



SOFT SKILLS INTRODUCTION

The Ciro competition will dedicate the first day of the competition to **soft skills learning**. This learning will provide participants a set of soft skills needed to face their careers. ARIEMA, CRES and Emile Education designed the following three activities:

1. **Motivation and innovation.**

This activity will begin with an inspirational talk by Rafael Luque, CEO of ARIEMA, in which he will explain his personal experience regarding the process of creating a company from a business idea. He will explain how the motivation and innovative spirit led him to create a reference company in hydrogen and fuel cell technologies with 30 years of experience in the sector in Spain. Then the interaction between the participants will be encouraged with a role-playing game about successful people/companies and subsequent analysis and debate on a series of questions about these roles.

2. **Entrepreneurship.**

It will help students realize the essential skills that an entrepreneur must have and identify those aspects in which they excel and those that they can improve. The activity will consist of identifying the market gap, obtaining the appropriate resources, and developing a prototype and a minimum viable product through an image and a brief description of it.

3. **Leadership.**

This last activity will require a quick thinking, and collaboration of the participants. They will be assigned a survival situation and must choose the best items to help them survive. Finally, they will have to justify why they have chosen those tools. Through this role-playing game they will understand the power that a “leader” has in making group decisions.

These games are described in detail in activity sheets as shown below in this document.

SOFT SKILLS ACTIVITY SHEET: MOTIVATION AND INNOVATION

ELEMENTS	DESCRIPTION
Activity name	<i>TIME TO ROLE – Who am I?</i>
Type of educational group	Students from the three CIRO High Schools.
Group characteristics	The groups will be formed by students from three high schools, two from Spain and one from Germany. The ages of these students vary from 12 to 17 years old. These high schools are part of CIRO, and they have been studying the course for the last months learning concepts related to renewable energies, climate change, applications, air quality, sustainability, and different hydrogen technologies.
Number of participants	The number of attendees is 30 students from three high schools. They will be divided in five aleatory groups of six people each to work in this activity.
Action goals	The main goal is to introduce students to the importance of motivation, innovation, entrepreneurship, and the interaction with each other using a role game and a common language (English). The scholars will have to analyse and debate in groups about who, what, how, why, when and where a person/company succeeded in this role game activity.
Methodology	<p>First, Rafael Luque will give an inspirational talk about his personal experience regarding the process of creating a company (ARIEMA) from a business idea.</p> <p>Afterwards, ARIEMA will explain the activity and share with the students a link to Google Drive, in which they will find 5 folders (one per group). In each folder they will see one picture (role card) with clues and information about a person or company that should guess (Who am I? game).</p>

The group main goal is to identify if they have a card associated to a company or a famous person and then try to guess their identity.

The roles assigned could be the following: Amazon, Facebook, Tesla, Apple, Thomas Edison, Henry Cavendish (discoverer of hydrogen and the composition of water), etc.

After 15 minutes (in separated spaces in zoom), they will have to say which character or company are they (who) in the common room. For the most difficult roles it will be enough to identify what they did (in the case of Henry Cavendish, they can say that they were assigned the role of the discoverer of hydrogen).

To continue the role game, we will share (Google Drive) a detailed explanation about the roles assigned, and for the following 25 minutes, the group will debate and answer in a template:

- **WHO** was this person or company?
- **WHAT** made the company or person innovative? (main points of their ideas and solutions).
- **HOW** did they achieve these ideas and solutions, including the problems or adversities they found during their time?
- **WHY** were those innovations and solutions important? (motive to offer this innovations or solutions, was it needed by society or science? was it because it could improve something already created...?).
- **WHEN** did they achieve those solutions/innovations? (approximated year).
- **WHERE** did they affect with their ideas? (was it worldwide/national/local...? was it in a specific sector as technical/social/energetic/transport...)

Lastly, each group will expose their answers in less than 5 minutes (every member should talk/read some answers).

Contents	According to the contents learned, the students will try to analyse and understand the innovative ideas related to a known person or company that was relevant during their time or after it.
Spacetime organization	Date: May 11 th , 2021. Time: 10:00-11:30 → Zoom meeting
Process	<ol style="list-style-type: none"> 1. Inspirational talk (15 min). 2. Presentation of the activity (10 min). 3. Who am I – role game (15 min). 4. Filling template (25 min). 5. Exposing answers (20 mins) 6. Evaluators assessment (5 min).
Risks and possible incidents	<p>The students could have problems with their connection or the access to Drive (they need a google e-mail account) or Zoom. To prevent this, each school must send the students' e-mails the day before to this activity to ARIEMA.</p> <p>Some groups could have problems finding out their role, but the teacher's help should be enough to resolve that issue.</p>
Necessary resources	<ul style="list-style-type: none"> • One computer with webcam and microphone per student. • Access to Zoom and Drive (google e-mail account).
Evaluation method	<p>This activity will not be evaluated on the total grade of the competition. Teachers and evaluators will consider as feedback of participation:</p> <ul style="list-style-type: none"> • How many of the five Ws the group was able to properly answer. • Each role difficulty. • The participation of each member during the debate part.

SOFT SKILLS ACTIVITY SHEET: ENTREPRENEURSHIP

ELEMENTS	DESCRIPTION
Activity name	<p><i>Name that characterises the activity you are going to develop.</i></p> <p>Make It Happen – a quick run campaign.</p>
Type of educational group	<p><i>Colleges, universities, families, companies, etc.</i></p> <p>Secondary students participating in the CIRO competition.</p>
Group characteristics	<p><i>Where they come from, their age and gender, what level of prior knowledge do they have...</i></p> <p>Participants are secondary students (both boys and girls) from three schools in Spain (16-17 years old) and one school in Germany (14-15 years old). They have participated in the CIRO project throughout the scholastic year.</p> <p>These students have been taught the following concepts for six months:</p> <ul style="list-style-type: none"> • climate change • sustainability • renewable energies • energy storage through hydrogen • hydrogen and fuel cells application <p>Six finalist groups of participants will take part in the CIRO competition to be held in June. Each group has prepared a proposal aiming at improving the air quality of their cities.</p>
Number of participants	<p><i>The number of attendees is a fundamental factor to adapt the activities that we want to carry out.</i></p> <p>Thirty secondary school students will participate in this event. They have formed five individual groups of six people.</p>
Action goals	<p><i>What is the purpose with which we develop the actions, what we want the participants to learn?</i></p> <p>The aim of this activity is to help students realise the some of the essential skills an entrepreneur should have and</p>

	<p>identify the aspects which they are already good at and which they should improve.</p> <p>The essential qualities of an entrepreneur include:</p> <ul style="list-style-type: none"> • Identifying the market gap (getting an idea to solve an existing problem in the current market, e.g.: product vacuum, price unaffordable, inefficient production etc.) • Getting suitable resources (financial resources, technical resources, material resources etc.) • Developing a prototype and a minimum viable product (MVP)
<p>Methodology</p>	<p><i>The teaching techniques must be adapted to each participating group and its characteristics.</i></p> <p>Participants will join this activity in five groups of six people.</p> <p>Each group will receive a link to an online folder. In this folder they can get a slideshow file containing a photograph showing a difficulty the people living in that place are encountering. The photographs are drawn from newspaper or news magazine articles and a short description of each scene will be provided as well. Each group should do the following:</p> <ol style="list-style-type: none"> 1. identify a key problem from the scene. 2. brainstorm for possible solutions. 3. sketch the prototype of the product/scheme that can solve the problem. 4. identify the resources needed and highlight any assumptions involved. <p>Each group should display their ideas of each point on empty pages of the same slideshow file and present it to other participants.</p> <p>All participants from other groups will be given an online questionnaire to rate the performance of the presenting group. At the end of the activity, the results will be announced.</p>

<p>Contents</p>	<p><i>Both conceptual and procedural and altitudinal; that is, what are we going to teach and how are we going to teach it.</i></p> <p>The contents will mainly be taught by and discuss among the groupmates themselves. In the slideshow file, the following contents will also be provided in order to moderate their discussion and interaction:</p> <ul style="list-style-type: none"> • Brainstorming tips • Get inspired – About the Problem • Get Inspired – About the Product/Solution <p>On the other hand, the contents will be taught other groups who will provide they ratings after each presentation. In such way, each group will know if their product/solution idea is viable and reasonable in other people’s eyes.</p> <p>This activity will stimulate participant’s critical thinking, creativity, problem-solving skill as well as gratitude to other people’s effort and solution to solve an existing problem.</p>
<p>Spacetime organisation</p>	<p><i>Where and when will the activity take place, and how long will it last.</i></p> <p>This activity will be taken place online. Students of different groups will participate in different spaces in their schools.</p> <p>Date: 11/5/2021 Time: 12:00 – 13:30 Duration: 1 hour and 30 minutes</p>
<p>Process</p>	<p><i>We must establish a logical sequence to carry out the activity, from its presentation to its final evaluation.</i></p> <ol style="list-style-type: none"> 1. Introduction of the activity (5 minutes) 2. Assignment activity materials (5 minutes) 3. Discussion (45 minutes) 4. Presentation (25 minutes) 5. Announcement of results and conclusion (10 minutes)

<p>Risks and possible incidents</p>	<p><i>Evaluation of possible risks that could hinder the performance of the activity, and establish an alternative plan (if applicable)</i></p> <p>Students misunderstand the scene or have difficulties to come up with a product idea to solve the problem. A moderator will be needed to join the group to facilitate the discussion.</p> <p>Students may encounter problems with internet connection or the access to Google Drive (they need a google e-mail account) or Zoom. Their email addresses will be collected, and prior setup will be done.</p>
<p>Necessary resources</p>	<p><i>Here we will include all the materials we will need before, during and after the activity takes place (notebooks, brochures, guides, etc.)</i></p> <ul style="list-style-type: none"> • Furniture: table, chairs • Computer equipped with webcam, microphone, internet connectivity, office software and Zoom. • Google Drive or equivalent online storage
<p>Evaluation method</p>	<p><i>Tools with which we will measure the degree of fulfilment of the objectives of the activity.</i></p> <p>This activity will not be evaluated on the total grade of the competition.</p> <p>There are two aspects of evaluation. The first is the evaluation of their product/solution. This is done by the rating given by other groups’ participants at the end of each presentation. Teachers and evaluators can also give their comments in the concluding section of this activity.</p> <p>The second aspect is the evaluation of this activity. Participants will be invited to complete an online questionnaire about the following aspects:</p> <ul style="list-style-type: none"> • the clarity of the instructions • the setting of the activity • their involvement in the activity • the skills they have learnt in the activity

SOFT SKILLS ACTIVITY SHEET: LEADERSHIP

ELEMENTS	DESCRIPTION
Activity name	<p><i>Name that characterizes the activity you are going to develop.</i></p> <p>“The best survives” – Role playing activity enhancing the leadership skills</p>
Type of educational group	<p><i>Colleges, universities, families, companies, etc.</i></p> <p>High school students, participating in a competition that will be implemented at the end of the current school year</p>
Group characteristics	<p><i>Where they come from, their age and gender, what level of prior knowledge do they have...</i></p> <p>30 secondary education students (both boys and girls), older ones from 3 schools in Spain (16-17 years old) and younger ones from one school in Germany (14-15 years old), having participated in the CIRO project activities throughout the entire school year.</p> <p>These groups of students have followed the especially integrated lessons taught to them by the teachers engaged in the project, for a time period of around six months, on the following topics addressed in the frame of the project: climate change and sustainability, renewable energies, energy storage through hydrogen and hydrogen and fuel cells applications.</p> <p>The participating students are divided into 6 finalist groups to take part in the CIRO competition which will be launched in May. For the scopes of the competition, each group has prepared a project aiming at improving the air quality of their cities.</p> <p>For the needs of the implementation of the activity, the 6 groups of students will be rearranged into five “mixed” groups, where students from the different initial teams will be included. This way, five more fair and interesting schemes will arise, offering the opportunity to students from different schools and countries to cooperate and communicate in the English language, for the successful implementation of the activity.</p>

<p>Number of participants</p>	<p><i>The number of attendees is a fundamental factor to adapt the activities that we want to carry out.</i></p> <p>Thirty participating students, divided into five separate groups, different from the initial “projects’ groups”.</p>
<p>Action goals</p>	<p><i>What is the purpose with which we develop the actions, what we want the participants to learn.</i></p> <p>The present activity has been developed for the purpose of helping the students both realize which are the most essential skills that a “leader” should possess, as well as enhance their “leadership” skills through a role-playing game.</p> <p>A leader is supposed to have both a big influence and show / prove a definite responsibility towards his/her team. So, some of the aspects a leader should pay attention to are:</p> <ul style="list-style-type: none"> ✓ Setting the climate of the team ✓ Inspiring the team members ✓ Setting the necessary (ethic) values for the team ✓ Improving team spirit and cohesion ✓ Being responsible for their team’s communication and wellbeing (for the optimum results and team efficiency)
<p>Methodology</p>	<p><i>The teaching techniques must be adapted to each participating group and its characteristics.</i></p> <p>The students are initially divided into 5 “mixed” groups arising from the initial “projects’ groups” through which they are participating to the CIRO competition.</p> <p>To each one of the five groups, the confronting of a survival situation is assigned. Possible cases of survival situations could be chosen:</p> <ul style="list-style-type: none"> • a plane crash • a shipwreck • lost in the desert • an earthquake • trapped or buried in the snow (avalanche) <p>Each team undertakes one of the above-mentioned survival cases. The assigning of the cases is done at random.</p> <p>After the assignment is made to each team, a list of items that might be useful in the situation they must confront,</p>



	<p>is also presented to each group, with the use of specially prepared cards illustrating the objects. Next, the groups are challenged to choose five items that will help them survive.</p> <p>After the teams finish picking their items, they are given a rational time period to prepare a full justification of their selections and a presentation on how they would use those things to overcome their given circumstance.</p> <p>After the preparation of the argumentation is completed, all the members of each team present and justify with the best possible arguments the selection and use of the tools to overcome the difficult situation they are facing. The following aspects must be addressed by the students:</p> <ul style="list-style-type: none"> ✓ Short description of the situation they face ✓ Which items tools they chose and why ✓ How they used these items to go through surviving ✓ Lessons learnt / were these as effective as expected? If not, why?
<p>Contents</p>	<p><i>Both conceptual and procedural and altitudinal; that is, what are we going to teach and how are we going to teach it.</i></p> <p>The contents of the activity are taught among the students and discussed within each team. The concept of the activity and of the suggested items that are to be potentially used by the students will help them get into a virtual real time situation and stand up to confront it, since it is a matter of survival.</p> <p>The implementation of the activity will engage the young students into a situation that will stimulate their critical, creative, and strategic thinking as well as their problem-solving skills, within a group of persons facing a common yet most serious for their lives problem.</p>

<p>Spacetime organisation</p>	<p><i>Where and when will the activity take place, and how long will it last.</i></p> <p>Date: May 11th, 2021. Time: 14:30-16:00 → Zoom meeting (online) Duration: 1 hour and 30 minutes The 5 groups of students will participate in five different “virtual” rooms in the zoom software.</p>
<p>Process</p>	<p><i>We must establish a logical sequence to carry out the activity, from its presentation to its final evaluation.</i></p> <ol style="list-style-type: none"> 1. Presentation of the activity (5 minutes) 2. Assignment of “survival cases” and short preparation of each group (5 minutes) 3. Selection of the 4 items by each group (5 minutes) 4. Preparation and discussion within each group about argumentation for the selections and use of items (25 minutes) 5. Presentation of decisions (50 minutes – 10 min each)
<p>Risks and possible incidents</p>	<p><i>Evaluation of possible risks that could hinder the performance of the activity, and establish an alternative plan (if applicable)</i></p> <p>The methodology of the activity is quite clear and simple. Yet a lot of imagination and quick thinking is required. The most possible problem faced could be the lack of time. A moderator could assist the teams with informing about time left during each phase of the activity. Another (technical) possible problem could be the efficiency of the “Zoom” connection.</p>
<p>Necessary resources</p>	<p><i>Here we will include all the materials we will need before, during and after the activity takes place (notebooks, brochures, guides, etc.)</i></p> <ul style="list-style-type: none"> ✓ Tables, chairs ✓ One computer/ student, accompanied by an incorporated or external webcam and microphone. ✓ Connection (preferably high speed for the avoidance of technical problems) to internet ✓ Access to “Zoom” software ✓ Access to Google Drive (Gmail account)

	<p>✓ Digital cards, illustrating photos or pictures of the items that will be selected by the students' groups.</p>
<p>Evaluation method</p>	<p><i>Tools with which we will measure the degree of fulfilment of the objectives of the activity.</i></p> <p>This activity will not be evaluated on the total grade of the competition. We will appreciate that:</p> <ul style="list-style-type: none"> • The students cooperate effectively in the initial decision for the selection of items. • All students in each group equally and actively participate and express their opinions. • The students manage to present solid and logical arguments for the selection and the efficient use of the items, helping them overcome the survival situation.