 2), or created from scratch following the indications in Chapter II of this Output 4 (see below). Each of the three validated programs can be integrated with each of the 8 hypervideos of the FASTEST project:

- "Dalle stalle alle stelle" created by P3 Bocchialini, Italy, about Azienda Agricola Bertinelli (Parma), producing Parmigiano Reggiano
- "La passata e il futuro", created by P3 Bocchialini, Italy, about Rodolfi Mansueto company (Parma), producing tomato and vegetable preserves
- "Izbor / Choice", created by P6 Pavlov, Bulgaria, about Tandem Company in Sofia producing meat and meat products
- "Real Future with Profession", created by P6 Pavlov, Bulgaria, about the young entrepreneur Miro Rangelov, owner of a small bakery in Sofia
- "Ion Florin Com", created by P8 Aurel Rainu, Romania, about Ion Florin company, producing and selling meat products
- "SC Anis Trading", created by P8 Aurel Rainu, Romania, about SC Anis Trading, pastry and baked products laboratory
- "A minha Queijaria", created by P9 Quinta da Lageosa, Portugal, about the cheese company Queijos Braz
- "As vinhas de um sonho", created by P9 Quinta da Lageosa, Portugal, about the wine factory Quinta dos Termos

Example 1. Course Title: Didactic exploitation of the hypervideos

Duration:	16 hrs
Organization (logistics and pedagogics):	Computers for web research and hypervideo links consultation
Learning Objectives:	-Taking advantage of the power of video annotations and hypervideo linking - Creating a more engaged learning experience for the viewer - Video documents are now more and more openly accessible and available -Bringing a more active attitude while watching video documents - Reconstructing real experiences thanks to the high level of authenticity and realism
Teaching contents:	ICT -Add an unlimited number of annotations to a sequence - Reference different annotation-types - Locations (OpenStreetMaps) - Videos (Youtube & Vimeo or any HTML5 Video [webm&mp4]) - Webpages - Images - Arbitrary Text - Cutting videos (set start- & endpoints) - Building sequences out of multiple (cut) video files - Adding multilingual and interactive transcripts - Interlinking an unlimited number of sequences
General Program	Hypervideos are multimedia files, which differ from traditional video files in that they can be navigated by using links that are embedded in them. Students can therefore easily access content that explains and clarifies certain points are difficult to understand, while at the same time not interrupting the flow of the original video presentation.
Lesson 1	Object: What is an hypervideo Contents: making a video Methodology: Creating a storyboard to reproduce a specific situation. The video represents a reconstruction or a simulation of reality. Duration: 2h Exercises: Using resarch engines of broadcasting archives, specialized websites or video aggregation sites. Methods of students evaluation : practice, exercise
Lesson 2	Object: Design and preparation of a video Contents: make a video Methodology: In order to create an hypervideo, the teacher first need to have a video to start out with. The teacher can use an existing video. Creating a storyboard to reproduce a specific situation: in this case, the video represents a reconstruction or a simulation of reality. Duration: 2h Exercises: Using research engines of broadcasting archives, specialized websites

	or video aggregation sites. Methods of students evaluation: practice, exercise.
Lesson 3	Object: editing a video Perhaps you will need to make some changes to the video to make it an hypervideo. The changes to be made in the video editing phase may vary according to the learning objectives e.g. cutting out a scene limit the duration of the video: do not exceed 6 minutes Contents: making a video. Methodology: a reconstruction or a simulation of reality. Duration:2 h Exercises: Using research engines of broadcasting archives, specialized websites or video aggregation sites. Methods of students evaluation: practice, exercise.
Lesson 4-5-6	Object: making the video interactive Contents: Inserting interactive points and other types of interactive texts and documents Hyperlinks Duration: 8h Methods of students evaluation: making short films in practice

Example 2. Course Title: Entrepreneurship through hypervideos in different subjects

Duration:	8 hours minimum, 24 hours optimum
Organization (logistics and pedagogics):	Students can group themselves, develop a business plan, and play roles in competing businesses. Students can make hypothesis about how they will survive on the market and how they will become more competitive.
Learning Objectives:	The aim is to get students acquainted with the positive aspects of entrepreneurship and the risks involved so that they become aware of what features they need to develop in order to be successful entrepreneurs.
Lesson 1	Object : How business communications will help us in entrepreneurship. Contents: Watching the hypervideos, explaining how to sort your resume, what education and skills necessary for people dealing with agro-industrial business. Watching the presentation including in hypervideos Exercises / tasks for students: Writing their own CV Reading, choosing and selecting the right employees with the best CV Evaluation: the most active will be evaluated, as well as the students with the best written CV Comments: The students watch the video, and they become more interested in and curious to imagine the real situation which will need knowledge and skills to screen out the necessary qualities of employees in company.

Lesson 2	Object: English language To teach students how to lead formal and informal correspondence and make conversation with foreign companies in agro-industrial sector Modality: Teachers and students watch the hyper videos and discuss Content and tasks: The students make mini-companies and make simulated conversation by phone or on a meeting with description of their products in foreign language They want to sell the ecological products. Evaluation: Written description of products can be evaluated by teacher. The conversations can be evaluated.
Lesson 3	Object: Biology Goals: To teach students how to eat healthy, organic food and to keep their organism in good fit Modality: Individual learning at home. The students are visiting the hyper video links at home and then they make proper diet for healthy eating visiting/imaginary/ a farm in the countryside. Evaluation: Test
Lesson 4	Object: How to make a business plan Modality: interactive discussion, writing Content and Tasks: The students are visiting the hyper video. The aim is to allow students to make economic analysis of a company that they could build by themselves, finding a balance between incomes and expenses, to be able to foresee the risk and be prepared for it not to give up farming. Evaluation: Students who founded and thoroughly prepare their business plan will be most appreciated.
Lesson 5	Object: National History and contemporary agro-industrial business Students acquire knowledge about the traditions historically in raising plants and animals. Students do research on the Internet or from stories of older people, grandparents what traditional crops and animal breeds that are supposed to be the most adapted to the conditions of the country and could be grown in the future in their farms. Evaluation: Evaluation of the most comprehensive studies of past experience and their active use in future plans for companies.
Lesson 6	Object :Economics Goals: Watching the video students decide to open their own company, they need to learn how Modality: discussion and practice Content: The interviewed entrepreneur advises them to be loyal to the state and now students should be familiar with the administrative requirements for opening and maintenance of corporate accounting Tasks: Students find on the Internet the necessary forms and fill them correctly. Evaluation: checking the completed forms.
Lesson 7	Object: VET Thanks to watching the video, students decided to create a simulated company for milk processing, but they need to be familiar with necessary manufacturing machinery. Modality: Frontal lessons, visiting the links of the hypervideos Contents: Learning about the device and operation of necessary machinery Tasks: Search on the internet some varieties of machines for the processing of milk Evaluation: working out of design for equipping

Lesson 8	Object: VET Content: Collecting and studying traditional recipes of meat products learn production technologies. Tasks: Students are introduced to the recipes and technology of the company for meat processing shown in hypervideos Evaluation: Students should write a small recipe book with the most frequently used recipes

Example 3. Course Title: Action! Let's analyze the company

Duration:	12 hrs
Organization (logistics and pedagogics):	Computers with video-projector, laptops, VCR, classroom with blackboard to write on, possibility to divide students into groups
Learning Objectives:	Getting to know the company and the entrepreneur that guides it, as well as the production chain and the territory, the skills necessary to make a business.
Lesson 1	Object: Let's get to know our territory and its companies Contents: recognition of the companies in the territory, supply chains, history, geography Methodology: brainstorming and group research Duration: 4 hrs Classroom exercises: preparation of the interview to be conducted during a face to face meeting to be organized with the chosen company entrepreneur
Lesson 2	Object: let's go and see how the entrepreneur works Contents: structure of a company and the production factors (with particular attention to the different roles and tasks present in the company) Methodology: visits to local companies and filming of a video interview to the entrepreneur Duration: 4 hrs Classroom exercises: editing of the video interview with appropriate choices of topic and themes
Lesson 3	Object: The skills o fan entrepreneur Contents: let's find out the soft skills of an entrepreneur Methodology: brainstorming and work in groups Duration: 2 hrs
Lesson 4	Object: Soft skills as resource for problem solving Methodology: role play Duration: 2 hrs Classroom exercises: each group prepares and stages a situation in the workplace using different stylistic registers (comedy, tragedy, small sketches, etc.) Students' evalutation: evaluation by the teachers of the effective acquisition of entrepreneurial soft skills by the students, based on what was enumerated during class 3

II. Part 2. How to: making the hypervideo.

Practical guidelines for a step-by-step creation

Chapter 1. STORYTELLING: finding out a story to tell

1.1 The hero's journey

The Hero's Journey is a pattern of narrative identified by the American scholar Joseph Campbell that appears in drama, storytelling, myth, religious ritual, and psychological development. It describes the typical adventure of the archetype known as The Hero, the person who goes out and achieves great deeds on behalf of the group, tribe, or civilization.

Christopher Vogler is a Hollywood development executive.

Vogler used Campbell's work to create the now-legendary 7-page company memo for Hollywood screenwriters, *A Practical Guide to The Hero with a Thousand Faces* and his guide for screenwriters, *The Writer's Journey: Mythic Structure For Writers* (2007).

The ideas Campbell presents in this and other books are an excellent set of analytical tools.

With them you can almost always determine what's wrong with a story that's floundering; and you can find a better solution to almost any story problem by examining the pattern laid out in the book.

There's nothing new in the book. The ideas in it brings are older that the Pyramids, older than Stonehenge, older that the earliest cave painting.

In his study of world hero myths Campbell discovered that they are all basically the same story – retold endlessly in infinite variations. He found that all storytelling, consciously or not, follows the ancient patterns of myth, and that all stories, from the crudest jokes to the highest flights of literature, can be understood in terms of the hero myth; the "monomyth" whose principles he lays out in the book.

The theme of the hero myth is universal, occurring in every culture, in every time; it is as infinitely varied as the human race itself; and yet its basic form remains the same, an

incredibly tenacious set of elements that spring in endless repetition from the deepest reaches of the mind of man.

1.2 The Archetypes of characters

Who are the main characters of a story? Here a short description of each one.

HERO

He is the most active character of the story. He's the one who makes the journey: someone who is willing to sacrifice his own needs for the sake of the others.

MENTOR

He is the guide who helps, coaches, protects and instructs the hero. He has the right to give him some special gifts.

THRESHOLD GUARDIAN

He tests the hero, creating difficulties. He stops him in front of the threshold and bring him back to its original limits. He's a menacing face to the hero, but if understood, he can be overcome.

HERALD

It is the change that announces the beginning of the adventure. The force that brings a new challenge to the hero.

SHADOW

He is the character who represents the energy of the dark side. The confrontation between shadows and heros is the driving force of the story.

TRICKSTER

He is the sidekick of the hero. He can be witty and funny, but represents the desire for change.

1.3 The stages of the journey

In order to write a successful story, follow the stages of the journey.

1. The hero is introduced in his/her **ORDINARY WORLD**.

The hero is seen in his everyday life. If you're going to tell a story about a fish out of his customary element, you first have to create a contrast by showing him in his mundane, ordinary world. In STAR WARS you see Luke Skywalker being bored to death as a farm boy before he tackles the universe.

2. The **CALL TO ADVENTURE**.

The hero is presented with a problem, challenge or adventure. Maybe the land is dying, as in the King Arthur stories about the search for the Grail. In STAR WARS, it's Princess Leia's holographic message to Obi Wan Kenobi, who then asks Luke to join the quest. In detective stories, it's the hero being offered a new case.

3. The hero is reluctant at first (**REFUSAL OF THE CALL**)

Often at this point the hero balks at the threshold of adventure. After all, he or she is facing the greatest of all fears – fear of the unknown. At this point Luke refuses Obi Wan's call to adventure, and returns to his aunt and uncle's farmhouse, only to find they have been barbecued by the Emperor's stormtroopers. Suddenly Luke is no longer reluctant, and is eager to undertake the adventure. He is motivated.

4. The hero is encouraged by the Wise Old Man or Woman (**MEETING WITH THE MENTOR**)

By this time many stories will have introduced a Merlin-like character who is the hero's mentor. The mentor gives advice and sometimes magical weapons. This is Obi Wan giving Luke his father's light saber.

5. The hero passes the first threshold (**CROSSING THE THRESHOLD**)

The hero fully enters the special world of the story for the first time. This is the moment at which the story takes off and the adventure gets going. The balloon goes up, the romance

begins, the spaceship blasts off, the wagon train gets rolling. Dorothy sets out on the Yellow Brick Road (The Wonderful Wizard of Oz). The hero is now committed to his/her journey and there's no turning back.

6. The hero encounters tests and helpers (**TESTS, ALLIES, ENEMIES**)

The hero is forced to make allies and enemies in the special world, and to pass certain tests and challenges that are part of his/her training. In STAR WARS the cantina is the setting for the forging of an important alliance with Han Solo and the start of an important enmity with Jabba the Hutt.

7. The hero reaches the innermost cave (**APPROACH TO THE INMOST CAVE**)

The hero comes at last to a dangerous place, often deep underground, where the object of the quest is hidden. In many myths the hero has to descend into hell to retrieve a loved one, or into a cave to fight a dragon and gain a treasure. It's Theseus going to the Labyrinth to face the Minotaur. In STAR WARS it's Luke and company being sucked into the Death Star where they will rescue Princess Leila. Sometimes it's just the hero going into his/her own dream world to confront fears and overcome them.

8. The hero endures the supreme **ORDEAL**.

This is the moment at which the hero touches bottom. He/she faces the possibility of death, brought to the brink in a fight with a mythical beast. For us, the audience standing outside the cave waiting for the victor to emerge, it's a black moment. In STAR WARS, it's the harrowing moment in the bowels of the Death Star, where Luke, Leila and company are trapped in the giant trash-masher. Luke is pulled under by the tentacled monster that lives in the sewage and is held down so long that the audience begins to wonder if he's dead.

This is a critical moment in any story, an ordeal in which the hero appears to die and be born again. It's a major source of the magic of the hero myth. What happens is that the audience has been led to identify with the hero. We are encouraged to experience the brink-of-death feeling with the hero. We are temporarily depressed, and then we are revived by the hero's return from death.

9. The hero seizes the sword (**SEIZING THE SWORD, REWARD**)

Having survived death, beaten the dragon, slain the Minotaur, the hero now takes possession of the treasure he's come seeking. Sometimes it's a special weapon like a magic sword or it may be a token like the Grail or some elixir which can heal the wounded land.

The hero may settle a conflict with his father or with his shadowy nemesis. In RETURN OF THE JEDI, Luke is reconciled with both, as he discovers that the dying Darth Vader is his father, and not such a bad guy after all.

10. **THE ROAD BACK**

The hero's not out of the woods yet. Some of the best chase scenes come at this point, as the hero is pursued by the vengeful forces from whom he has stolen the elixir or the treasure. This is the chase as Luke and friends are escaping from the Death Star, with Princess Leila and the plans that will bring down Darth Vader.

11. **RESURRECTION**

The hero emerges from the special world, transformed by his/her experience. There is often a replay here of the mock death-and-rebirth of Stage 8, as the hero once again faces death and survives. The Star Wars movies play with this theme constantly – all three of the films to date feature a final battle scene in which Luke is almost killed, appears to be dead for a moment, and then miraculously survives. He is transformed into a new being by his experience.

12. **RETURN WITH THE ELIXIR**

The hero comes back to the ordinary world, but the adventure would be meaningless unless he/she brought back the elixir, treasure, or some lesson from the special world. Sometimes it's just knowledge or experience, but unless he comes back with the elixir or some boon to mankind, he's doomed to repeat the adventure until he does.

Sometimes the boon is treasure won on the quest, or love, or just the knowledge that the special world exists and can be survived. Sometimes it's just coming home with a good story to tell.

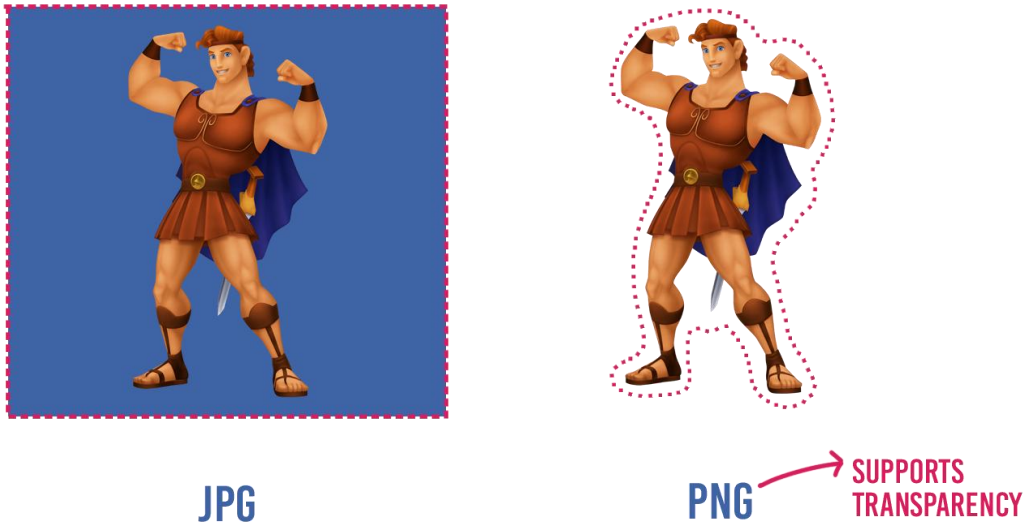
Chapter 2. **Digital Images and Videos**

2.1 Images

Videos are based on the illusion of movement: each portion of movement is a single image, called “frame”. The human eye perceives a very fast sequence of images as a fluid movement. There are from 25 to 30 frames in each second of a video.

Images can be vector and raster: vector ones are made by numbers and they can be scalable without quality loss; raster ones are made by pixels, if scaled they lose quality.

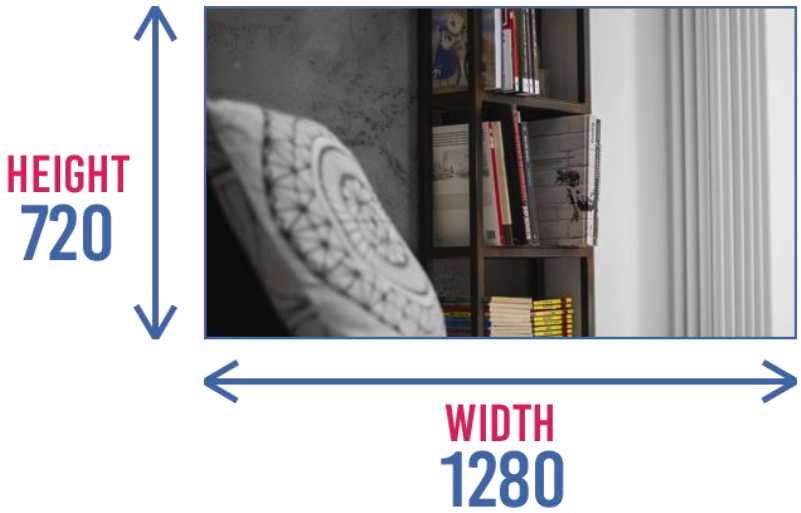
The most common raster images formats are JPG, PNG (it supports transparency), GIF.



If I increase the size (scale) of a raster image more than the native resolution I’ll reduce quality. DPI (Dots Per Inch) is a measure of spatial, both printing or video, (the difference is between DPI or PPI, dots or pixels) dot density: 72 DPI is the web standard density, 300 DPI is the print standard density.

2.2. Videos

Video resolution depends on the number of pixels in both width and height of the frame. The aspect ratio of an image is the ratio of its width to its height. There are several resolution formats, but the most common are HD (High Definition) which has 1280 pixel columns by 720 pixel rows, and FULL HD (1920x1080 px). Both these formats respect the same ratio. 1920:1080=1280:720=16:9. Different ratios provide different aesthetic effects: web videos usually use 16:9, cinema movies usually are in 21:9, old movies are in 4:3.



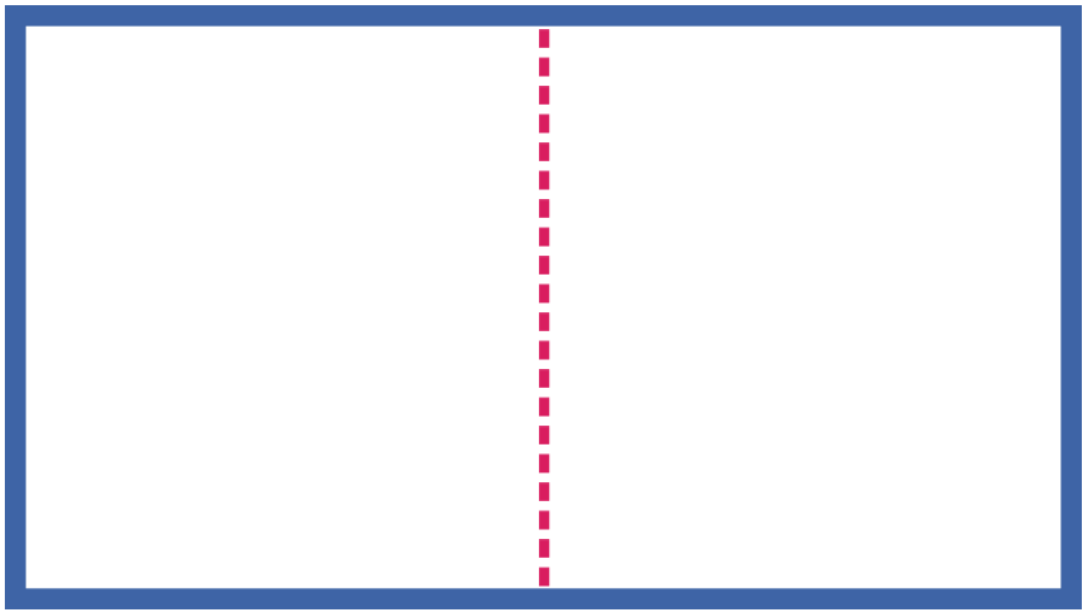
The higher the number of pixels the higher is the resolution, but it also means a bigger file size.

there are several video formats, with different quantity of image information included: a loss of information means a small file size but also a loss of image quality; no loss of information means a big size file and more hardware resources needed. MP4 is currently a good trade-off between file size and quality.

2. Cinematography

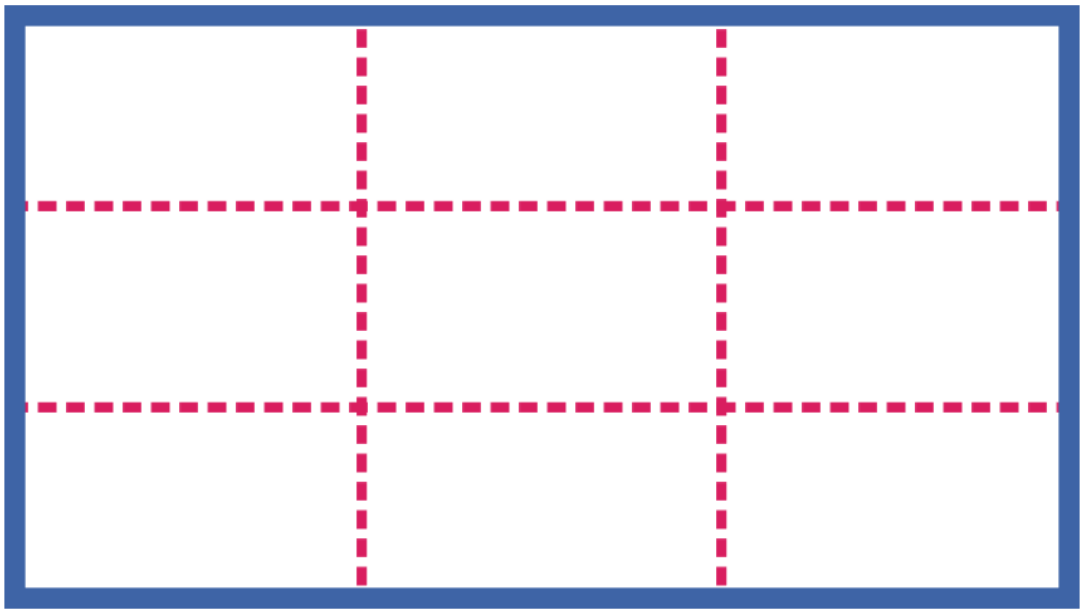
Composition is the placement of visual elements in the scene. In order to make pleasant shots there are several composition principles. To follow these principles is not compulsory, but it will help in order to make well balanced videos.

Rule of symmetry



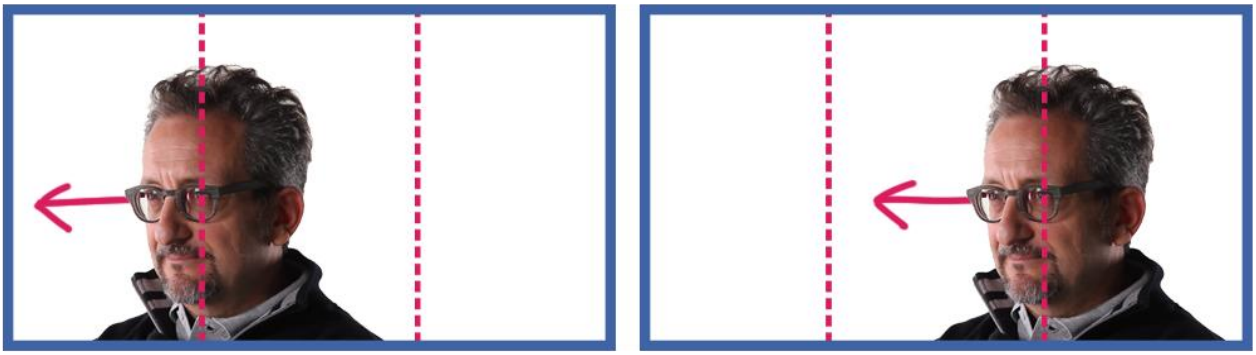
SYMMETRY

Rule of thirds: an image should be divided into nine equal parts by two equally spaced horizontal lines and two equally spaced vertical lines. The most important compositional elements should be placed along these lines or their intersections.



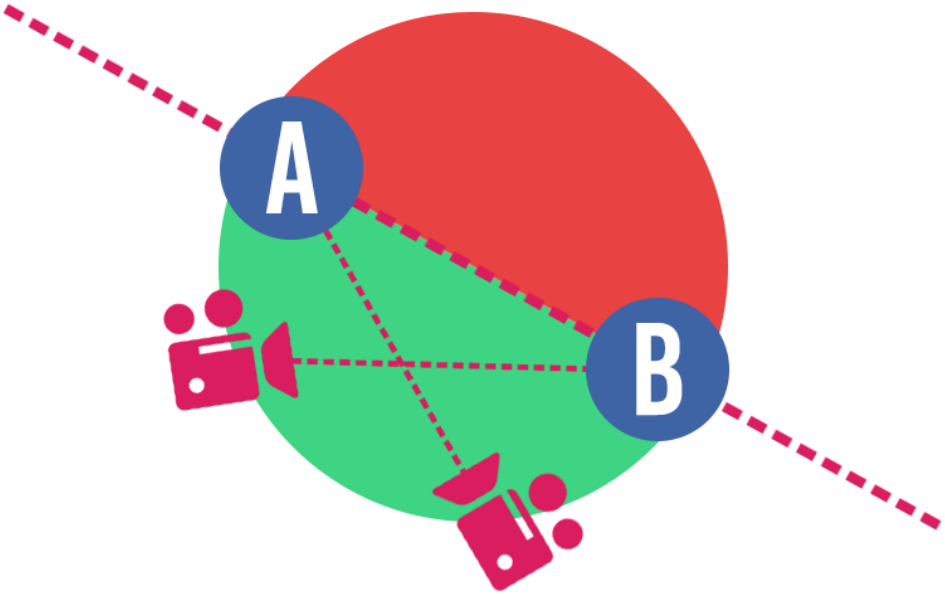
RULE OF THIRDS

Rule of lead room: Well-composed shots leave space in the direction the subject is facing or moving.



Rule of head room: a small amount of space above character's head is correct.

Rule of 180-degrees: an imaginary line called “axis” connects the characters. By keeping the camera on one side of this axis, for every shot in the scene, the first character is always frame on the right; the second character is always frame on the left. Breaking the 180-degree rule by shooting on all sides can be an error. The 180-degrees rule enables the audience to visually connect with unseen movement happening around and behind the immediate subject.



Framing is the presentation of visual elements in an image, especially the placement of the subject in relation to the other objects. In video-making the director can create some kind of illusions leading the audience's eye to see only what he wants them to see. A well-thought relation between background and foreground may lead to well-composed shots.

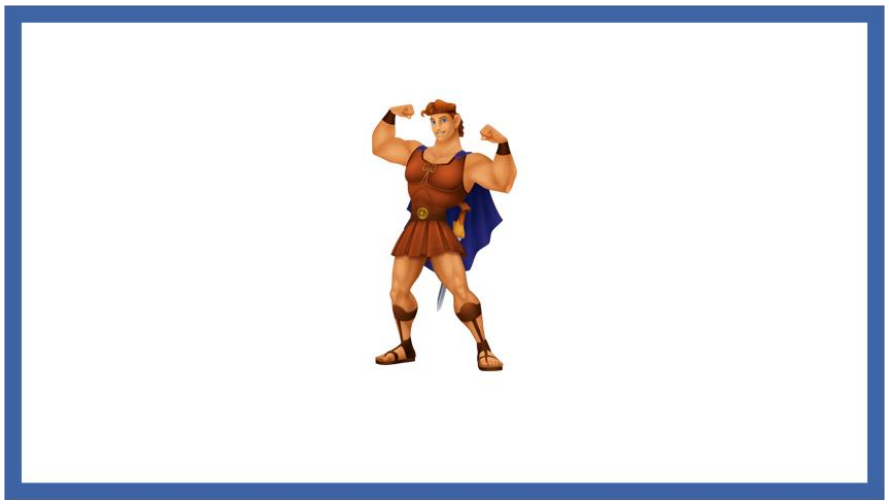
The **field size** explains how much of the subject and its surrounding area is visible within the camera's field of view. Here is an example of different field sizes: long shot, extreme long shot, medium-long shot or knee shot or cowboy shot, medium shot, medium close-up, close-up, extreme close-up, cut-in.

CLOSE-UP

CUT-IN

(DETAIL)

EXTREME CLOSE-UP



EXTREME LONG SHOT

LONG SHOT

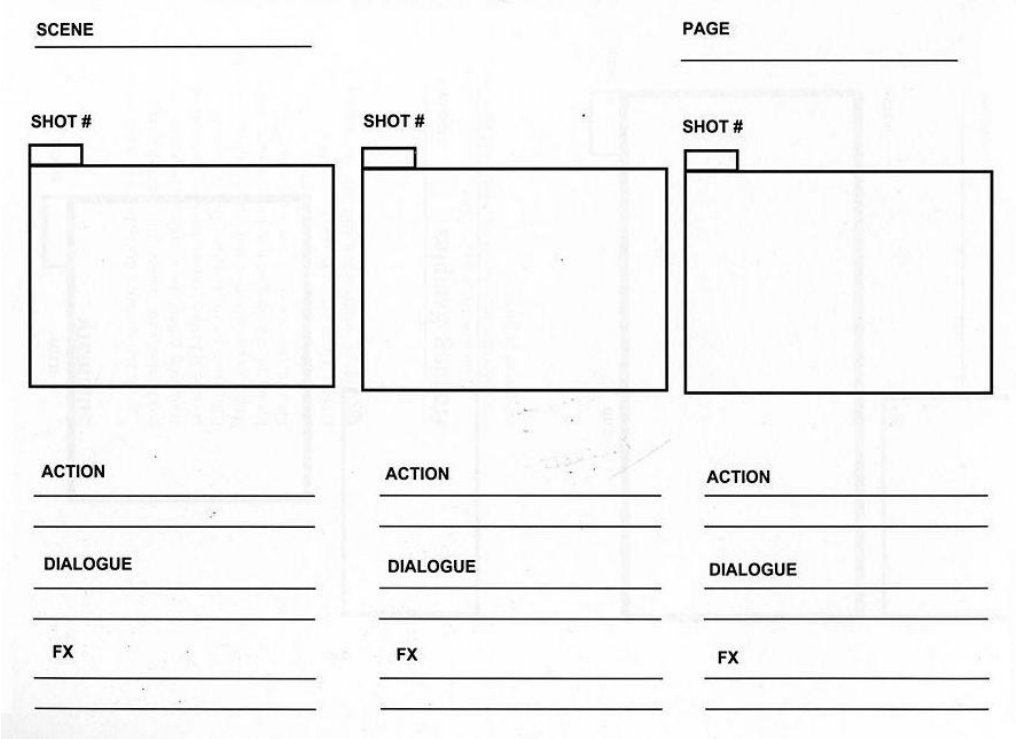
MEDIUM CLOSE-UP

MEDIUM-LONG SHOT

(KNEE SHOT OR COWBOY SHOT)

MEDIUM SHOT

Choosing a particular field size means choosing to arouse a particular mood in the audience. There are two useful tools that may be used before shooting in order to facilitate shooting: **Storyboard**, which is is a graphic organizer in the form of illustrations displayed in sequence for the purpose of pre-visualizing a motion picture sequence**.**



Shotlist, which can be just quick and dirty notes that help you remember everything you need in a particular sequence. It can be one of the most versatile production tools in your

kit. By creating report forms with different fields and sorts, you can build a working document that can be used for everyone in the production.

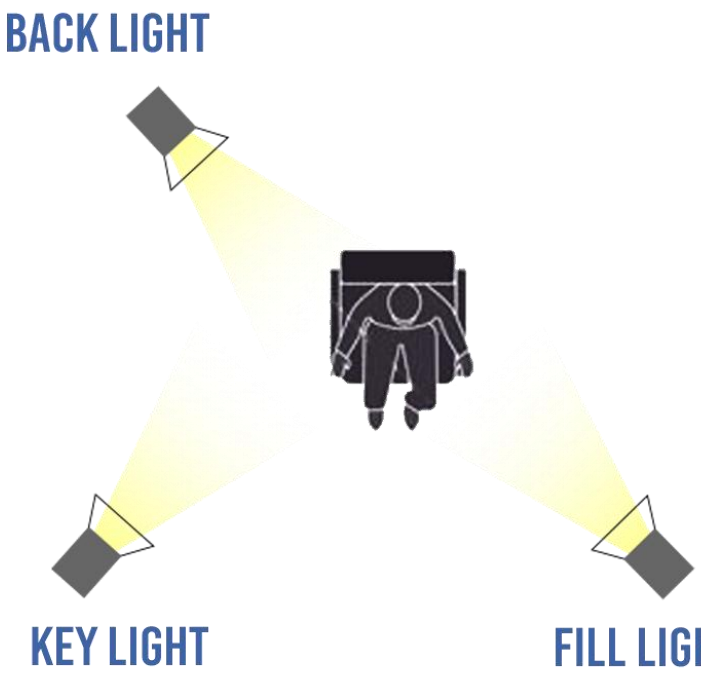
SHOT LIST

Production Title: Memento	Director: Christopher Nolan	Cinematographer: Wally Pfister

SHOT #	LOCATION	SHOT TYPE	CAMERA ANGLE	CAMERA MOVEMENT	SHOT DESCRIPTION (subject, action, lighting, etc.)
#1	Ext.	EST-MS	LA	Tilt	Photo Changing hands; Dark, Tilt to move up/down
#2	Ext.	MCU	LA	Steadicam	Lower Body, Dark, Replacing something in pocket
#3	Ext.	CU	EL	Steadicam	Face Shown, Half of face it.
#4	Ext.	XCU	TH	Rack Focus	Blood on floor, flowing in reverse
#5	Ext.	XCU	HA	Rack Focus	Bullet on floor
#6	Ext.	XCU	LA	Rack Focus	Glasses on floor, Dimly lit
#7	Ext.	MS	POV-Leonard	Rack Focus	Man on floor, Blood Surrounding him
#8	Ext.	MLS	LA	Tilt	Leonard Retrieving gun backwards, Kneeling down
#9	Ext.	XCU	HA	Rack Focus	Bullet Flowing Backwards, Dark shadows from under
#10	Ext.	XCU	LA	Rack Focus	Glasses falling in reverse, Dark shadows to the left
#11	Ext.	MS	POV-Leonard	Dolly	Man's body falling in reverse, Mixed Light, Shadows
#12	Ext.	XCU	TH	Dolly-in	Close up of Bullet being ejected from gun in reverse, gun in shadow
#13	Ext.	MCU	LA	Dolly-Out	Leonard shooting gun, half shaded, light through window
#14	Ext.	CU	OTS-2S	Rack Focus	Leonard face in shadow, light straining on floor

2.4 Shooting

During shooting is very important to pay attention to how the set is lighted up. Lights can be cold or warm, strong or light, hard or soft: each combination can be more or less suitable for different situations. Following this lighting scheme can be helpful to have well-lighted shots.



Using professional equipment means knowing how to manage all the gear's settings. Good photography skills are needed:

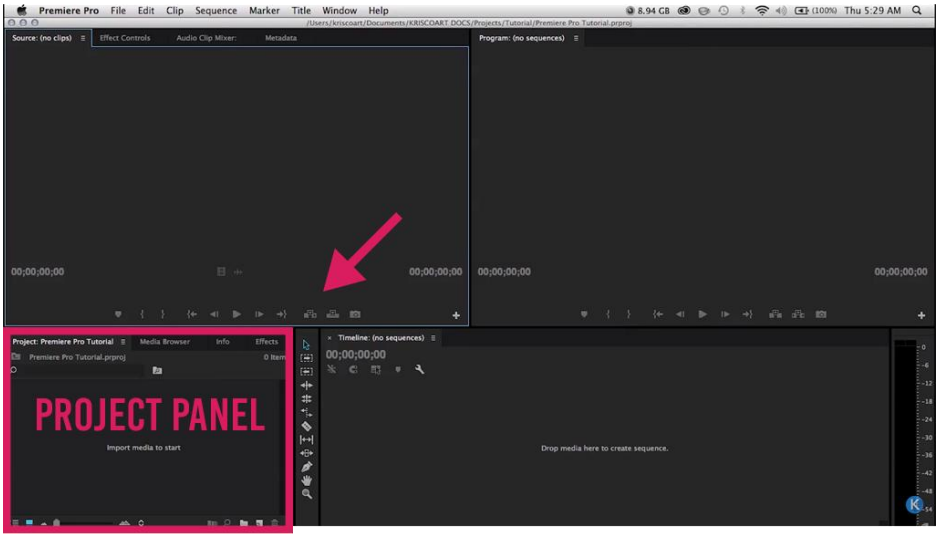
For instance using a professional camera require the ability to well-manage the aperture-shutter speed-ISO triangle. Of course it is olways possible to use a professional camera in auto-mode: but it's not the best way to take advantage of all that gear's potential.

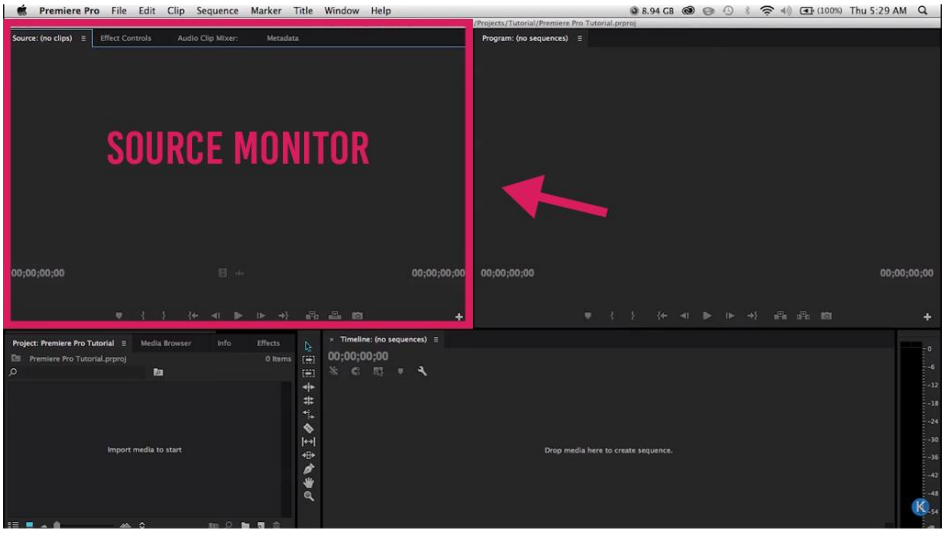
A common smartphone can be a great camera for these kind of non-professional videos: its resolution and quality is good enough and it is really easy to use (as long as you remember to hold it horizontally). It may be useful to use one smartphone for recording images and one smartphone for recording audio: voices and sound effects will be clearer.

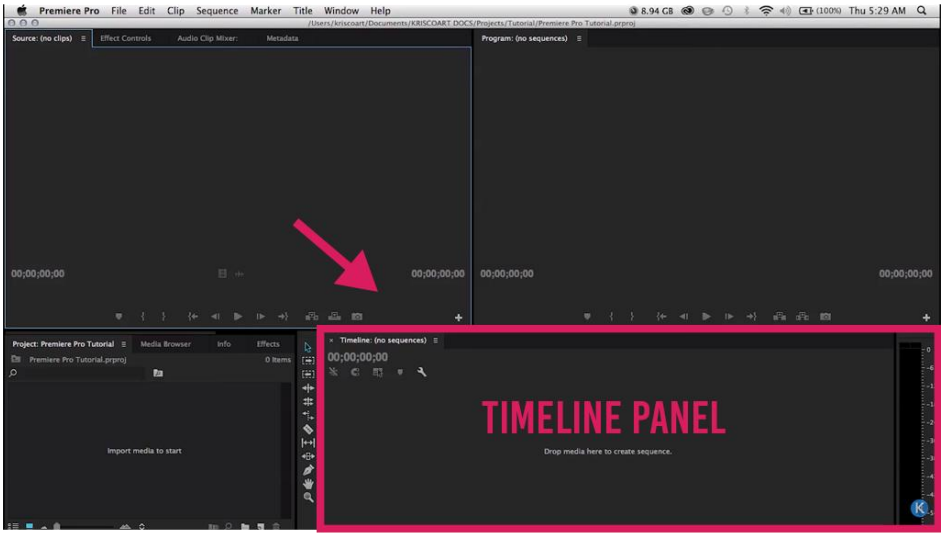
2. Editing

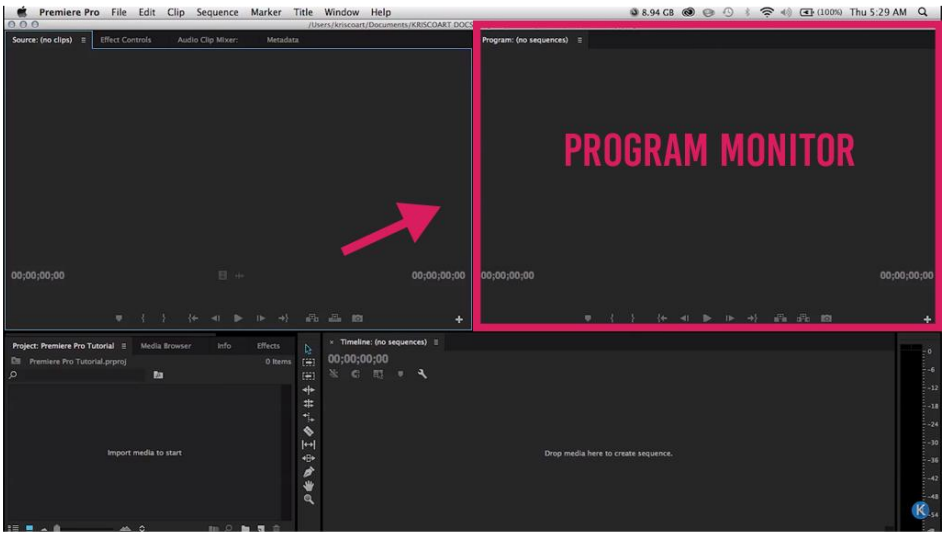
The film editor works with the raw footage, selects shots and combines them into sequences to create a finished motion picture. For some aspects editing is very similar to sewing.

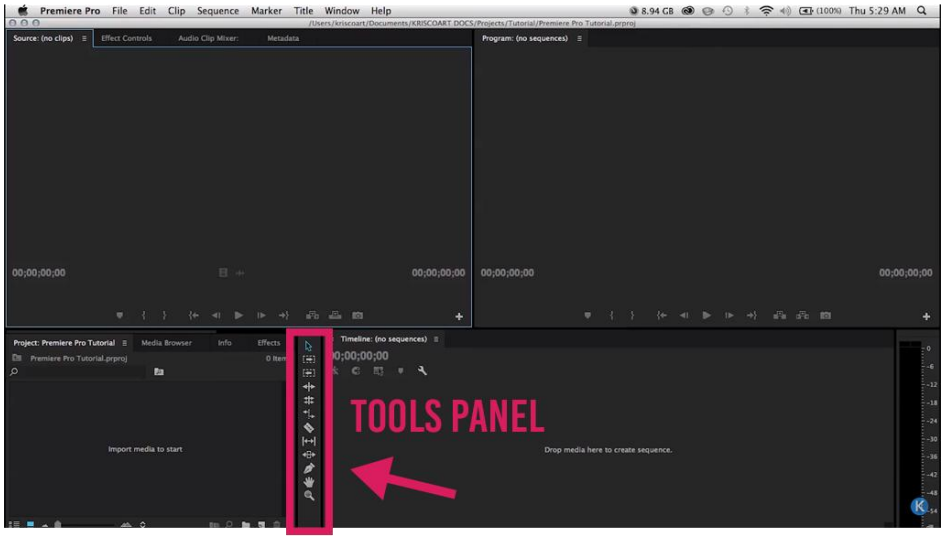
There are lots of different editing software, each of them with different prices and features. The most common are Da Vinci Resolve, Adobe Premiere, Final Cut, iMovie, Win Movie Maker. Only the first three are professional softwares, the last two are built-in applications. These softwares have quite the same structure: all of them have a Project panel, where the footage is imported; a Timeline, where the footage is edited; an Effect Panel, where audio and video effects and transitions are; a Tools Panel; a Program Monitor, where the editing results can be seen.


PROJECT PANEL


SOURCE MONITOR


TIMELINE PANEL





Whatever is the software chosen, the editing workflow should be something similar to this one: starting a project, capturing and importing video and audio, creating and refining a sequence, adding titles, adding transitions and effects, mixing audio, exporting.

Reading this book can be very helpful: **Walter Murch, *"In the blink of an eye"***.

In Murch's opinion an ideal cut should be true to the emotion of the moment; it advantages the story; it occurs at the moment that is rhythmically interesting and "right"; it acknowledges what you might call eye-trace; it respects planarity; it respects the three-dimensional continuity.

Chapter 3. **Hypervideos**

An hypervideo is a displayed video stream that contains embedded, user-clickable anchors, allowing navigation between video and other hypermedia elements. Hypervideo is analogous to hypertext: both are readable in a non-linear way.
There are several platforms which allows to read/watch an hypervideo: the most common are YouTube, Hapyak and Interlude.

YouTube, which is the simplest to use. On YouTube it is possible to link one video to another, or add some external links to other websites. These kind of link are called **Cards**: they are clickable buttons that appear during the video.

Having a **Gmail account** (ex. yourname@gmail.com) means having also a **YouTube account**. In the **Youtube Cards section** it is possible to insert many clickable buttons (cards) which link the user to some hypermedia contents. These contents are created using **Google Drive** and they can be Docs, Sheets, Presentations and so on. All the documents are inserted in a website, created with another Google tool: **Google Sites.**
All these tools are free and need just one registration.

The whole hypervideo-making workflow involves these steps: create some contents consistent with the content of the video (Google Drive); create a free website where to insert these contents (Google Sites); adding clickable buttons that link to these web pages on the video uploaded (YouTube).

Hapyak and **Interlude** are other two platforms that manage hypervideos: with Interlude you can directly upload videos; with Hapyak you have to upload the videos somewhere else and then manage the connections among them.
However, it should be noted that platforms such as those mentioned often change their policy, so changes and the need to keep one selves up-to-date are on the agenda.

III. Business consultation

about entrepreneurial skills and entrepreneurial learning

As an integral part of Output 4, intended as methodological guidelines to address the entire path of entrepreneurship education according to the model proposed by the FASTEST project, the business partners have been involved by virtue of their knowledge of the respective national realities, in terms of development of entrepreneurial actions and the sectors most represented in each country.

As is evident from the list of partners, the specific skills of the business partners are linked, on the one hand, to the development of conditions favorable to the flourishing of entrepreneurial initiatives, or to the development of sectoral skills on the other.

P1 Cisita Parma, project coordinator, training agency belonging to Confindustria, focusing on the development of paths for the growth of the managerial class, as well as of young and unemployed people looking for futher qualifications and professional opportunities.

P4 CICIA, Centrul de Incubare Creativ e Inovativ de Afaceri, business incubator dedicated to the development and acceleration of multi-sector entrepreneurial initiatives in Romanian territory, with particular attention to the north-east area of the country and the capital Bucharest.

P5, BCCI, Camera di Commercio e Industria Bulgara, based in Sofia, is dedicated to the general development of entrepreneurial initiatives both in the industry and the craft sector, and to favor and strengthen Bulgaria within European and extra-European exchanges.

P7 CNJ, Confederaçao Nacional dos Jovens Agricultores e do Desenvolvimento Rural based in Lisbon, Portugal, a sectorial organization dedicated to uniting and coordinating young Portuguese agricultural entrepreneurs, and to foster and implement the country's agricultural development and modernization plan.

The role of the business partners within the project was on the one hand, favouring and facilitating the necessary meeting between the school partners and the companies, to put the former in a position to contact entrepreneurs in the agro-industrial sector willing to participate in the project, and above all, provide VET teachers with the tools necessary for

the co-design of *work-based learning* pathways; on the other hand, the business partners have had the role of monitoring the progress of the experimentation and assessing, at the end, what business skills have been developed thanks to the activities of the FASTEST project, with particular attention to the peculiar characteristics of the agro-industrial sector.

On the basis of the specific characteristics of each, a consultation document (see below, Appendix II) was submitted to the four organizations in order to collect the contribution of the business partners on the following topics:

- Entrepreneurial skills developed by students and teachers within the project, with particular reference to the distinction between soft skills and hard skills and the possible prevalence of one with respect to the other

- Guidelines / guidelines for use by schools to establish stable and profitable collaborative relationships with local businesses, aimed at developing shared projects

- Suggestions for use by schools on tools, publications, consultation materials both offline and online for the introduction of entrepreneurship education in a scholastic-educational context

The aggregated outcomes of the consultations of the business partners will be shown below, referring to the individual national context whenever specific relevant contents emerge.

Chart 1 – Development of entrepreneurial skills according to soft skills & hard skills for each of the two main target groups involved (VET students & VET teachers)

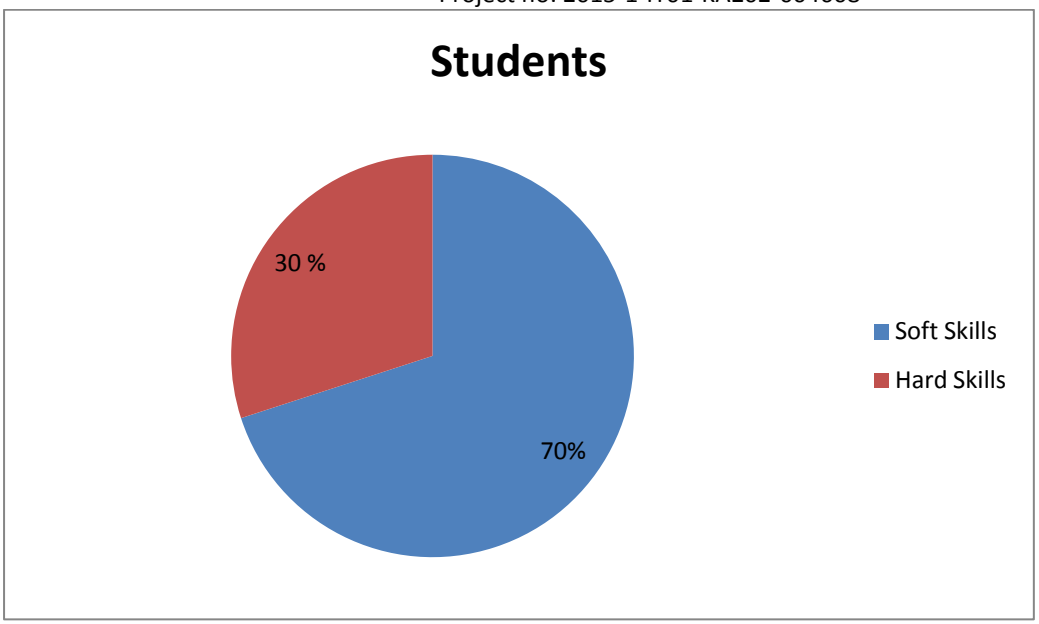
	Students	Teachers
Soft Skills - behavioural	• Team working • Problem Solving • Adaptability • Attention to details • Hard working • Motivation • Perseverance • Self confidence • Creativity • Communication Skills • Time management	• Leadership • Critical Observation • Making colleagues and students feel responsible • Professional Growth • Decision Making • Good judgment • Perseverance • Awareness of the role of the teacher • Creativity • Communication Skills • Time management

Hard Skills – technical	• Business analytics • Logical Thinking • Ability to use specific softwares • Ability to use video& audio editing programs • Web development • Social Media • Graphic design	• ICT for la didactics • Ability to use specific softwares • Ability to use video& audio editing programs • Gaining innovative didactic methodology • Digital literacy • Web development • Social Media • Graphic design

As is evident from Chart 1, there is a substantial alignment between the skills acquired or coached by the youngsters and teachers. The main differences, or specializations of one group with respect to the other, reside essentially with regard to the Soft Skills in the Team working, skills that students had to develop to carry out the project activities, and in the capacity of Leadership and critical supervision from part of the teachers, who have been called to guide and facilitate the project activities without replacing the students as to the tasks to be performed. As for the Hard Skills, however, although the computer skills were of great importance for both groups, they are more critical for teachers, since the students instead benefit from the advantage of being digital natives. In fact, the teachers have in some cases had to invest more efforts towards digital literacy, while the students have acquired more technical skills in the field of economics and business analysis.

Interesting considerations arise instead regarding the actual percentage distribution of Soft Skills and Hard Skills for each of the respective target groups, i.e. students and teachers.

Although with some fluctuation from country to country, it is believed in unison that students have developed behavioral skills to a greater extent than technical skills, precisely because of the need to work in groups and share common tasks and objectives. with their companions.



On the contrary, it is believed that the teachers have made the greatest efforts in the acquisition of technical and digital skills, while it is believed that the managerial skills of conducting and monitoring the work were substantially part of their personal background of professional skills.

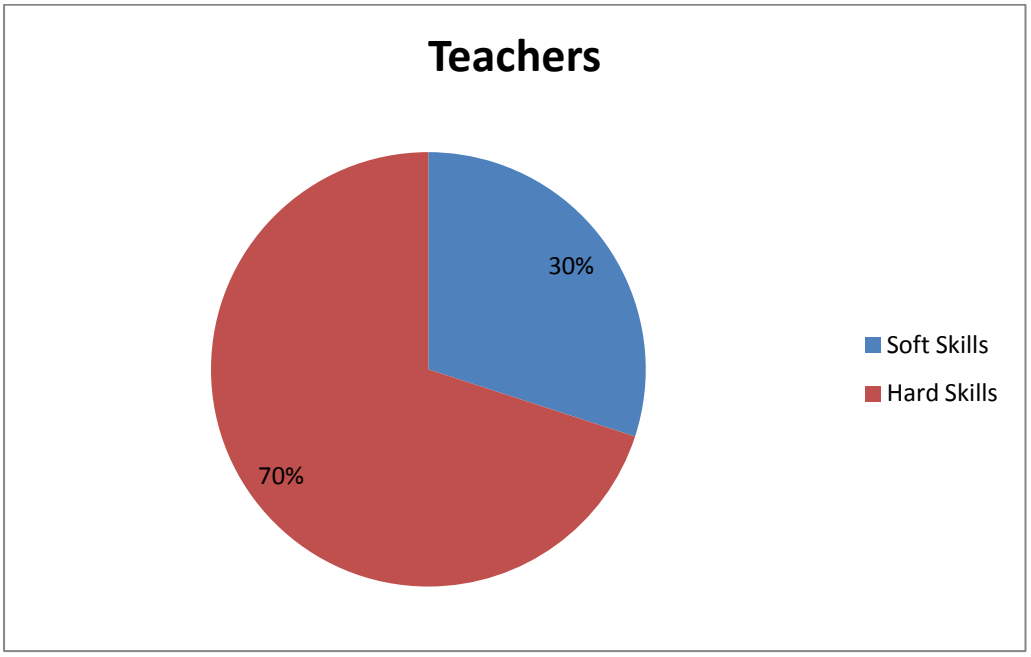


Chart 2 – Development of specific sectorial skills (agrobusiness) for both target groups (students and teachers)

	Specific Skills for the agroindustrial sector
Students/Future Workers	Imagination, creativity and passion in identifying opportunities;

	Spirit of initiative and responsibility in solving problems Ability and tenacity in achieving the objectives Risk management Results-oriented attitude Investment attitude Social media Skills in financial management Collection and processing of knowledge Technical knowledge of industrial machines specific to the sector
Teachers/Educators	Ability to tolerate change and good adaptation to crisis situations and uncertainties Ability to anticipate and flexibility in the adoption of critical measures Ability to make strategic decisions Forecast of economic trends ICT and digital skills Skills in financial management Knowledge of agro-industry (land market, harvesting and industrial processing) Technical knowledge of industrial machines specific for the sector

As it can be verified from chart 2, the abilities particularly relevant to the agro-industry concern the technical skills of the sector, with particular reference to industrial processes and machinery. The rest of the abilities indicated, above all with regard to soft skills, cannot however be considered the exclusive prerogative of the agro-industrial sector, but rather the identification of the entrepreneurial spirit in general.

A particularly relevant aspect for the concrete and effective implementation of the experimentation envisaged by the FASTEST project is the effective ability to establish stable, lasting and profitable relationships between educational institutions and companies in the agri-food sector, based on the identification of objectives of common interest for to work steadily over time. This is undoubtedly the most difficult aspect to tackle, but at the same time crucial for the success of the project activities, and in general the outcomes of entrepreneurial education in the VET sector.

Chart 3 – How can we identify strategies to start collaboration relationships between VET schools and local businesses to collaborate in co-designing learning experiences?

	Possible Strategies
1	Development of common online platforms for collaboration between companies and educational institutions
2	Creation of virtual businesses in which students can take part in the simulation of the management process of a company
3	Participation in career development centers
4	Establish shared conditions for the functioning of the dual system in VET education, providing structured periods of work-based learning for students in local companies, in particular SMEs
5	Organization of events and information days with the participation of entrepreneurs and students
6	Creation of mechanisms to promote a regular and structured dialogue between school managers and business owners, especially SMEs, on the needs of the labor market

As concrete examples of actions already undertaken at local level to trace a path to follow for the implementation of the strategies described above, we cite among others an initiative promoted by the Bulgarian Ministry of Education: it is a national project for the support and development of career aspirations of students leaving school and university, for guidance and counseling. A portal is being developed for young people, for the retrieval of information and the construction of institutional paths for the transition from the world of education to the world of work. The initiative is part of the broader governative program for the development of Bulgarian entrepreneurship in the 2014-2020 period.

As for Italy, it is important to exploit the potential of the program of *Alternanza Scuola Lavoro* (Work-School Alternation) as declined by the 2015 Education Reform Decree known as "The Good School". As it is commonly known, *Alternanza Scuola Lavoro* envisages that the VET students of the three-year upper course of the course of study spend 400 hours of curricula at companies, or else they perform school simulation activities of the company processes. A few years ago this has proved to be a good opportunity to join schools and companies at the same table to plan a path for the insertion of students in the company that is configured as training and work based learning.

As a contribution and assistance to companies by the employers' associations, Confindustria Nazionale, in its service dedicated to the topic of Education, has launched and set up a Albo delle Imprese Amiche della Scuola (a Register of companies that want to be School-friendly), intended to collect, disseminate and systematize the experiences of companies that they have distinguished themselves for their commitment to the training of students, as well as a

Guide to the *Alternanza Scuola Lavoro* for the use of company tutors, who are to be hosted for the first time in the company, and that it is necessary to monitor, supervise, train and protect. The Guide, already in its second edition starting in 2015, can be downloaded free of charge from the Confindustria website.

In addition, as regards the Emilia Romagna Region, the IRREER Orientation portal http://www.orientamentoirreer.it/, is dedicated to the collection, systematization and development of actions of orientation teaching and training orientation in the light of regional, national and European.

Furthermore the 2016 Eurydice Report about *Entrepreneurship Education at school in Europe* is a tool of primary importance, offering an up-to-date scenario paese per paese about the strategies currently under implementation in each country.[4] The document provides useful information on the state of the art also in Romania and Portugal.

In Portugal, the Report highlights some initiatives such as the Portuguese Entrepreneurship Education Platform www.peep.pt, and the government initiative called the "Strategic Program for Entrepreneurship and Innovation", which aims to "Promoting creativity, digital literacy, scientific and technological culture and entrepreneurship" at all levels of education (Eurydice Report, page 138). Both initiatives are part of the more general Guidelines on Citizens Education, issued by the Portuguese Directorate General for Education in 2012.

In Romania, although there is no national strategy for Entrepreneurship Education, within the existing Strategy for the development of the small and medium enterprises sector and for the improvement of the Romanian business environment by 2020 https://static.anaf.ro/static/10/Anaf/legislatie/HG_859_2014.pdf, concrete actions have been implemented to integrate Entrepreneurship education into VET courses, in the years 11-12, in the field of Economics Applied within the Professional Institutes, and has for some years been integrated into other teaching courses such as History, Civic Education and Economics (Eurydice Report, page 186). In addition, with reference to the training and professional updating of VET teachers, a program aimed at supporting simulated companies (Firma de

[4] European Commission/EACEA/Eurydice, 2016. Entrepreneurship Education at School in Europe. Eurydice Report. Luxembourg: Publications Office of the European Union.

exercitiu), which includes, in addition to support activities, a website and a methodological manual containing the best practices related to simulated companies (Eurydice Report, pages 187), with the aim of developing the entrepreneurial spirit among young people and educators and setting the foundations also in Romania for a VET educational system more aligned to the German and Northern European dual system.

Conclusions

As stated by the aforementioned Eurydice 2016 Report on entrepreneurial education at school in EU countries, the theme is central to all areas of education and training, not only professional, and for the greater development of European citizenship and culture:

“Developing and promoting entrepreneurship education has been one of the key policy objectives for the EU and Member States for many years. There is a growing awareness of the potential of young people to launch and develop their own commercial or social ventures thereby becoming innovators in the areas in which they live and work. Entrepreneurship education is essential not only to shape the mind-sets of young people but also to provide the skills, knowledge and attitudes that are central to developing an entrepreneurial culture” (Eurydice report, page 9).

Intellectual Output is aimed precisely at promoting the greatest diffusion and possible impact at local, national and European level of the good practices of development of the FASTEST project, as a bearer of methodological and didactic innovation in the VET sector and in the agro-industrial sector through the digital technologies, and above all as a means of strengthening and disseminating a European culture and entrepreneurial spirit, which motivates young people to undertake entrepreneurial initiatives in an area of vital importance for national economies, but which has long been suffering from a lack of generational change and of a force of innovation that protects and values tradition, without being suffocated.

Appendix I – IO 4: Validation of Teaching Programs about Entrepreneurship

Partner: □QUINTA DA LAGEOSA □PGHVT G. PAVLOV □AUREL RAINU
□ISISS BOCCHIALINI

I. PROBLEMS

Report about any problems or issues met during the experimentations

	Description	Solution Found
Students' attitude / motivation		
Students' behaviour		
Students with special needs or learning impairments		
Organizational / Planning problems		
Teaching contents		
Other		

II. CHANGES

Please give details about any difference about what was planned and what was done in reality

	Planned	Done
Duration of IO3 experimentation(hours)		
Contents of the Lessons		
Didactic methodology used		
Other		

III. VARIABLES & INVARIABLES: Conditions for re-use of the hypervideos

What it should taken into consideration to repeat the whole project activities (Hypervideo experimentation + Teaching program) in other schools, or in other study courses, or in another countries

	Variables (according to the context)	Invariables
Target Students		
Teaching Contents		
Organization of the activities at school		
Didactic Methodology		
Relationships between: Students and Teachers Among Students (peers) Among Teachers Among School and Company		
Other		

IV. The Validated Teaching Program (with reference to IO3)

	Title of the course: …	
Total Duration:		
Organization (Logistics, equipment, didactics, pedagogy)		
Learning Objectives (overall):		
Teaching Contents (overall):		
Teaching program:	Lesson 1:	Contents: Methodology: Duration: Exercises: Methods of students evaluation:

	Lesson 2:	Contents: Methodology: Duration: Exercises: Methods of students evaluation:
	Lesson 3	Contents: Methodology: Duration: Exercises: Methods of students evaluation:
	Lesson 4	Contents: Methodology: Duration: Exercises: Methods of students evaluation:
	….	

Appendix II - Business Partners consultation

about Entrepreneurship and Entrepreneurial Learning

Partner: □Cisita Parma □CNJ Portugal □BCCI Bulgaria □CICIA Romania

I. Entrepreneurial Skills Development

a. According to your experience of monitoring the school partner in your country, please list which entrepreneurial skills teachers and students developed thanks to the project's activities:

	Students	Teachers
Soft Skills - behavioural	*e.g. Teamworking*	*e.g. Leadership*
Hard Skills – technical	*e.g. Business analytics*	e.g. *ICT for education*

b. Did schools focus more on Soft Skills or on Hard Skills? Please roughly indicate the % percentage of Soft vs Hard Skills Development

	Students	Teachers
Soft Skills - behavioural	%	%
Hard Skills – technical	%	%

c. Entrepreneurial Skills for Agrobusiness Sector

Please indicate, if any, which entrepreneurial skills are specific for the agroindustrial sector – both from the educators/teachers' point of view and from the students/future workers point of view

	Sector Specific Skills (agroindustrial)
Students/Future Workers	
Teachers/Educators	

II. Recruiting & Engaging Companies for collaboration

Please Advise schools/ education institutions about how to establish relationships with local SMEs to cooperate in joint business / education projects – both in the agroindustrial sector and in other sectors

eg. Focus on WBL opportunities

eg. Opportunites to send students to companies as trainees for future hiring opportunities….

….

….

….

III. Business Information

Please advise schools about any:

source / database / case study /paper / publication

about the entrepreneurial skills development

both in the agroindustrial sector and in other industrial sectors

at local /national /international level