

DIGITAL TRAINING THROUGH CRITICAL THINKING

ADVANCED COURSE



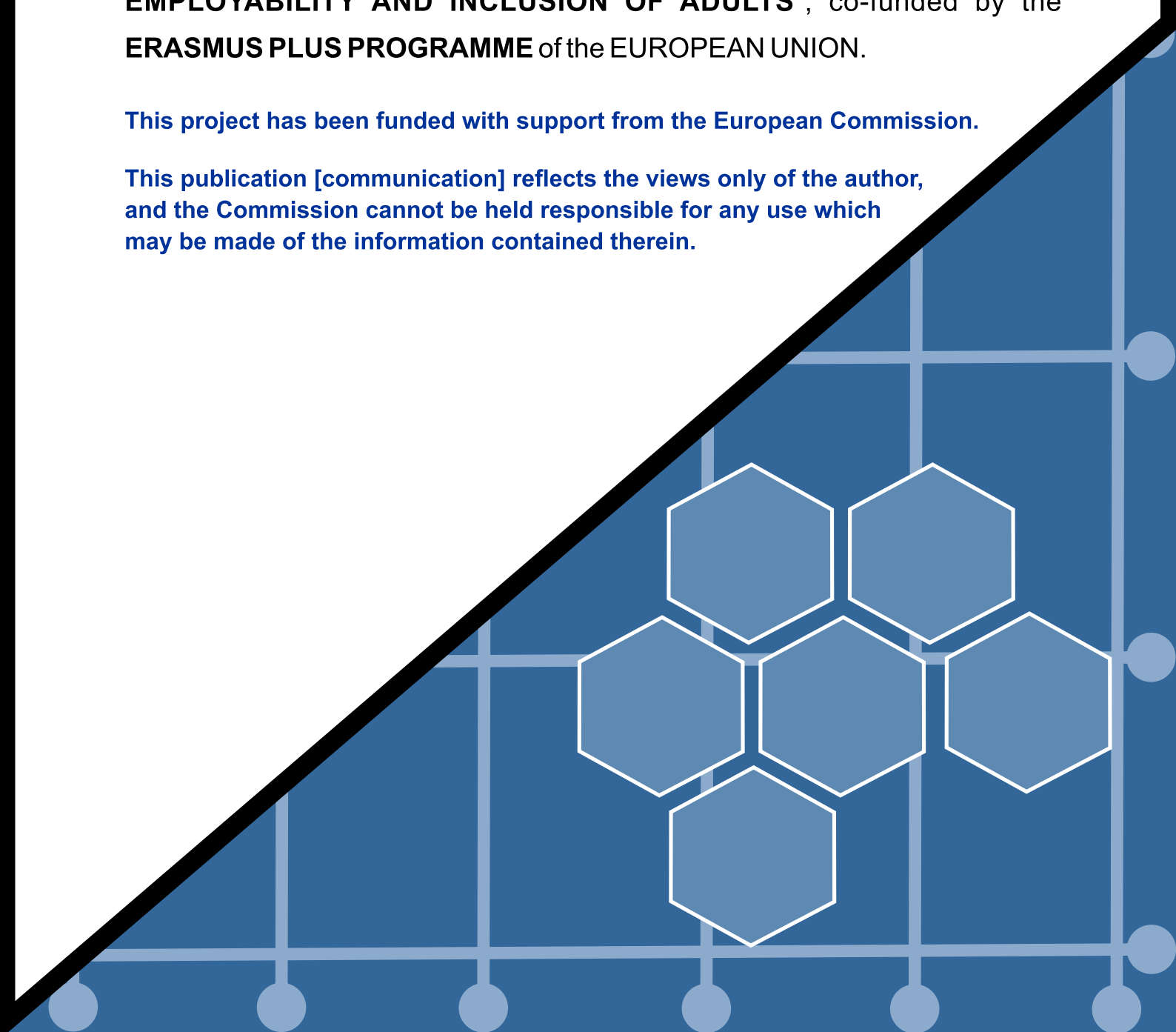


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TECHNOLOGY AND DIGITALIZATION

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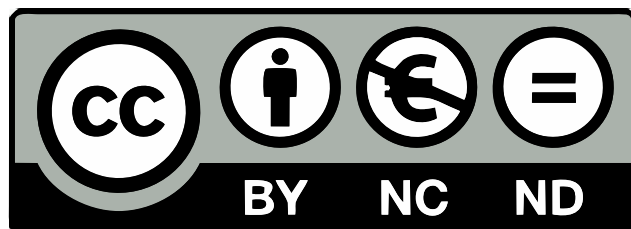
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AREA 1

DEVELOPMENT OF INITIATIVE AND ENTREPRENEURSHIP



AREA 1: DEVELOPMENT OF INITIATIVE AND ENTREPRENEURSHIP

D.U.1 – AUTONOMY: generating security in oneself, self-knowledge, and self-evaluation.

PILL 1 – LOOKING FOR ANCIENT THINGS

Discover what *gnóthi seautón* means, where it was written, and why.

HELP	Use any internet search engine to find its translation and meaning. A tip: it's ancient greek!
	Discover also what “the father of philosophy” said about those words.

FINAL REMARKS

One of the main religious hubs of ancient Greece was the sanctuary of Delphi, dedicated to Apollo. It held the most important oracle for ancient Greeks, where the Pythia or Pythonisa answered questions about the future from citizens and even envoys from the Greek city-states. The words *gnóthi seautón* were written on the frontispiece of the main temple, meaning, as you have already found out, “know yourself”. It was not the only motto etched on its walls, there were dozens of them, such as “don’t rely on luck”, “nothing overmuch”, or “surety brings ruin”. These words were part of a longer verse that said:

“I warn you, whoever you are! Oh, you who wish to probe the arcana of Nature, that if you do not find what you seek within yourself, you will not be able to find it outside either.

If you ignore the excellences of your own home, how do you intend to find other excellences?

In you is hidden the treasure of treasures.

Oh, man, know yourself and you will know the Universe and the Gods.”

Socrates, the father of philosophy, recognizes this goal as the most important goal of knowledge. Since then it has been the subject of reflection and debate by many philosophers, until becoming a paradigm of psychology itself. Knowing oneself is not as simple as it may seem at first glance; our physical features, emotions, interests, ideology, tastes, hobbies, etc. form traits of our personality, and in addition, we are not a stable entity over time, but changing, sometimes imperceptibly even to ourselves.

Self-knowledge implies a broad process of analysis, assessment and self-criticism that requires time and effort, but it is an activity that will bring us significant benefits. The truth is that we are quite unfamiliar with ourselves, which can lead to vital crises and sometimes bad decisions. Knowing ourselves means being able to identify and understand our emotions, how to cope with certain moods, know our strengths, and be able to work on our weaknesses to correct them. It allows us to set our goals and direct our actions towards them.

To know ourselves, we must learn to know how and where to look, observing our personality, discovering its strengths and how to improve what we perceive as weak. We have to start from self-acceptance to get to know ourselves.

PILL 2 – VALUING YOUR STRENGTHS

A first step to self-knowledge is to assess your individual strengths, so, get to it! Draft a list of those best qualities that characterize you; nobody knows them better than you.

MY STRENGTHS

Take a few minutes to reflect on the qualities of your personality. It will also help you to include those that you would highlight in a job interview.

To help you reflect, take the following list. Remember that you are highlighting strengths, meaning positive capabilities that characterize us and our personality.

- Adaptability to new situations or environments.
- Physical or mental agility.
- Altruism.
- Kindness.
- Ease of learning.
- Capability of attention.
- Boldness.
- Self-demand.
- Good character, a friendly attitude.
- Calmness.
- Charisma, leadership abilities.
- Containment.
- Effort capability.
- Commitment to others and to your own goals.
- Creativity.
- Trust in others.
- The ability to coordinate with others.
- Care and attention; focus.
- Determination to face obstacles.
- Resilience to face adversity.
- Self-discipline.
- Personal disposition.
- Attention to detail.
- Eloquence to express yourself and transmit.

HELP

- Empathy.
- Empowerment to improve from a disadvantaged situation.
- Physical balance.
- Mental balance.
- Aesthetic capability.
- Physical and emotional flexibility.
- Physical strength.
- Willpower.
- Generosity to share.
- Personal hygiene.
- Intelligence.
- Imagination.
- Loyalty.
- Maturity.
- Moderation.
- Optimism, positivity.
- Organizational skills.
- Patience.
- Perfectionism.
- Perseverance.
- Insight, sharpness.
- Prudence.
- Punctuality.
- Productivity.
- Realism.
- Ability to reflect.
- Respect towards others.
- Sensitivity.
- Sense of humor.
- Sincerity.
- Solidarity.
- Tolerance.
- Courage.

You may not recognize some strengths in yourself that you actually possess. Ask people who know you well about your strengths; it may help you open your mind and discover new perspectives.

FINAL REMARKS

Our qualities and strengths define us in a positive way; they are our abilities, characteristics, virtues, capabilities, and positive traits, both physical and mental. In order to be considered a strength, they must stand out in our personality and be stable. There is no universal list of qualities and no standardized way to measure them: all of us have a good number of positive strengths and capabilities to a high degree. Be

aware of them and also know how to value them before others, for example, in a job interview.

But also, all people evolve, change, and are capable of improving. It is difficult to turn a characteristic that we have always lacked into a quality, but we can work on increasing qualities that are less developed. Everyone can improve, and no one is perfect at everything. Our goal must always be balance.

PILL 3 – CLARIFYING YOUR WEAKNESSES

Once our strengths are highlighted, it is convenient to also expose our weaknesses, which are the opposite of those, so let's go!

MY WEAKNESSES

HELP	Be careful with this exercise; don't beat yourself up, nor try to be forgiving. Both of these are important weaknesses everyone can have. Assess your weaknesses with objectivity and equanimity; in order to value them from a distance, pretend you are valuing your best friend instead of yourself.
	You start from the list in the previous exercise, and see what you lack. You can of course introduce new concepts or better specify those that appear there.
	Remember that we are trying to bring out our weaknesses; as in the previous exercise, after making your own reflection, ask your closest circle of friends about these weaknesses.

FINAL REMARKS

Our weaknesses are those aspects of our personality that condition us in a negative way; they are those characteristics on which we have to consciously work, to modify or eliminate them. But the first step to be able to work on them is to know them: when evaluating anything, pay attention not to overvalue or underestimate. When valuing and qualifying ourselves, our objectivity can easily be compromised, so make a special effort not to undervalue or be overly self-indulgent. Asking others is very useful to assess our strengths, and it might be even more useful to do so with our weaknesses.

Weaknesses keep us away from our goals; they pose problems for us to have an optimal vital development, and limit us in our relationships with others, but we can work on them to reduce or eliminate them. The first step to improve is the awareness of the presence of these weaknesses in ourselves.


Knowing our strengths and weaknesses is very important when facing a job interview. In this case, we must value and highlight those personal characteristics that are best related to the job we aspire to, or to the tasks of the company. On the other side, always work to face and correct your weaknesses, do not pretend to hide or forget them. If they show in a job interview, the best way to face them is by showing the will and planning to eliminate or correct them in the short and long term.

PILL 4 – SELF-ASSESSMENT AND SELF-ESTEEM

There are signs that allow us to know our self-esteem. Evaluate to what degree you identify with these behaviors in the two tables below:

<i>Positive signs of self-esteem:</i>
- I have my values and principles and I like to defend them, even if others question them, but I can modify them when someone proves that I am mistaken. I respect reasonable rules and criticize those that aren't.
- I have my own criteria and I act in line with them. I don't feel guilty for doing so, even if it doesn't seem right to others.
- I am not obsessed with the past or the future; I learn from the first and plan for the latter, but I like to enjoy the present.
- I can solve my own problems. Failures and difficulties do not intimidate me, they are also ways to learn; but if I really need it, I don't mind asking for help.
- I am neither less nor more than anyone. I have the same dignity as anyone. Each person has their own talents and abilities and I have mine.
- I think I am an interesting person and appreciated by the people around me.
- I don't like to be manipulated, but I also know how to collaborate with others.
- I accept my strengths but also my weaknesses. I don't mind talking to others about them if it's relevant.
- I like to do a lot of different things; I am not an inactive person.
- I care about the feelings and needs of others; I am not insensitive. I don't like to laugh or take advantage of anyone, not that others do it to me.

<i>Negative signs of self-esteem:</i>
- I tend to be unsatisfied with myself.
- I am too sensitive when others talk about me. I immediately think that they are attacking me, and I sometimes respond aggressively I am criticized.
- I do often not make decisions because I am afraid of being wrong.
- There are times that I would like to say "no", but I don't dare.
- I'm too much of a perfectionist, to the point that if I make a mistake I feel very bad.
- I feel very bad when I'm wrong; my mistakes seem enormous to me and I continue to blame myself for them long after I have made them.
- I get irritated quickly and by anything, sometimes by unimportant things.
- I tend to see things quite negatively. There are many things about myself that I don't like and I find it almost impossible to change them. I do not consider myself a happy person, but rather sad; I tend to see the future negatively.
- I am very critical towards others. I can't bear that others make so many mistakes, I see them making lots of mistakes and I don't hold back from telling them.

 Before each section, evaluate to what extent you identify with its contents. Reflect

	on your experiences in the past and how you have reacted to them. This is not about giving correct answers, but about deepening our self-knowledge.
	As you identify more with positive signs, you may consider your self-esteem higher. If you find yourself reflected in some of the negative signs, it is very likely that there is some self-esteem problem.

FINAL REMARKS

Self-esteem matches the evaluation we make of ourselves; it involves a whole series of perceptions, thoughts, evaluations, feelings, and behavioral tendencies about yourself and your way of being, and is directly related to the need we have to feel appreciation, both from oneself and from others.

Every human being is worthy of respect, both from others and from themselves, and deserves to be esteemed and to esteem themselves.

Many personal problems are rooted in self-esteem issues. It can be present in varying degrees in each person: people with high self-esteem tend to feel confident in themselves and their abilities, and show a positive spirit before life and its difficulties; people with low self-esteem, on the other hand, tend to show a negative disposition towards life in general and have little capabilities to deal with problems. Low self-esteem can lead to belittling and self-loathing, severely limiting your personal development. People can oscillate between one extreme and the other, showing positive or negative traits depending on moments or certain aspects of their lives (job-labor, family, personal, health), sometimes even with incongruous and ultimately unsafe behaviors.

Self-esteem allows us to face life with confidence and optimism and achieve our goals. It gives us emotional stability, favors our creativity, allows us to evolve and be fulfilled, helps us improve our relationships with others, and to better appreciate each person.

PILL 5 – IMPROVING YOUR SELF-ESTEEM

There are no magic recipes to improve our self-esteem, but there are techniques, procedures, and advice that can help us improve it, depending on our case. Maybe you need to improve your self-esteem, or maybe someone close to you needs it, but in any case it is a good exercise to think about what can help us do it. Draft a list of tips that you can give someone or yourself to improve self-esteem.

	ACTIONS AND/OR TIPS TO IMPROVE SELF-ESTEEM
1.	
2.	
3.	
4.	
5.	
6.	
7.	

U T I L I T Y	Maybe start by doing some physical exercise; it is positive for your body and mind.
	There are many websites with useful and practical tips to improve self-esteem; look online for information on the topic. Don't settle for the first website you find, take a look at many. Find those that question the advice given by others and use your own judgment to identify the best tips and practices.

FINAL REMARKS

Everyone can develop positive self-esteem; no one has a fully negative or undeveloped self-esteem. In order to work on a positive and satisfactory self-esteem, here are a series of steps you can take:

- Self-knowledge: deepen your knowledge on yourself; recognize your needs, aspirations, capabilities, limitations, strengths, and weaknesses. Observe your behaviors and reactions and ask yourself about their motivations and the feelings they produce.
- Self-acceptance: everyone has the ability to accept themselves as they are, both physically and mentally. Accepting who and how we really are is an essential requirement to work on it. Self-acceptance implies the fair and balanced acknowledgement of the physical or psychological traits that limit us, and of our own negative behaviors towards our well-being and that of others. It also involves consciously and fully acknowledging our own personal dignity and our right to be respected and esteemed by ourselves and others.
- Self-assessment: having the ability to value what is positive and good about yourself, and what satisfies and enriches you as a person. This involves finding pride in or yourself, for who you are and who you can be.

- Self respect: feel respect for yourself, regardless of your mistakes and defects. Learn to express and manage your emotions and feelings without constantly hurting or blaming yourself. Assume that you have the right to treat yourself well and not be treated badly by anyone. Do not hurt yourself or allow others to do it. Understand and accept that your needs, aspirations, and desires are natural, just as they are in others.
- Self-improvement: after learning to know, accept, value, and respect yourself, you might be able to overcome your previous limitations and strengthen your abilities to maintain a high self-esteem and generate a positive spirit and will in life and when facing problems. Thus, you acquire the full capability to think and act autonomously, making your own decisions in a reasoned way and based on logic.

AREA 1: DEVELOPMENT OF INITIATIVE AND ENTREPRENEURSHIP

D.U.2 – SELF-CONTROL: responses to adverse situations.

PILL 1 – CONTROLLING CRISIS

You may or may not be a person who knows how to respond appropriately in crisis situations. If you are: congratulations! This way you can help others who don't respond so positively. If you aren't, you can learn to control your reactions so they do not control you instead. In either case, imagine that a major crisis occurs at work that could cause anger or panic in you or others. What actions do you use or think should use to avoid being controlled by anger or panic?

	TIPS OR ACTIONS TO CONTROL ANGER OR PANIC
1.	
2.	
3.	
4.	
5.	
6.	
7.	

P I L L	First think for yourself about how you control your own emotions or how others do; you can surely think about some actions.
	Look up information online on techniques or tips to help you control anger or fear.
	There are many websites and various approaches on it, focus on those that seem most effective or suited for you.

FINAL REMARKS

Anger and fear are basic human emotions: according to various authors, the basic emotions that we have are linked and classified in different ways. Some condense basic emotions into four: fear, sadness, anger, and joy; while others add some more: disgust, surprise, contempt, etc. There is some confusion between emotions and feelings, but they are not exactly the same. Emotions are almost instantaneous reactions to certain stimuli, while feelings have a rational component that lasts longer.

Our basic emotions are adaptive responses that have helped us evolve as a species, which is why they have been useful and continue to be so, but sometimes they can be detrimental for us. This often happens when anger or fear takes a hold of us and we allow ourselves to be carried away by them (falling into violence or panic).

Self-control allows us to avoid the harmful effects of anger or fear. You can learn and reinforce it with practices and techniques, some of which you will have seen when looking up for websites on this subject. In any case, there are *three key moments* to exert our control over our basic emotions:

- 1. Prevention and early detection:** you can anticipate or detect the early stages of a situation that generates anger or fear before it happens. In knowing yourself, you can identify what situations produce them, and you can even anticipate this if you know that we are going to be in a situation like this, or detect that the situation is

happening unexpectedly. In either of these situations, first be aware that the situation that can provoke uncontrolled anger or fear is going to or is taking place.

2. **Stopping the dynamics:** before you get carried away, try to stop it. Here you can apply the techniques that you know provide the best results, but in any case, it requires a conscious effort. Look for different ways to relax or escape momentarily from the situation, but your mind, alerted of the risk, has to make an effort.
3. **Redirection of the response:** once you have avoided “exploding”, you will need to properly channel that stored energy. The best way is to rationalize the response, express it -verbalize it- to yourself or to others, warning of the situations or stimuli by which we feel provoked. Draw on your experience and assess the consequences to choose the actions or decisions that we know will not harm yourself or others.

PILL 2 – GRIEF

Grief is the process we go through in the face of loss. It is usually linked to the loss of close persons, is not linked to just death, but to significant losses. Since it is a process, it has stages; find out what these stages are and what they imply.

	GRIEF STAGE	WHAT DOES IT IMPLY?
1.		
2.		
3.		
4.		
5.		

HELP	This information will be easy for you to find online.	
	Although you will notice that some websites and authors add stages, the substantial ones are just five.	

FINAL REMARKS

We experience grief both when losing a loved one, and when having other experiences of significant loss (job, partner, etc.). It has five recognizable stages: denial, anger, negotiation, pain, and lastly acceptance. The duration of each stage, and of grief as a whole, differs considerably from one person to another. Experiencing grief is something that we will all have to go through in one way or another. We will even have to grieve our own mortality.

Understanding grief as process and its own stages can help us cope better. Grief does not always show all five stages, nor do they appear in that same order, but it should always culminate in acceptance and overcoming the loss. Acceptance is not the same as forgetting, but fully integrating loss into our life experience.

Grief is a normal and natural process, since it is natural to experience the pain of loss, but when it does not culminate or happen naturally, it can lead to issues in our behavior and vital attitude.

PILL 3 – LUCK AND FATE

Do you believe in luck? Does fate exist?

HELP	This is a pill for reflection. Beyond an answer of “yes” or “no”, try to justify why and look for arguments that support your position.
	Look up information on the topic online, but when doing so keep in mind that you will probably find websites of all kinds, some more serious and some less.
	Have you been able to find any field of study on luck or fate? Any university professorship on it?

FINAL REMARKS

Luck and fate are two ways to justify what happens to us, but they have no real entity. There is no good or bad luck, just as there are no ways, procedures, or rules to attract or interact with it. There is no fate either, but many people, even very intelligent and reasonable ones, have used both to justify events. Obviously, both chance and probabilistic calculus do exist, both having their rules and calculation procedures, but in no case are there formulas or procedures that lead to effects on events with which they have no relation or proven causality; believing otherwise is mere superstition.

Resorting to luck or fate to justify both things that happen to us and the attitudes and actions we carry out can be easy, but in no case useful. Trusting luck for something to happen or not is absurd, the same as thinking that we are conditioned by a certain fate when making decisions or letting ourselves go.

What we can clearly influence is in increasing the chances of things we want to happen to us, or avoiding those that we do not want to happen to us. We can set goals and objectives while being aware of our aspirations, potentials, and limitations too.

PILL 4 – COMPLICATED SITUATIONS

Both in life and at work there can be complicated situations, disturbances that may be similar but show differences. Depression, stress, and burnout are situations that have some similarities but are different in their core. Delve into them and match each characteristic in the following chart to the corresponding phenomenon:

	DEPRESSION	STRESS	BURNOUT
Felt by workers initially motivated by their job.			
It impacts all areas of life.			
It involves a loss of interest in the job.			
Experienced as an imbalance between what our work requires and our capabilities.			
A lack of work motivation.			
A lack of general vital motivation.			
Tends to happen more in jobs with interaction with clients/users.			
Not always negative, it can help us face challenges.			
It can mean the loss of work ideals.			
Over-involvement in job-related problems.			
Disassociation from job-related problems.			
It causes hyperactivity.			
It causes less labor involvement.			
It involves general emotional exhaustion.			

HELP	Look for information about each of the three concepts.
	Although they have common characteristics, they are different disorders.
	Look for ways to cope with stressful situations too.

FINAL REMARKS

Depression, stress, and burnout are situations that we or the people around us can suffer at some point in life. They are alterations in our emotional balance that frequently lead to physical disorders and imbalances too. The main difference between them is their origin, and what they mainly impact. While depression can have quite a diverse origin and impact all areas of our life, stress and burnout have their origin and effects always in the labor field.

Stress, which is not necessarily negative, shows up when we feel that there is a mismatch between what our work requires from us and our capabilities. It can be a trigger to face the challenge of work, as long as it does not last too much and we are able to adjust the objectives and our ability to face them. It can happen at any time in your work life, but it is more frequent in first stages or before major changes.

Burnout is the process by which a worker feels “burnt” or tired of their job. It tends to show up in jobs that work directly with people, providing services (clients, users, students, patients, etc.). A worker that was initially motivated may end up losing interest. It usually doesn’t happen in the first work stages, but after a long time.

It is important to differentiate each of these three situations, especially to find the better strategies to deal with them.

AREA 1: DEVELOPMENT OF INITIATIVE AND ENTREPRENEURSHIP

D.U.3 – COMMUNICATION: the ability to generate clear and consistent messages.

PILL 1 – ASSERTIVENESS

Assertiveness is a very important social skill for communication, but not everyone uses it. Try to transform communication using assertiveness in the following situations:

1- At your workplace, a coworker finishes using some tools you all share, and doesn't leave them in their place. Another coworker looks for them and tells the first one:

"You're a mess! You always leave the tools lying around! Do you think you are the only one who works here? I'm sick of telling you to leave things in their place!"

How can this same message be communicated in an assertive way?

2- A worker is about to finish their day and go home to their family, to celebrate the birthday of one of their children. Shortly before leaving, the boss asks them if they can stay a couple more hours to do extra work, which in this case does not need to be finished that afternoon. The worker, despite being expected at home, says nothing about it and stays for overtime.

How would he/she have reacted in this case in an assertive way?

HELP	<p>If you don't know the term "assertiveness", look it up and assimilate its meaning.</p> <p>The two situations described are examples of the two extremes to avoid in communication: aggressiveness and passivity.</p>
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FINAL REMARKS

Everyone has rights and aspirations that we must protect for our own good. In our communication with others, we must also respect their rights by avoiding aggressive, derogatory, or threatening ways or language. Assertiveness implies knowing how to defend our own rights and needs, while also respecting those of others. Assertive communication will not attack others, nor will it allow us to submit to the will of others. It implies knowing how to express our position correctly and in a balanced way.

Assertive communication is the exact opposite of communicating while being carried away by feelings or emotions.

This is a skill that can be learned and improved. It is linked to self-knowledge, self-control, and self-esteem, and is also a sign of maturity. It allows us to show others our opinions, needs, and rights without placing ourselves neither on an aggressive level, nor a submissive one. It is essential for our balance to learn to say "no" and justify it.

Assertiveness does not imply hiding our feelings or emotions, but being able to express them without hurting those of others.

Assertive communication uses the formulas “*I feel... I believe... I think...*” instead of emphasizing accusations towards others “*you are... you believe yourself...*”. It invites dialogue and participation, it disagrees and asks for clarifications, it is able to understand others, and it demands that others understand in turn.

How nice would it be if everyone developed assertive communication skills! Always remember that the fact that you become assertive does not guarantee that the others have developed this ability. Their response may not be what you would expect!

PILL 2 – NON-VERBAL COMMUNICATION

A great deal of our communication is transmitted non-verbally. There are more or less conscious communicative behaviors that convey information about people's attitude or state of mind. In a job meeting see the following patterns in various coworkers; link them to what they are transmitting or feeling:

Lean back in the chair keeping little eye contact with the person who intervenes at all times.
Cover your mouth with your hand and intervene very little in the meeting.
Cross your arms and hold them that way while speaking or listening.
Lean forward looking at the speaker, nodding from time to time.
Shake your leg and keep your hands under the table.
Cross the ankles keeping the legs extended.
Cross your ankles under the chair keeping your eyes down.

DISINTEREST
SHYNESS
DISAGREEMENT
INTEREST
NERVOUSNESS
SECURITY
UNSAFETY

HELP	Our postures and positions can tell a lot about our attitude and feelings in the situation in which we are immersed. Others can easily sense our interest or boredom, our relaxed attitude or our nervousness.
	You can search for information on the Internet if you are not very clear about the correspondence. Interpreting all the positions we adopt is not innate knowledge.
	Non-verbal communication also refers to other issues, in addition to postures. Do some research on this; we transmit a lot of information through our gestures, looks, expressions, tones, etc.

FINAL REMARKS

We are always transmitting information, even if we do not speak or write. Our facial expressions, looks, body postures, movements, appearance, distance between people, tones of voice, pauses, etc. convey information about us, although sometimes we are not very aware of it. This is why they can sometimes be more reliable than words themselves.

Non-verbal information usually accompanies verbal, and qualifies, contradicts, reaffirms, and sometimes replaces it. Non-verbal communication is how we provide our first impression to other people and vice versa. It very easily transmits the mood and emotions we feel. Consistency between what we say when we speak and the non-verbal information we transmit is essential to be credible and to attract attention. There are several aspects that are studied when dealing with non-verbal information:

- Paralinguistics: the use of the voice, tone, and pauses. How we say things is almost as important as what we say.
- Kinesics: body posture and movements, facial expressions, looks and movements of the eyes and pupils, gestures, hand movements...
- Proxemics: related to the management of the space around us. We conceptualize a series of distances around our body: intimate (less than 40-50cm), personal (between 50 and 75cm), social (between 1 and 2 meters), and public (greater than 2.5 meters). Knowing them and sticking to them based on the relationship and the situation is essential for good communication.

Nonverbal communication was born evolutionarily prior to verbal language, and although there are universally understandable postural characteristics and expressions, many have an important cultural component. You do not greet the same in all cultures or countries (in some you shake hands, while in others kissing is common, and in others a bow of the head is enough). Although there are gestures that seem universal to us, they are not, for example nodding implies affirmation in most countries and cultures, but in Bulgaria it means the opposite.

Our appearance (clothing, hygiene, ornaments...) is a powerful means of transmitting information about us. A glance can quickly convey information about our state of mind or many other attitudes such as predisposition to attend, threat, surprise, boredom, etc.

When learning the importance of non-verbal communication, be aware that it is neither more nor less than another way of providing information. Thus, you

should learn to manage it properly, as you do with oral or written expression. Knowing it means being able to control this communication channel too, and although it is not easy for us to hide certain things, we can at least try to control them to give an impression adjusted to what we would like to express.

PILL 3 – A GOOD CONVERSATION

All of us have had good and bad conversations with others. Whether a conversation is good can depend on quite a few things, but there are certain elements that will help make it so. The same thing happens with disastrous conversations. Remember a good conversation you have had recently with someone and try to write down what things made it so. Do the same with another conversation you have a bad memory of.

CONDITIONS FOR A GOOD CONVERSATION	PROBLEMS THAT CAUSE BAD CONVERSATION

HELP	Think about what your attitudes and those of the other person or people were during the conversation. Also think about the situation.
	Reflect on the information transmitted in the conversation and its quality and quantity. Do you still remember it?
	Try to systematize the characteristics. Don't try to do a complete study, just find out what enables good communication and what things hinder it.

FINAL REMARKS

Communication occurs between a sender and a receiver of information through a specific channel. Good communication requires consistency between what we think, feel, and convey. It also needs us to listen, not just to hear. Listening implies an active attitude to try to understand what we are being told. It also helps to have an empathic attitude with our interlocutor, meaning to put ourselves in their place to understand as deeply as possible what they want to convey.

In order to communicate correctly, it is essential to know what we want to convey, thinking about what we have to say before speaking. An old saying tells that *we are masters of our silence and slaves of our words*. In addition, it is very important to express what we want as clearly and consistently as possible, without forgetting precision, simplicity, and usefulness.

Other important things are knowing how to choose the moment and situation for each type of conversation, or adapting our expressions to the characteristics, skills, and attitudes of our interlocutors, taking into account who we are addressing and where we are doing it. We must not forget some good recommendations such as not interrupting, asking (especially for clarifications of what we are not sure we understand correctly), being assertive (as seen in the first pill of the unit), being aware of non-verbal communication (as seen in the previous pill), making or accepting criticism in a constructive way, and avoiding generalization, prejudices, or labeling people, etc.

Most arguments happen due to lack of empathy and/or misunderstandings. Empathy does not mean being convinced by the other person's position or automatically yielding to it, it involves trying to understand their perspective, even if it is not shared by us. On the other hand, being clear, precise, and assertive in our messages helps to avoid misunderstandings.

These are all skills that can be developed; improving the quality of our verbal communication is possible by knowing how to listen empathically and trying to be clear and consistent.

PILL 4 – WRITTEN EXPRESSION

You see a job offer in which you are interested, and you would really like to be hired for it. They ask for a cover letter to be sent, write it to request the position:

Your cover letter:

T E M P L A T E	Before diving into looking for templates online, think about which elements and parts your letter should contain. Drafting an outline helps a lot when organizing ideas, use logic to do it.
	Use empathy to put yourself in the place of the person who is going to read your letter. Consider what you should include and how you should write it so that it sparks their interest and at least opens up the possibility of having an interview to meet them in person.
	There are three main requirements that you should consider: clarity in what you want to convey, accuracy of the data you include, and correctness in what is written.

FINAL REMARKS

When we write we are communicating, just like when speaking, but in this case we can reflect extensively before ending the message. We must also take into account what we have seen in the previous pill, but in this case we can carry out a preliminary work to create an optimal message.

Before starting to write, reflect your objective, what you want to convey, and who you are going to address. All written content has parts that you must structure: an introduction or presentation, a logical development of the essential points to include, and a conclusion or farewell to finish. Drafting an outline of the ideas and concepts that we want to include and structuring them beforehand helps a lot both to clarify them for ourselves before writing, and to guide us during the process of writing the text.

In that process, you must consider the need to be clear about the message you want to convey. It is better to clear the doubts of the person to whom you are addressing and that they understand you, using a language that is accessible and words that you and they understand clearly. Search and verify the accuracy of all the data and references that you include, your credibility goes with it. Lastly, and before concluding the wording, carefully review it to ensure its overall correctness and its spelling; you put your image on the line for it.

Always considering these steps when writing your messages, whatever they may be, will help you match the information transmitted to our intentions, raising the chances of it having the effect you seek.

AREA 1: DEVELOPMENT OF INITIATIVE AND ENTREPRENEURSHIP

D.U.4 – COMMITMENT AND RESPONSIBILITY: compliance of/with rules and tasks.

PILL 1 – COMMITMENT AND RESPONSIBILITY

We all have a more or less approximate idea of what the concepts of commitment and responsibility mean. They are some of the characteristics that we can most value in other people and of the most sought after by any company in its workers, simply because they generate trust. But what values and behaviors make up these concepts? Imagine that you have a job interview for a position that you like a lot, and you know that your commitment and responsibility will be highly valued. In order to have the best interview possible, try to know the behaviors that these concepts imply and prepare some statements or ideas to include in your introduction.

REASONS FOR COMMITMENT AND RESPONSIBILITIES	HOW I EXERCISE MY RESPONSIBILITIES

HELP	Ask yourself why you make commitments, how you usually exercise your responsibilities, and how you could apply your experience to your job. Why would you like to commit and how would you develop that commitment to the company? What values and goals do you share with it?
	How would you show, if you get the job, that you are a responsible person? What responsible behaviors would you have in the company? How do you behave when you are responsible?

FINAL REMARKS

Commitment implies the conscious and voluntary capability to assume responsibilities and therefore to meet objectives and face consequences. Our ability to commit and show the resulting responsibilities says a lot about ourselves. Both are an essential factor to have in order to be trusted.

Why do companies value -or should value- commitment? Because it implies a direct and emotional link between the worker and the company and its objectives. Engagement is beyond motivation or satisfaction, which may be

caused by reasons unrelated to the specific company, but unfortunately many companies do not consider it that way. There are some behaviors linked to commitment such as proactivity (the attitude to be creative, provide solutions, and improve environments and processes) or availability.

Responsibility implies a series of behaviors like punctuality, prevention, foresight, preparation, diligence, and honesty. Although it may seem like it, being responsible does not mean being a perfect person, we all make mistakes, but responsible persons assume these mistakes and try to solve them, not avoiding the blame. Fulfilling your own obligations and even helping others to fulfill them is responsible behavior.

PILL 2 – RULES FOR EVERYONE

At work there are a whole series of rules that are binding on both the worker and the company; what compels one party often implies a right for the other. What are the common obligations that a worker has to fulfill in their job? What are those that the company has towards the worker? You should know and comply with yours, as well as demand that those that others have are also fulfilled. Do you know them? List some of the main obligations, rules, behaviors, or actions that workers must follow in their position, as well as those that the company must comply with towards them.

OBLIGATIONS OF EMPLOYEES	OBLIGATIONS OF THE COMPANY TOWARDS EMPLOYEES

HELP	Look up information online regarding the obligations of both parties. There are many pages that report on these issues.
	Review the information you find; there are many rules and obligations, but you have to decide those that can be considered the most important.
	There are very specific regulations for certain sectors, but you have to filter down those that you know will impact employees in <i>any</i> job.

FINAL REMARKS

Rules, norms, laws, codes, regulations, provisions, instructions, guides, patterns, indications, precepts, principles... We humans elaborate all kinds of norms to regulate, “normalize” behavior and all kinds of other things, because it produces security and homogeneity. Rules force us to act in certain ways and to not to act in others; they can include coercive measures to enforce them, establishing penalties or punishments, and at the same time, no penalty or punishment can be imposed if it is not previously established in a rule, law, etc. Assuming and complying with rules is as important as reviewing and adapting them gradually. They impact every person in virtually every area of their lives, and help coexistence and the ability to work in coordination. A society without rules would be chaotic and impossible to cope with, but absolutely rigid and immovable standards would also be an unbearable limitation for the full

development of people. The main virtue of rules is their usefulness.

In the work environment there are a series of obligations, derived from laws, norms, and principles of coexistence that workers must comply with. Among the main ones, there is of course fulfilling the specific obligations of the job with diligence and good faith, attending to work orders, complying with safety and hygiene measures, complying with our working hours, not using the company's means for purposes beyond our work, abiding by the regulations on protection of personal data, etc. There are also other significant obligations such as not smoking in the workplace, showing due respect to coworkers and colleagues, keeping your workplace orderly, being punctual and diligent, limiting the personal use of your smartphone to the strictly essential, requesting permission before to picking up things others use, etc. In any case, it is essential to stick to the rules and customs of our job to achieve an optimal work environment.

On its side, the company has legal obligations towards workers that imply rights for them. The main ones are: signing an employment contract in which the obligations of both parties are established, paying the employee's salary in a timely manner, contributing to Social Security, retaining and paying personal income taxes, not discriminating against employees, providing training and means to work, protecting the employee's security and privacy, granting the paid vacations and leaves to which they are entitled, displaying the work calendar in a visible place, etc.

As you can see, there are many obligations, rules, and rights. In order to help us understand and exercise them, trade union organizations were founded. These are workers' organizations that are important to know and in which it is useful to participate.

PILL 3 – HIERARCHY

In any human group it is common to set hierarchies. In the same way, we tend to organize things in hierarchical groups, so companies and work environments also have their own hierarchy. It is easy to recognize, and when you start at a new job, its hierarchy will usually immediately be explained to you, and you will be told who will give you the work orders and to whom you are accountable. However, we tend to ignore important structures and implications of professional classification, such as professional categories and groups. Find out what they are and what their importance is when determining functions, tasks, social contributions, and salary conditions.

P I L L	Look up online information about professional categories and groups; there are quite a few websites that explain what they are.
	Assess what they are for. Every employee is included in one when they start a job, and they set a scale that allows to progress in the positions of the company.

FINAL REMARKS

Employees in a company occupy various positions classified based on criteria such as access requirements, functions, responsibilities, salary, etc., which are then arranged into professional categories or groups. In Spain, until 2012, they were structured into categories related to the skills and capabilities of the person based on their qualification, but after the 2012 labor reform, they are organized into professional groups more adjusted to the characteristics of the job position than to the skills and training of the employee. It is the collective agreements that establish and fix the characteristics of these groups.

Different tasks, functions, specialties, and professional responsibilities can be included within the same group. The company can change employees in a group between different jobs. When you sign the employment contract, your professional category is stated in it, and it also appears in your monthly payroll. It is important to know the professional group in which you belong to know the functions that you have to carry out in your job, if your salary is adjusted to the applicable collective agreement, if the social contributions that apply to you are equally adjusted, and to exercise your rights in situations in which functional mobility occurs -meaning a change in your functions that harms you-.

PILL 4 – CONTROLLING TIME

Are you a punctual person? If so, you have a characteristic highly appreciated by others. Make a list of the things you do to be so, and use it to help someone close to you who is not as punctual as you.

If you are *not* punctual, do the same: think about reasons that lead you to be late and make a list of things you can and should do to improve punctuality.

	BEING PUNCTUAL: WHAT DO I DO / WHAT SHOULD I DO
1.	
2.	
3.	
4.	
5.	
6.	
7.	

HELP	Reflect on what you do and what you don't do when you have a commitment, an appointment, or a schedule to keep. Select your good or bad practices and turn them into rules that other people or yourself could apply if you/they need to.
	Look up online for what you can do to improve punctuality.

FINAL REMARKS

Being punctual is important in every area of our lives. People with whom we interact appreciate that we do not abuse their time by making them wait. At work, this will also be valued positively, and it can become a serious problem if you tend to accumulate delays. If you are not punctual you have a problem, unpunctuality seriously harms your image. It can be a good reason to impact negatively in others' trust in us, but everything can be learned, and be punctual is no exception.

Examine the causes of your lateness. If you are a lazy, disorderly, a not very responsible person, or you simply tend to forget things, you will have to correct it by making an effort to fight against laziness, trying to be more orderly, taking responsibility for your things, or learning to use outside resources to remember things. Reducing distractions, anticipating situations and needs, getting up earlier, or setting alarms are practices that will help you improve on this. Drafting schedules for your daily activities or timing what it will take you to complete each of them can help you plan properly. Ask yourself if you have your schedule aimed at achieving your goals; reflect if you spend too much time on things that take you away from them. If so, set realistic schedules that

combine both your goals and objectives with the also necessary moments of rest and distraction.

Being late implies an inability to manage time correctly. Unpunctual people frequently plan their activities poorly, they do not prioritize important or essential tasks, nor can they justifiably dismiss inappropriate activities. Managing time intelligently and efficiently is one of the best things you can learn and exercise.

AREA 1: DEVELOPMENT OF INITIATIVE AND ENTREPRENEURSHIP

D.U.5 – FLEXIBILITY: the ability to adapt to changes and acceptance of other points of view.

PILL 1 – ALTERNATIVE SOLUTIONS

Imagine that one day you are driving on your way to work and you come across a major traffic jam. Your goal is to get to work on time; think of a couple of acting alternatives.

	ALTERNATIVES TO THE TRAFFIC JAM TO ARRIVE ON TIME
1.	
2.	

When you arrive at work, you notice that your coworker has a distant and uncommunicative attitude towards you. Think of at least three reasons there could be for her having that attitude.

	POSSIBLE REASONS FOR YOUR COWORKER BEING DISTANT
1.	
2.	
3.	

At work, you are given a task that you do not know how to specifically carry out. Think about what you could do.

	WHAT TO DO WHEN YOU DON'T KNOW HOW TO CARRY OUT A GIVEN TASK
1.	
2.	
3.	
4.	

HELP	This exercise is not about looking for the answers online, but about finding alternatives through reflection and imagination.
	There surely are more options or possibilities than the exercise asks for, so it is ok for you to imagine them too.
	When faced with a major traffic jam, there are at least two possibilities: find an alternative route or find an alternative means of transport.
	There can be many reasons for a person to have a closed attitude towards us, but basically either we have done something to make them like this, someone has done something to make them like this, or some event has happened that causes that state.
	When you do not know how to face a task, you can ask another person, look for information on your own, look at how it has been done before, tell your problems to do it to whoever entrusted you with the work, etc.

FINAL REMARKS

Cognitive flexibility allows us to look for alternatives in causes, solutions, reasoning, points of view, situations, etc. Rigidity of thought limits us and prevents us from seeing said alternatives. Adaptation to change -our cognitive flexibility- is a skill that can be learned and developed, and it is very important when facing new situations and solving problems. It allows us to see different strategies to face challenges, open our minds to new information, and adjust our behavior to changes. It helps us to adapt quicker to changes, and makes it easier for us to switch from one task to another or see things from different perspectives, even discovering relationships and information that seemed non-existent at first glance. It allows us to better tolerate our own and others' mistakes and changes in plans.

Having a flexible mind allows us to consider other values, beliefs, ideas, and to have a more empathetic vision by understanding other points of view and situations, helping us improve our relationships with others.

Although routines provide us with security, every day we have to face situations that test our cognitive flexibility. Every time something truncates our expectations, we will exercise the ability to look for alternatives. As we increase our ability to search for them, we will increase our cognitive flexibility.

The inability to change behavior or revise our ideas and conceptions when they prove ineffective can become a problem if we persist in that mistake. It is easy to have known examples of people with a closed mind, because they do not know how to be flexible in their reasoning and points of view and usually get stuck or blocked. This happens because we naturally tend to seek stability and reduce uncertainty to increase our sense of security.

We can learn and improve our cognitive flexibility through changes in our routines, setting new goals and objectives, reasoning about the origins and causes of our reluctance and fear of changes, looking for alternative solutions, and using our creativity and imagination.

PILL 2 – DO YOU NEED A CHANGE?

Perfection is an unrealistic ideal. Looking for it at all costs is as little positive as accommodating ourselves in the impossibility of improving things and ourselves. There are always things we do or characteristics of us that we do not like which we can change and improve.

Let's reflect on this a bit: first, think of something about yourself that you are dissatisfied with, you don't like, or you know is harmful to you; then ponder *why* it produces those sensations; and lastly think about *why you haven't changed* or improved it yet, what has stopped you. As fourth step, think of means to eliminate these impediments.

1- This of me does not satisfy me, I do not like it or it hurts:	
2- I think this is so because...	
3- This stops me from changing it:	
4- I could eliminate that/those impediments if...	

HELP	This is an exercise of reflection. Focus objectively and reason with honesty, only considering your own opinions and perceptions. No one knows better than you what drives you, what you like, or what gives you security. Reflection and getting to know ourselves better are key tools to change and improve.
	Focus on a specific topic, do not pose too big problems, go step by step.
	Be flexible when doing the exercise, find other ways to approach the issues, and don't just stick with the first thing that comes to mind.

FINAL REMARKS

Absolute perfection does not exist, everything can always be improved, it is just a matter of appreciation and value, so pursuing it is frustrating; it is unattainable. That does not mean that you should conform and not act or not seek excellence in what you do. More than the search for perfection, be guided by adapting to realistic and functional objectives that we set ourselves is the best strategy.

On the contrary, inaction, rigidity, and fear of change are also very negative. Changes, although scary, have a positive side that we must learn to look for and appreciate. Settling in the safety of our comfort zone -what is known to us and where we feel protected, although not necessarily at ease- can prevent us from developing positive aspects and new possibilities.

The fear towards change can show through different attitudes such as self-deception (looking for ways to not face, not recognize, or flee the problem), resignation (assuming there are no alternatives), victimhood (blaming others or "fate"), arrogance, skepticism, and cynicism (irrationally justifying situations), or laziness (not acting and not even justifying the reason for inaction). It can paralyze you and make you stick to relationships, jobs, habits, etc. that you objectively know do not bring you well-being or are just harmful to you and that you should abandon or change. This fear is natural because we know the risks involved with change, but *fear is never rational*.

One has to seek rationality by analyzing pros and cons, risks and advantages, opening your mind by analyzing your problems and possibilities with the same objectivity and perspective as we would those of another person. Faced with a perspective of change, reflect on what you fear most, on the worst consequences, and how you would face them, and then realize that that is not what will happen. Sometimes taking risks and exploring is the only way to grow and improve.

PILL 3 – DISTORTING THOUGHT AND FOCUSING ON REALITY

There are distortions in the way of thinking, often automatic, which are also characterized by their rigidity in the way of perceiving reality. You may have experienced them or perceived them in others. We will try to focus on reality against distorted thoughts, raising alternative thoughts.

DISTORTED THOUGHT	ALTERNATIVE THOUGHT
Thinking in black or white, in all or nothing. Tendency to absolute: always/never, everything/nothing, nobody/everybody... (dichotomous thinking)	
Overvaluing negatives, minimizing positives. (filtering)	
Assuming one's own causality in good or bad things that happen to others. (personalization)	
Assuming what others think or feel. (mind reading)	
Surely something bad happened! The worst is going to happen! (catastrophism)	
Generalizing from one single case. (over-generalization)	
Labelling and simplifying behaviors or persons.	
Unjustifiably magnify and minimize.	
Blaming others or yourself for the mistakes of others.	
Excessively trying to control situations or persons.	
Assuming that things must be a certain way.	

HELP	Try to express a more realistic approach as alternative thinking. What can you tell yourself or someone when the mind insists on distorting reality?
	No matter how little each of these situations is analyzed, we can perceive that they are biased interpretations. Reality is much more diverse and includes many more possibilities.
	Reason the damage each distorted thought can cause, and what is the best way to counter them.

FINAL REMARKS

Thinking in a flexible, adaptable, and moldable way is an advantage; the more rigid and categorical our thoughts, the more problems and uneasiness they will cause us. Sometimes rigid thinking is shown by distorted perceptions of reality, some may be clear to us, like the examples shown, but others may depend on our beliefs and values, instilled in us since childhood, assumed as our own and unquestionable. Just as we must question the distorted perceptions of reality, we have to do so with other ideas and beliefs too, especially when they clash with other facets of our personality.

Education and life experiences can lead us to distorted thinking. It is hard to realize this because it is automatic: our mind tries to confirm what it already knows, and looks for the simplest and fastest explanation. Flexibilizing our thought implies doubting the first and easy explanation that comes to mind. Questioning your own ideas and perceptions is positive; look at them from other points of view and look for alternative explanations to find a less biased approach to reality.

Thought flexibility is directly linked to imagination and creative thinking. Both are as positive as physical exercise, healthy eating, or getting enough sleep. Learn to flexibilize your thinking through things like altering your daily routines or doing things in new ways; also, learn not to depend excessively on technology (smartphone) or on the evasion we experience from mass media (TV, series, social networks...). Looking for new experiences, new friends, and/or new things to learn are also good practices to develop your thought flexibility.

AREA 1: DEVELOPMENT OF INITIATIVE AND ENTREPRENEURSHIP

D.U.6 – ATTITUDES: developing key competences (motivation, strength, tenacity, resilience).

PILL 1 – HOW TO MOTIVATE OURSELVES

There are activities, goals, and behaviors that we do not need to make an effort to do; we like them, they entertain us, and they provide direct satisfaction. However, there are others that require a greater effort from us and we need to have a clear reason to do them. Motivation will have to be stronger as our resistance to do the activity is greater. We all carry out activities, set goals, and assume behaviors for which we need to find a reason -a motivation-.

How do you do it? Review what ideas, reasoning, and procedures you have used to seek motivation:

WAYS TO SELF-MOTIVATE

HELP	Each person is different in terms of their motivations and the mechanisms they use to drive them. What works for one person will not necessarily work for another. You have your own self-motivating mechanisms.
	Think about those things are most difficult for you to undertake and develop, and what you do to overcome the temptation to abandon them or to not act. What has worked for you?
	Some people find it helpful to think about the satisfaction they will get when they achieve their goal or complete their task; others reward themselves with something they like after making an effort; some organize their activities to do what they least like first, leaving the most pleasant for later; and others just have the ability to force themselves to start.

FINAL REMARKS

Motivation is the force that makes us act; the energy and mechanisms that drive us. It is a basic principle of our behaviors, driving us to achieve certain goals and satisfy certain needs, making us set goals, create habits, and make efforts. There are various theories about motivation and its processes. One of the best known and used is the *hierarchy of needs* or “Maslow’s pyramid”. According to this theory, human motivations tend to satisfy a series of needs arranged in five categories, from the most basic or physiological, to those of security, affiliation or affection, recognition, and culminating in those of self-realization.

Many types of motivation are recognized: intrinsic (originated from our internal desires and impulses), extrinsic (originated outside us, based on external rewards), positive (to obtain a reward), negative (to avoid an effect or punishment), personal or primary (to obtain a reward for oneself), and social or secondary (when the benefit is for a group of people).

Motivation helps us to achieve our goals and get satisfaction in what we do, also in our work. Precisely in the workplace is where motivation acquires an important role both for workers and for the company itself, since it should implement strategies and procedures to motivate its workers, due to the multiple positive effects it generates for all business interests. Unfortunately, there are companies that do not appreciate the importance of the motivation of their staff.

Motivation is dynamic and quite personal. Its processes are complex, but there are some practices that can help us promote it: be realistic and objective when setting goals, and break-down and structure larger objectives or goals; develop strategies to avoid distractions and temptations that would make you give up; prioritize tasks; spare no effort or resources; force yourself to act, to start the task; don't magnify obstacles; assume mistakes as part of learning; do not waste time regretting; pay more attention to what you have achieved, what you have already done, than to what is still left; visualize the satisfaction you will get when you achieve the final objective; reward yourself for partial achievements; know external models that you can emulate; look for peers who share your objectives to motivate yourself in a group, or even seek motivation in competition; be both lenient and inflexible with yourself, to tolerate a breach, but also to not allow yourself to accumulate repeated breaches; look for help in others in your low moments; etc.

PILL 2 – EMOTIONAL MATURITY

How would an emotionally mature person deal with these situations?

Near exams or competitions, every morning they feel the temptation of delaying the moment of studying.	
At work, a peer and close friend does something that would force them to lie to protect them.	
Do they seek culprits or responsables?	
When driving to work, a car wheel punctures. Later at work the pendrive on which they had information for a meeting is erased.	
There is a person they like and with whom they would like to become friends or even start a relationship.	
The person with whom they want to start a relationship tells them that he/she is not interested.	
As manager of a company with many years of experience, they are taught a new and better procedure by a young and recently arrived employee.	

HELP	Emotional maturity is not directly related to age. There are young people who have matured emotionally, and many adults who still haven't.
	People with emotional maturity face situations not only from experience, but also from the development of basic social activities, and with the values, skills, and behaviors that help them manage their emotions.
	The way to respond to the situations above is by understanding the optimal attitude, the best possible in each case, both for yourself and others.

FINAL REMARKS

Emotional maturity is related to -but not determined by- age, since experience plays a role in it, but there are adults with similar ages and different degrees of emotional maturity. This implies having certain skills and tools that allow us to face different situations in life with better adaptive results.

Emotional maturity does not prevent us from unwanted situations or suffering, but allows us to face them in the best possible way, to minimize their negative consequences for us and others; it allows us make smart decisions based on our experiences and our ability to reason on better possible alternatives, enables us to accept life's frustrations and disappointments and overcome them, allows us to accept our mistakes and learn from them, prevents us from persisting in positions that we know do not lead to any solution, and makes it easier to look for new perspectives before blockages.

Emotional maturity leads us to live according to our aspirations and values, understanding the need to apply ethical principles in all aspects of life. It makes us develop and exercise our responsibility to ourselves and to others, drives us to assume our freedom to control our decisions and the direction of our life, makes us understand and assume limits and risks, and allows us to overcome frustration.

PILL 3 – EXEMPLARY TENACITY

Tenacity is a very important quality for success. Throughout history, many people have shown enormous tenacity to achieve their goals; think of some of them and write down your own list of exemplary tenacious persons:

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

HELP	Some examples of great people who have shown enormous tenacity in their lives to achieve great goals will surely come to mind.
	You can look up other examples online, perhaps less known but also significant for having faced problems and obstacles that -although seemingly insurmountable- did not prevent them from standing out.
	Since it is your own list, you can of course include someone who is an example of tenacity for you, although not famous or historically relevant.

FINAL REMARKS

Tenacity is a key ingredient for success and desired results. It allows us to move on and not give up in the face of difficulties, obstacles, frustrations, discouragement, or boredom; it is a positive value in humans, making us more likely to achieve our objectives and allowing us to better appreciate our achievements, thus developing our self-esteem; it encourages us to improve our capabilities and skills, and seek new ways and means of achieving our goals by learning from our mistakes.

Tenacity implies knowing how to pursue our goals with determination and dedication; it makes us appreciate and properly manage patience; prompts us to finish what we have started, to focus on it, and to try again when we fail, analyzing where we failed; and it requires significant doses of optimism, self-control, and self-discipline to get through the bad times that will probably come during the process.

Tenacity is a positive virtue that involves persevering in the face of obstacles and persisting in the achievement of our goals, but it can acquire a negative character if we become obstinate, meaning if we fall into not seeing if our effort or even our objective is being impossible or irrelevant. Tenacity without flexibility can turn into stubbornness, so it should include the ability to analyze situations, problems, and perspectives, and apply the changes and adaptations necessary to achieve the objective. Stubbornness leads to not see mistakes and to cling to problems or repeatedly failed habits and strategies.

The cases of well-known people or historical figures who demonstrated exemplary tenacity can be your guide to see that you can also be persistent and succeed in your endeavor. There are very diverse examples, from figures like Nelson Mandela or Mahatma Gandhi to Winston Churchill, history shows us great examples. We can also find them in any discipline of knowledge or field of life; their biographies can be a great inspiration and example for anyone.

PILL 4 – RESILIENCE

We are going to propose an exercise of pessimistic fiction about future. Try to imagine a disastrous event or situation for you: the loss of a loved one, a catastrophe that impacts you directly and leaves you homeless, or an illness or accident with severe consequences. Unfortunately, situations like these happen every day and affect people anywhere in the world, and yet we defend ourselves believing that we are almost immune to them. How do you think you would react? What would you do? How could you get over them?

Disastrous situation:
What to do to overcome it?

HELP	The ability to cope with disastrous situations that apparently overwhelm us is called resilience. On the one hand, it is the strength to resist the blow, and on the other the ability to react and overcome it.
	The disastrous event of this pill is fictional, and we can hope it never will happen; but imagining it can help us propose activities and strategies we could use to face a situation like that and recover from it.
	Only you can know the resources and capabilities you have and can develop. You may even have already experienced situations like this and are aware of your resilience to overcome adversity. If it is the case, it will be much easier for you to know your reactions and abilities in these situations.

FINAL REMARKS

Resilience is both the ability to resist adversity and to recover and strengthen from the experience. We have to exercise this ability in the most delicate and complicated moments of our lives, that we all will have to face at one time or another, and in them we demonstrate the ability to be resilient and move on. An important feature of resilience is to seek positives in the catastrophe, meaning to look for any good things that could come out of it and learn from the experience.

This is not an innate characteristic, but an acquired one, and it can be learned and exercised. One of the best ways to do this is by learning about examples of persons who have developed a great capability of resilience, to recover from

adversity. These experiences, of persons that have many more difficulties and problems than any of us and have overcome them, can be of great help. You can look for those examples online.

Accepting reality, re-structuring our objectives, seeking support and help, and extracting the positive aspects of the experience lived are the main steps of resilience. ***Develop the characteristics and skills that you have seen in the previous units of this course, since they are the main basis of resilience:*** have a high self-esteem, develop your empathy, exercise your personal autonomy, control your adverse reactions, develop your assertiveness, your flexibility and adaptability to change, your self-motivation, your tenacity, and work on your emotional maturity. All of them are the ingredients for a resilient personality.

AREA 1: DEVELOPMENT OF INITIATIVE AND ENTREPRENEURSHIP

D.U.7 – LEADERSHIP AND INITIATIVE: the ability to build consensus in the face of uncertainty.

PILL 1 – WAYS OF LEADERSHIP

There are several ways to lead a group of people. In this exercise we are going to try to identify the various types and their advantages and disadvantages. Link each type of leadership with each of the following denominations, and point out their pros and cons.

1. AUTHORITARY
2. DELEGATIVE
3. DEMOCRATIC
4. REWARDING
5. EXEMPLARY

The leader distributes tasks and directs activities according to his/her criteria and objectives.	Type:
	<i>Pros:</i>
	<i>Cons:</i>
Leadership is exercised by granting autonomy in the development of the tasks and activities to the members of the group.	Type:
	<i>Pros:</i>
	<i>Cons:</i>
The leader asks the members of the group for their participation and opinion on possible decisions before making them.	Type:
	<i>Pros:</i>
	<i>Cons:</i>
The leader establishes a series of rewards and benefits for the achievement of objectives.	Type:
	<i>Pros:</i>
	<i>Cons:</i>
Leadership is exercised under the premise of acting in accordance to and following what the leader does.	Type:
	<i>Pros:</i>
	<i>Cons:</i>

HELP	In order to assess the pros and cons of each type, think about different types of activities: mechanical, sales, creative, etc.
	Also consider various possible situations. Working in emergency situations is not the same as working in normal situations.

FINAL REMARKS

The ways of leading a team can be very diverse; just as there is not one single classification for them, there is no perfect way to do it. Depending on the objectives and situations, it may be better to adopt some ways or others.

Authoritary leadership is the one we could consider as the most traditional of them; the objectives, orders, distribution of tasks, and their monitoring are implemented by the leader, without a participatory process. It has a strict and fixed chain of command, being a formula that can work effectively in emergency situations or when tasks and functions do not require any incentives or creativity, but it is not a good strategy in general because it does not favor integration or a good work environment.

Participatory leadership that encourages the autonomy of group members is a more modern formula for leading a group. This allows to develop the personal initiative of its members and a greater integration, motivation, and connection with the objectives set, which can be very positive in creative and research work areas. However, this also has disadvantages if proper control and monitoring of tasks, deadlines, and achievement of objectives is not attended to. It can also be less useful when group members have problems with their levels of acceptance of collective work, or do not have the appropriate skills and knowledge for the objectives.

In environments where productivity and the achievement of clear goals are key, models that set incentives as monetary or other rewards can be very positive, like in the area of sales for example. However, this can pose problems of integration and a good working environment due to raising the competitiveness among the members of the group.

The exemplary model is a very specific type in which high standards are often demanded. The leader hopes that their example will be followed when working in the group, but this can lead to a lack of initiative and autonomy, and also disorientation if the person leading is not present. However, it can be very useful if the leader is a good expert in the subject from whom the group can learn and nurture their knowledge and skills.

Any person leading a team should have a number of qualities to do so optimally. It is important to develop empathic and active listening characteristics, while also knowing how to motivate and communicate correctly.

Mastering responses to adverse situations, having the ability to set and comply with rules and tasks, and knowing how to adapt flexibly to changing situations are also necessary requirements for good leadership. Lastly, it is also necessary to know how to delegate in others and have the ability to coordinate, collaborate and plan.

PILL 2 – QUESTIONS PRIOR TO INITIATIVE FOR ENTREPRENEURSHIP

Perhaps you have ever had the idea of starting a business or activity, or you may have detected a lack in the supply of shops, items, or services in your usual environment or even more generally. The first step to start up the initiative to undertake is precisely having that idea or detecting said lack. Before getting to work, it is necessary to formulate and solve a series of preliminary questions. Consider a business possibility or a service activity that you could start up, use your imagination and try to answer some previous questions:

What exactly does the activity I want to do consist of?	
Who is the target audience that I am going to address? What is the market that may be interested in what I offer?	
Who will my competitors be? If there is competition, how can I differentiate myself from it? What factors can I use to attract customers from existing competition?	
What do I need to start my project? (consider not just material and legal needs -space, tools, licenses- but also personal ones)	
What are the costs necessary to get what I need? What is the income foresight? Create a minimum budget.	
How can I get the financial resources I need to get started?	
What could I do if things don't go the way I expect?	

HELP	Specifying the idea as much as possible will help you know what your target audience is, if there really is a market to target, to study the competition that you will face, and to differentiate enough to improve your position.
	Studying correctly and concretely the needs you are going to have is a necessary step to create a budget in which we can include both the expected expenses and income. Your budget must cover reasonable terms to foresee the financing needs that you are going to have.
	Look for financing through traditional entities or through association with other people. In order to get the necessary confidence from entities or people when it comes to get funds, it is essential to have a viable business plan, which should include your predictions, even worst case ones.

FINAL REMARKS

The initiative for entrepreneurship requires more than ideas and enthusiasm. First of all, it is important to self-assess our capabilities, predisposition, and experience to undertake a business or service activity. We can always work to improve those capabilities and be ready to undertake.

There are many questions that we will have to address before we begin; those posed above are some of the main ones to consider, but there are many others. For example, it is also important to assess the opportunity and the moment to undertake: if we want to launch a seasonal activity we will have to plan in advance before the right moment to be operational; and it is also essential to assess the existing economic situation so as not to make mistakes when starting our business activity.

Drafting your economic previsions by envisioning a detailed and realistic budget is a very important step; you have to consider the income and expenses for different periods of time, depending on the needs, and based on a study of our potential market and existing competition. It is also important to know that we can rely on entities and associations that can help us and guide us when proposing our business plan and structuring our entrepreneurial ideas.

PILL 3 – GROUP DECISIONS: CONSENSUS OR MAJORITY?

Joint decision-making within a group is usually done through voting procedures or through the use of consensus, and in both cases there can be a series of consequences. Reflect on both processes and point out their positive and negative consequences.

Results in voting processes	Results in consensus processes

HELP	Look for information about the concept of consensus and its prerequisites.
	Reflect on the perceptions and feelings the losing party may have.
	Are the concepts of unanimity and consensus equivalent?

FINAL REMARKS

Given multiple options for decisions to be adopted as a group, majority agreement or the search for consensus can be used. When there is no such diversity of options and the proposal is just one, we speak of unanimity, not consensus. Consensus occurs when all parties involved assume the agreed proposal as common to all of them and share it as the best possible. This does not necessarily imply that it is fully satisfactory for all parties, but it does mean that the group as a whole supports and accepts it.

Consensus requires the existence of a prior disagreement -a dissent-, but faced with the possibility of a majority imposing its will on a minority, resorting to consensus can reduce tensions and favor innovative and creative solutions. This is based on analyzing, knowing, and understanding the various existing options in detail and evaluating the various points of view. The process requires some time, because it encourages the participation of all parties in suggesting positions and in the search for mutually satisfactory alternatives. Consensus decisively facilitates the implementation of the collective decision and the increase of trust and good relations in the group.

Consensus cannot exist with the silence of any of the dissenting parties; it requires sufficient assertiveness and usually requires a longer time than majority decision-making processes, so it should be reserved for especially significant decisions whose consequences are lasting. A lack of trust within the group and the existence of immovable positions or vetoes can make it difficult or impossible to work on a consensual solution.

To facilitate a dynamic consensus, it is good both to have a figure who leads the process and the common awareness of the need to make an effort to solve a clearly defined question or problem. The group must be aware that this will take time, and that it will require acknowledging the aspirations and will of all parties.

PILL 4 – NEGOTIATION

There are two main types of negotiation: **competitive** (also called zero-sum, distributive, or win-lose) and **collaborative** (called integrative, cooperative, or win-win). Of the following characteristics, which do you think matches each type of negotiation?

	COMPETITIVE / COLLABORATIVE
Both parties try to understand each other's needs.	
Seeks the greatest benefit for its own part.	
The opponent is an adversary and cannot be trusted.	
The working method includes creating bonds of trust.	
The objective is the agreement of the parties.	
You lose whatever the other part gains.	
It doesn't matter how much or what the other part loses, it's just better if they do.	
The negotiation is intended to be a fair process.	
It seeks to generate trust between the parties.	
Alternatives are sought so that both parties win.	
Information is shared.	
It is posed in terms of confrontation.	

TIP	The names of both types of negotiation clearly show their characteristics.
	Each party might think that they are in a different type of negotiation. If this is the case, each will apply the characteristics of the negotiation they think.
	Find additional information about the concepts and types of negotiation.

FINAL REMARKS

We are always negotiating, whether in the workplace or in our personal sphere. Negotiating involves an effort to try to reach agreements that may have different objectives: solve differences, gain benefits, improve situations, satisfy needs or interests, etc. People negotiate on their own behalf or on behalf of groups or organizations, and to do it we can use a wide array of skills and abilities. In competitive negotiations, the parties dispute the distribution of a fixed value. Whatever one party gains is what the other loses, it is like "sharing a cake". On the contrary, in a collaborative negotiation, the parties seek to reach a mutually satisfactory agreement on the basis of increasing the overall value, "increasing

the size of the cake”. There are other ways of classifying negotiations: by duration of the process or specific or stable relationships between the parties.

In most cases, circumstances will lead us to choose one negotiation formula or another. A competitive negotiation may be better if the relationship with the other party will not happen again (one-time deals), when bargaining for a price, or if you notice that the other party has chosen this strategy. On the contrary, a collaborative negotiation is better for negotiations within a stable group, with parties that interact often, when we can make concessions without prejudice, or when there are clear common interests.

In a negotiation, people who defend any given interests intervene by proposing options to the other party. The information that we can obtain prior to a negotiation will become an objective advantage, and the time factor must be kept in mind, as it is convenient to be patient and remain calm. One of the most important skills we can develop to negotiate is persuasion.

There are a series of mistakes that should not be made in a negotiation: improvising, not having clear objectives, not having information about the other party, giving the initiative to the other party, underestimating it, or letting ourselves be carried away by our emotions. Starting a negotiation does not necessarily imply reaching an agreement; there may exist differences or even the negotiating framework itself preventing this. It is also possible to end up “agreeing to disagree” to find other formulas or relationship frameworks later.

If the negotiation culminates an agreement, it is important to set the terms and conditions and ensure their reviewing and compliance in the clearest and most detailed way possible, trying to avoid freedom of interpretation, etc.

AREA 1: DEVELOPMENT OF INITIATIVE AND ENTREPRENEURSHIP

D.U.8 – MANAGEMENT AND EXECUTION: the capability to carry out work, plan it, and monitor it.

PILL 1 – PLANNING

Imagine that you start working in a company in the agriculture sector. You have to plan the operation of a 10-hectare plot of land to grow lemons. Plan how to start this crop; analyze its needs, previous steps, necessary elements, and possible execution deadlines.

General needs:
Previous steps:
Necessary elements:
Stages and periods of execution:

P L A N N I N G	Think about what you will need, meaning all kinds of resources until the crop is fully operational. You'll need to research prior information about the current situation of that area and if there are any legal requirements.
	Think about the needs the trees have, look up information online and decide things like the most sustainable irrigation system.
	Include approximate deadlines in your planning.

FINAL REMARKS

Planning is the methodical process by which the actions, deadlines, and other necessary details are established to achieve certain objectives. It implies an orderly decision-making process, considering necessary information and anticipating the future development of situations. Planning is essential for an effective management, as it will allow us to guide the execution of activities to achieve our objectives. Developing a plan clarifies the doubts about the work to be done, because it defines the necessary resources, clarifies actions, sets deadlines and partial goals, and orders priorities.

Planning applies to many human activities; in our daily life we plan many of our actions: our day, our vacations; you can plan for the short, medium, or long term, etc. In organizations and companies, strategic, tactical, operational, and regulatory plans are developed, with various styles and tools to set them.

PILL 2 – EXECUTION AND MONITORING

In the previous pill you planned how to start a crop; try now to emulate a part of the execution and management of the plan you have developed. Suppose that you used the human and material resources of the company to prepare the land in advance, now you have to purchase the lemon trees themselves. List the 3 best offers, select the best one and calculate the total budget necessary.

The 3 best purchase options:
Selected option:
Total budget for lemon trees:

P L A N N I N G	Look for specific prices of lemon trees in various plant nurseries. Compare their conditions, prices, age of the seedlings, speed of supply, proximity of the nursery, etc. and select the ones you consider most appropriate.
	Also look for resources to start up the irrigation system you planned.
	Make a budget with the costs of both the purchase of seedlings and the irrigation materials (remember that the land area is 10 hectares).

FINAL REMARKS

Based on planning, the execution of a project involves managing -developing and executing- scheduled activities and tasks. In the execution stage, communication with all persons involved in the processes is essential to control its progress and deadlines, as well as the consumption of resources. When managing, it is necessary to pay special attention to risks and changes, updating needs and necessary modifications in the original plan to adapt it to real developments. It is necessary to maintain control of situations and exhaustively monitor the processes at all times, so if deviations are detected, it is necessary to quickly implement correction or planning change mechanisms. Management requires a series of technical and personal skills that help us both in decision-making and in the relationship with the persons involved in the project. You can acquire technical skills through study and work experience in order to know and master the specific methods and processes of the activity we want to carry out. Personal skills and abilities to interact with others have to be the object of our personal development beyond the academic curriculum; developing our assertiveness, resilience, flexibility, self-control, communication, and leadership skills are essential to face the management of activities.

PILL 3 – RISK MANAGEMENT

An extremely important part of managing a project is the risks involved. Based on the cultivation project you have developed in the last 2 pills, analyze among the possible risks those climatic and meteorological ones that could even disallow the viability of the crop. In order to calculate these risks, work with the hypothesis that the plantation is close to your area of residence. Identify the climate of your area and if it is suitable for growing citrus fruits and under what conditions. Also identify the possible meteorological risks that the plantation would face, their probabilities of happening, and the possible actions to be taken, both preventive and restorative.

Climatic risk (temperature):	Probability:
	Preventive actions:
	Restorative actions:
Other climatic risks:	Probability:
	Preventive actions:
	Restorative actions:

T E M P E R A T U R E	Find out what temperature conditions lemon trees and lemons can withstand, and the usual climate conditions in your area, since they could render this outdoor cultivation impossible. If the weather is favorable, find out how often frost waves occur, which would put the crop at risk.
	There are other weather hazards that could also cause problems, such as hail or excessive rain.
	Reflect on and point out any preventive measures, and all restorative ones for times when damage has already occurred, to recover production.

FINAL REMARKS

Through risk management, the possible risks that may arise in a project are identified, analyzed, and responded to. It is a proactive rather than a reactive procedure, meaning that it tries to anticipate risks and minimize their effects before negative events occur, in a continuous process of detection and resolution of possible problems, which it is not just a matter of identifying the different possible risks, but also their chances of happening. The most probable risks and with the worst consequences will be prioritized when setting measures to prevent them. Risk management must be part of the planning and ongoing management of a project. Once risks do happen, prevention actions can be taken to minimize, mitigate, and reduce their negative consequences.

In risk management, all sources of risk have to be identified, both internal (from the ways of planning and management of the project itself) as external (more or less predictable and very diverse). You can find abundant information about these external sources of risk online. One of the common types is job risk management: regarding it, companies have developed a series of measures that workers must comply with to reduce accidents in the workplace.

AREA 2

DEVELOPMENT OF CRITICAL THINKING AND ANALYSIS



AREA 2: DEVELOPMENT OF CRITICAL THINKING AND ANALYSIS

D.U.1 – FORMULATION: Formulating problems and questions clearly and precisely; understanding science as a human activity with multiple relationships with technology, society, and the environment.

The quality of our thought is in the quality of our questions.

Questions define tasks, express problems, and define issues.

Not asking questions means to not understand. Shallow questions equate to shallow understanding, and non-clear questions equate to non-clear understanding.

(Linda Elder, Richard Paul, - The Art of Asking Essential Questions)

PILL 1 – THE SCIENTIFIC METHOD

The scientific method is the set of procedures by which science allows us to acquire certain knowledge. It is based on following a certain steps and meeting certain characteristics, minimizing the subjectivity of the researcher by reinforcing the universal validity of the knowledge acquired.

The origin in this method is always a question. Question the scientific method itself through your own questions. Create one or more for each step and characteristic.

Steps and characteristics of the scientific method:	Questions you ask questioning the validity of the step or characteristic:
Observation of the real world and asking questions on a phenomenon.	
Research on what has already been written about that phenomenon and that question.	
Elaborate a hypothesis to answer it.	
Test the hypothesis with experiments.	
Analyze results and draw a conclusion.	
If the experimentation validates the hypothesis, develop conclusive answers.	
It must be possible for others to dispute your answers.	
Your experiments must be repeatable by anyone who reproduces them under the same conditions.	
If the experimentation does not validate the hypothesis, return to the step of elaborating a new hypothesis.	

HELP	The objective of this activity is to ask questions (the best possible ones) that question in depth the validity of the steps and characteristics of the scientific method. Even if you already know it and assume its virtues, questioning it is always an intellectual challenge.
	The same steps are not taken in all sciences. For example, experimentation and reproducibility may be impossible in some, and therefore the hypotheses are verified by means of facts and contrasted data. In any case, it should always be possible to question the validity of the conclusions obtained based on other experiments, facts, or contrasted data. Adapting the steps and characteristics of the scientific method to different sciences does not prevent the validity of the procedures and characteristics to acquire knowledge, which we call scientific knowledge.
	In order to validate the quality of your own questions, look for answers to them on the Internet.

FINAL REMARKS

Questioning the scientific method is in itself a scientific procedure, it allows either reinforcing or invalidating the conclusions obtained, and either of those things help us acquire scientific knowledge.

Neither science nor our personal knowledge can prosper without us asking questions to ourselves or without improving the questions we ask ourselves and others. Inquiring and asking are the first steps to knowing. If it is not possible to ask questions, there is no field of investigation. Questioning is part of a living mind. Questions are capable of transforming us, because some can lead us to others and improve our ability to analyze and therefore our ability to acquire knowledge.

Science is the path we share to improving our knowledge.

PILL 2 – QUESTIONING TO ANALYZE

The relationships between science, society, and the environment can sometimes be controversial, with scientific interests seeming to collide with social ones. Is this really that way?

In the following article, you can have a first reference on a real controversy between science and economic and social development. After reading it, try to clarify -by formulating appropriate questions- its various positions and implications.

<https://www.lavanguardia.com/ciencia/20200218/473647608101/satelites-orbita-elon-musk-starlink-spacex.html>

Draft at least ten questions related to the previous article that help analyze the information about the issue and its implications.

	QUESTIONS:
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

HELP	In this question-asking exercise, try to draft the best possible questions to help analyze the issues raised in the article. To analyze a complex issue, it is convenient to divide it into simpler parts. Identifying the components of a complex question is the first step to understanding it.
	<p>In order to correctly aim questions on any issue, try to focus on:</p> <ul style="list-style-type: none"> ▪ Purpose. ▪ Points of view. ▪ Data and facts. ▪ Assumptions. ▪ Implications or consequences. ▪ Judgments issued. ▪ Concepts and theories used. ▪ The main issue.

To analyze an issue in depth, and define points of view and implications, it is often necessary to expand our information. In the controversy over the satellites of the *Starlink* project it is good to know more about its main promoter:

<https://www.climatica.lamarea.com/elon-musk-un-heroe-fallido/>

<https://www.dinero.com/internacional/articulo/elon-musk-comenta-que-dara-un-golpe-de-estado-tras-polemica-por-litio-de-bolivia/293694>

There are two extremes to run from when asking our questions on complex issues: dogmatic absolutism (reducing everything to matters of fact) and subjective relativism (believing that all answers depend on personal opinions).

FINAL REMARKS

Asking questions is a basic tool to help us understand and know. The complexity of an issue is comprehensible if we acquire the ability to ask questions that help us to see its different components. When asking questions, it is essential to:

- Formulate them as clearly and precisely as possible.
- Identify the significant concepts within the question itself.
- Analyze problematic concepts.
- Consider diverse points of view and their contexts.
- Think of examples for each concept, such as similar and contrary cases, related cases, or border cases.
- Point out the consequences that each position can have.
- Develop possible “answers” to the question, with special attention to what makes the issue complex.

Lastly, keep in mind that there are better or worse answers to complex conceptual questions, but surely, in the current state of the issue, there is no single “correct” or definitive answer.

PILL 3 – QUESTIONING EXPERIENCES, INFORMATION, AND DATA

In this activity, we ask ourselves how we would question the experience, information, and data that some people handle. The following article deals with the survey of the Spanish Foundation for Science and Technology (FECYT) on Social Perception of Science and Technology in Spain in 2018. One of the issues covered is the belief of a part of the population in the effectiveness of homeopathic treatments. After reading it, ask yourself what questions you could ask these persons to make them understand their mistake.

<https://www.xataka.com/medicina-y-salud/cada-vez-espanoles-creen-valor-ciencia-solo-6-4-ve-riesgos-vacunas-20-sigue-confiando-homeopatia>

Draft at least six questions that you would ask people who advocate homeopathy or acupuncture to try to make them see that these practices have no scientific bases, nor can replace scientific medical practices.

	QUESTIONS:
1.	
2.	
3.	
4.	
5.	
6.	

HELP	Our beliefs are based on our experience, information, knowledge, perceptions, data, etc. In order to question a belief, we need to question the data, information, and experience we have about it.
	We pose empirical questions to know how things work. There are two types of empirical questions, those solved and those not yet solved; an example of an empirical question with an answer is: is there a scientific basis to support homeopathic therapies or acupuncture? Answer: no, there is not; there are no scientific studies that support them, and they are not considered effective therapies by medical science. An example of an empirical question without answer is: will science validate therapies that are today considered false or useless?
	<p>In any case, answers always depend on facts and how we can know them. In order to ask the proper questions, ask yourself if the answers support a personal assessment (if they are about personal preferences) or if their answer depends on verified facts. For example:</p> <ul style="list-style-type: none"> ▪ (Subjective question): "Why do you take homeopathic substances?" (Subjective answer): "Because I think they are effective." <p>In essence, this expresses a not verified opinion.</p> <ul style="list-style-type: none"> ▪ (Objective question): "Do you know any study that demonstrates the scientific validity of homeopathy?" (there is only one truthful answer, since there are no such studies) "No."

FINAL REMARKS

Sometimes we base our beliefs on unreliable information or without real supporting facts. Many persons who trust homeopathy do so because someone told them that it was effective, considering experience as an important fact. They forget that the placebo effect can in many cases provide real relief from a disease due to an ineffective substance. The experimentation stage of any drug must pass numerous filters developed with scientific methodology in order to demonstrate its effectiveness and possible unwanted effects. There are also facts that can lead to confusion in our perception, such as that homeopathic substances are sold in pharmacies, and it should not be so, because they are neither medicines nor do they help our health or well-being.

On many occasions, unfounded beliefs may not at first have negative consequences in our lives or those of others. Taking a homeopathic substance, a placebo, may or may not produce an improvement in our health, but substituting a science-based medical treatment for an unscientific alternative therapy will invariably lead to catastrophic results.

Asking ourselves about the facts that support our beliefs and knowledge will help us increase their quality and depth.

PILL 4 – QUESTIONING QUESTIONS: IDENTIFY PREVIOUS QUESTIONS

When faced with a complex issue, a useful tool to guide our thinking can be to identify previous or underlying questions. Before the question “what is history?”, elaborate a series of preliminary questions.

	QUESTIONS PREVIOUS TO THE QUESTION “WHAT IS HISTORY?”
1.	
2.	
3.	
4.	
5.	
6.	

T I P	Tackle the activity first by trying to formulate questions that should be answered prior to the main question. Think about what history is based on, the persons that write it, its sources, what it studies, what it covers, what it excludes, etc.
	While drafting each question, keep your focus on the main question.
	Keep in mind that history tries to be based on facts; it describes processes, is written by historians with personal points of view... We know the events of the past through historical sources (texts, archaeological remains, works of art, etc.); it studies social processes, and not every past fact can be known, as many leave no trace.

FINAL REMARKS

One way of dealing with a complex question is to try to see what previous questions we can ask whose answers would help us to delimit it. Complex questions can often be solved by simpler ones. Faced with the question “what is culture?”, it would be possible to formulate previous questions such as “what elements comprise a culture?”, “is a culture born spontaneously or can it also be built?”, “are cultures separate elements?”, “what factors make a person belong to one culture or another?”, “can a person belong to several cultures?”, “are there superior cultures?”, “what means of expression can a culture adopt?”, “are graffiti a cultural expression?”...

To build a list of previous or underlying questions, we have to start from the main one, and then go on formulating those that we would like to see answered before having to answer the first one. This is an exercise of asking whoever

asks us, to try to discover purposes, points of view, assumptions that can be made, data and facts related to the main question, and the implications and consequences that arise from the answer.

If you draft these preliminary questions well, you will see that it provides many elements to narrow down the answer to the complex question posed initially.

PILL 5 – INTERDISCIPLINARY QUESTIONS

When faced with a complex issue, a useful way to tackle it is by asking ourselves previous questions: “can this issue impact different disciplines or fields of thought?” in other words, “does the issue have economic, sociological, mathematical, geographical, religious, historical, or psychological implications...?”

Take the example of the fight against drugs. If the main question is “What can be done to fight drug addiction?”, think about questions that you can ask from different disciplines and fields of knowledge:

Economy	
Politics	
Society	
Education	
Psychology	
History	
Religion	
Culture	

HELP	Think about the implications of the main question in each of the fields indicated. Regarding economy, draft a question taking into account the volume of money and resources that drugs move, both in their consumption and in their persecution. Do the same for the other fields or disciplines.
	Always keep in mind the main issue when asking your questions.
	Remember that you always have the Internet at your disposal to help you find information or clarify your doubts.

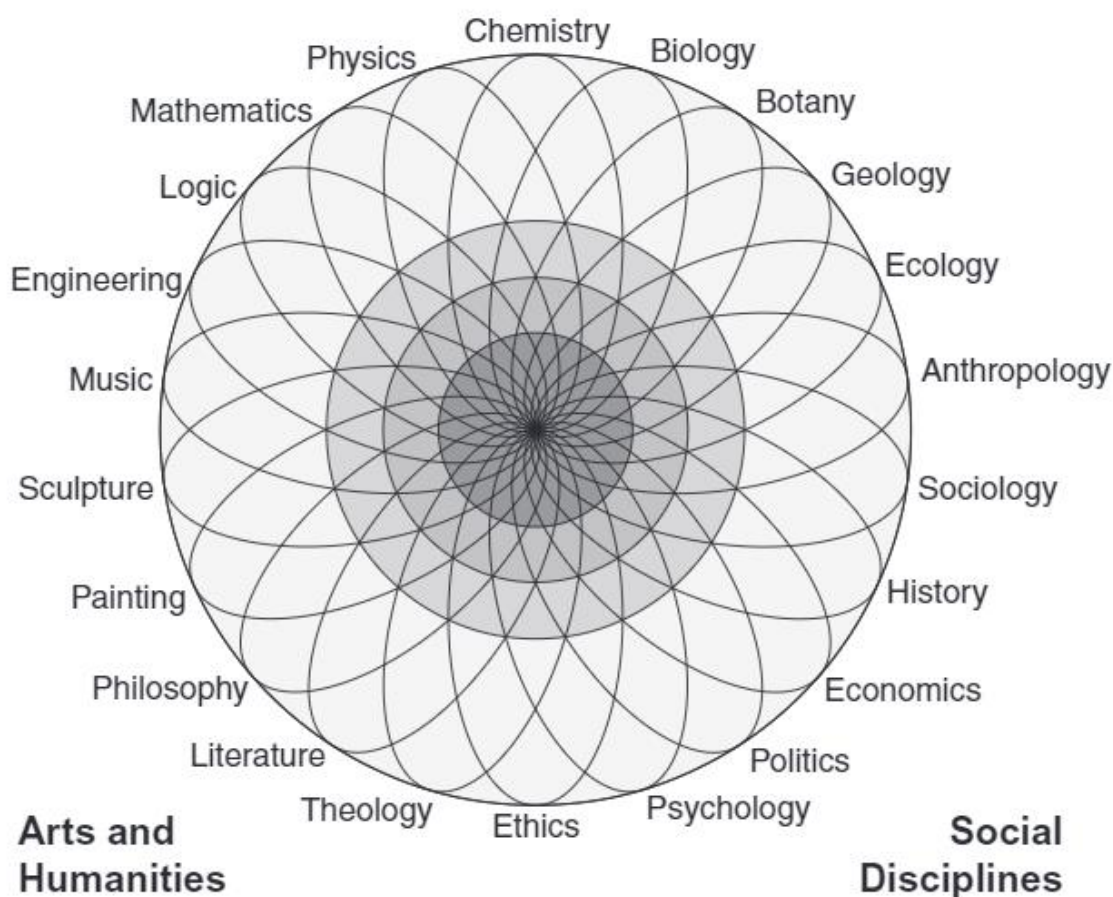
FINAL REMARKS

Another tool to face complex issues is to ask questions from the various disciplines and fields of knowledge, to determine complexities that you might not see otherwise. In order to know which fields and disciplines are impacted by the main question, ask yourself: “am I including all the fields and disciplines that deal with significant aspects of the main question? did I forget any?”.

To guide us on the disciplines and fields to consider, Dr. Linda Elder and Dr. Richard Paul provide this diagram adapted from one created by John Trapasso in their book “The Art of Asking Essential Questions”:

**Mathematics and
Quantative Disciplines**

**Physical and Life
Sciences**



**Domains of Questions
(by discipline)**

This diagram was adapted from a diagram created by John Trapasso.

PILL 1 – EVALUATING TO ANSWER OR EVALUATING TO JUDGE

When asked to objectively evaluate something, there are two possibilities, either the question is simple (answering by looking for the correct answer) or it is complex (requiring value judgments between two or more conflicting points of view). Prior to this, it is necessary to know if the question requires an objective evaluation or if it is a subjective question, relative to opinions or personal taste.

Some questions are raised in a business meeting; identify each one as:

	SIMPLE EVALUATIVE QUESTION	REQUIRES JUDGEMENT	SUBJECTIVE QUESTION
How are the working conditions in our workplace?			
What is the best program used for word processing?			
What program do you prefer to use to manage your e-mail?			
Should we ask for changes in our working conditions?			
Is Microsoft Access enough to manage our databases?			
What database program do you like best to work with; Oracle or Access?			
Which program is best suited to the needs of the company; Oracle or Access?			
How are we managing the suggestions mailbox?			
Do our salaries match what the collective agreement states?			
Do we have good salaries?			
Are our salaries comparable to those of other companies in our sector?			
Should we ask for a salary raise?			
Given the bad situation of the company, is it appropriate to ask for a salary raise now?			
Do we find ok to put a coffee machine in the office?			

Has having a coffee machine in the office improved productivity?			
HELP	Identifying questions that involve subjective assessments is fairly straightforward; assess whether what is asked is a personal perception or an opinion on tastes that will subjectively change from one person to another.		
	In order to determine the type of evaluative question, carefully reason whether -based on what is posed- a definitive answer can be given or not.		
	Evaluative questions that require a reasoned judgment between various options or points of view are answered through the analysis of various variables.		

FINAL REMARKS

Evaluative questions ask us to determine the value, validity, or quality of something. Evaluating is something natural that we do everyday in our experience, and it can be done better or worse; this ability also depends on our ability to question our own assessment process.

Some essential questions to ask when evaluating are:

1. What am I evaluating and why?
2. Which precise questions am I going to try to answer?
3. What information will I need to complete this evaluation properly?
4. What criteria or standards will I use in the evaluation process?
5. Are there potentially negative implications of my way of evaluating?
6. Is my evaluation plan logical, realistic, and practical?

There are two types of evaluative questions: “one-system” or “conflicting systems”, the first can be answered definitively, and the latter require a reasoned judgment between two or more conflicting points of view. Do not confuse objective evaluations with subjective or preference questions; in these, the subjectivity of the person or group determines the answer.

The questions raised at the beginning are of three types:

SUBJECTIVE:

- Which programs each one prefers to manage their e-mail or databases is a matter of opinion or personal assessment, subjective in any case.
- Assessing if a salary is good or not is also subjective, as well as the opinion on whether they want a coffee machine in the office or not.

SIMPLE EVALUATIVE:

- Some working conditions objectively analyzed can be good, bad, or improvable, but they are a certain way.

- A program to manage databases -like Access- either meets the characteristics we need or it doesn't.
- Our salaries are either adjusted to the collective agreement or not; just as they match those in other companies in the same sector or not.
- When asked a question regarding the salary increase, but with the parameter to consider being the company's situation, and this is not good, the answer is only that it is not appropriate to ask for it right now.
- Having a coffee maker in the office either will or will not increase productivity.

In all these cases, the evaluation that is presented to us can be solved with a single objective answer.

REQUIRING A VALUE JUDGMENT:

- Identifying the best word processing program requires evaluating the various existing programs; the same as deciding whether Oracle or Access is the best database management program for our company.
- Assessing if we should ask for changes in the working conditions requires an objective judgment of the multiple options of changes we might ask for.
- The decision on how to manage the suggestion mailbox requires evaluating the different options on how to do it, and which one ensures that it is checked regularly and that answers are given to the proposals posted in it.
- Asking for a salary increase also requires assessing various possibilities and situations, and therefore also requires a value judgment.

PILL 2 – EVALUATING INFORMATION ON EXTERNAL CRITERIA

You have started working in the support group for a research team on tropical diseases. They provide you with a list of information reviews and ask you to value and order them based on their possible reliability and relevance.

AUTHOR	NEW ORDER
1. General journalist.	
2. University professor on tropical diseases.	
3. Unknown / anonymous.	
4. Traveler specialized in tropical countries.	
5. Journalist specialized in medical information.	
6. Medical student.	
7. Homeopath.	
8. Botany student.	
9. University professor of medicine with no other known publications.	
10. Professor in philosophy.	

PUBLICATION / TYPE OF DOCUMENT / TARGET AUDIENCE	NEW ORDER
1. Article in a blog.	
2. Book published by a pharmaceutical company.	
3. Paper published in a prestigious medical journal.	
4. Book published by a university.	
5. Book edited by a company that exploits natural resources in tropical countries.	
6. Article published in a national newspaper.	
7. Article published in the website of an infectious disease laboratory.	
8. Book published by the national organization of Reiki therapists.	
9. Article published on the website of a medical foundation of which there is no information online.	

DATE	NEW ORDER
1. Book "Tropical diseases and their treatments" 1995 edition.	
2. Article published last month.	
3. Book "Tropical diseases and their treatments" 2010 edition.	
4. Article with no known publication date.	
5. Article on statistics of tropical diseases published in 2014.	
6. Book on the historical evolution of medical treatments published in 2017.	
7. Article on statistics of tropical diseases published in 2005.	

HELP	To assess authorship, one must ask if the person is an expert in their field. Consider that one can have a lot of training in other fields, but not in the one at hand, or have a recognized career path or not. Also, is anonymous information reliable?
	When evaluating the place of publication, the type of document, and its target audience, we have to ask ourselves about the prestige and type of entity that edits or publishes it. A publication can have commercial intentions other than purely academic ones; a university website is not the same as a commercial company one. Sometimes you can find information edited by an apparently trusted entity, but when trying to find out more on it, we realize that it is an empty shell.
	It seems easy to assess the timeliness of information, obviously, if it has a publication date. The latest edition of a book is always better, because it will surely have updated data. However, you must also assess whether the information has a relevant historical nature for us.

FINAL REMARKS

It is becoming easier to access a large amount of information, so it is essential to use criteria to assess its quality, reliability, or usefulness. To do this, we must ask ourselves about certain external criteria that will help us discard and refine our sources of information.

• Who?

Knowing the authorship of information is a very important criterion to evaluate its reliability. Regardless of whether the author is an individual or a group, authority or experience in the field, recognized prestige, having made various publications on the subject, being frequently cited by other authors, belonging to a prestigious institution or entity... these are characteristics that primarily inform us about the quality of the information we can find. On the contrary, the anonymity of the information should prompt us to question its content.

• Where?

Printed sources (books, magazines, newspapers) usually go through a process of review by responsible editors, which is in theory a guarantee of their content. On the net we can find a lot of information that does not pass the filter of a publisher, which makes us analyze its reliability more rigorously. You should look where the information is hosted, the website and its characteristics, even the information from third parties about that location can give us clues about the quality of the information it contains.

The prestige of the publishing medium is a clear indicator of the quality of the information, but you must pay attention to its nature, since it may host particular commercial interests. The media also have their own editorial lines that can condition the bias of the information.

Directly related to the location and information is the target audience to which it is addressed; information aimed at the general public is not as relevant as one aimed at a group of specialists in the field.

• When?

Knowing the date of publishing is relevant to gauge the timeliness of the information; an absence of a publication date should make us doubt it. It is always best to have the last published version of information, although we cannot disdain old publications for the mere fact of being old. For example, if we are interested in a historical perspective of a topic, it will be more convenient to adapt this chronological criterion of publication.

PILL 3 – EVALUATING INFORMATION ON INTERNAL CRITERIA

In your job in the support group for a research team on tropical diseases, they want to build a database to value all kinds of information on the subject. To develop the database, the computer scientists ask you to tell them which fields to include. On the one hand, it is clear that the external references of the information will be included:

1. AUTHOR.
2. TITLE.
3. EDITION / PUBLICATION.
4. PLACE OF EDITION.
5. PUBLICATION DATE.

But since you also want to evaluate its content, the computer scientists also ask you what evaluation criteria to use for this. Propose at least five of them:

	INFORMATION EVALUATION CRITERIA:
1.	
2.	
3.	
4.	
5.	

HELP	Criteria are abstract concepts that allow us to evaluate the quality of the information. They refer to its content, structure, and form of the information.
	Search the internet for information on information evaluating criteria.

FINAL REMARKS

There are a series of criteria that must be used to internally evaluate information; abstract concepts with which to assess the contents and internal structure of the information:

- Purpose: every author has one or more purposes when showing information; the media that disseminates or publishes the information also can.
- Perspective: the point of view from which the information is presented, which is directly related to the author's purpose, is as important as to consider if alternative or even contrary points of view are being ignored.
- Impartiality: this characteristic must be in direct relationship with the author's purpose and the points of view that are covered in the information. It requires the absence of hidden purposes and handling multiple points of view; hidden interests tend to misrepresent information.

- **Clarity:** information can be presented in a more or less clear and structured way; it can be divided into chapters or sections to facilitate understanding. The writing itself may have a varying degree of clarity, facilitating reading and understanding, or making it difficult. Also assess whether the concepts used are clear.
- **Quality:** the quality and correctness of expressions and careful spelling tells us a lot about information.
- **Accuracy:** information may present a greater or lesser degree of precision or ambiguity, both when developing concepts and when justifying conclusions.
- **Accuracy:** the data that a piece of information includes may or may not match empirical data or to those provided by other sources, so accuracy also depends on the possibility of contrasting data. The concepts used can be more or less adjusted to those generally accepted. Citing the sources from which data and concepts are obtained, and allowing them to be compared shows greater accuracy.
- **Relevance:** information can have a varying degree of relevance to the topic in question, and can be treated tangentially or even deviate deliberately.
- **Depth:** information can be deep or shallow, depending on how much it analyzes the various issues that are part of the general topic and develops its complexity or, on the contrary, raises unfounded assumptions.
- **Logic:** information may have a clear internal logic or, on the contrary, the relationship between parts of its content may be confusing. Conclusions can be drawn reasonably from data and previous arguments or, on the contrary, the links between them may be missing. Quality information will consider other implications besides the ideas or conclusions it handles, and the reasoning used in information can be flawed or correct.
- **Originality:** information may be original in nature or, on the contrary, it may be a better or worse, and more or less useful rework of previously published information.

PILL 4 – QUESTIONING EGOCENTRISM AND SOCIOCENTRISM

At a dinner with your office's coworkers, a series of statements are made:

1. "I don't care about what the rest of my colleagues think; I think we should reorganize the distribution of spaces in the office."
2. "The accountings are wrong, the accounting software they use in the competition is better."
3. "The first thing to solve in the office is that I need a new table."
4. "If I am promoted, I will only help those who supported me."
5. "If I tell the boss that, she won't give me the promotion I expect."
6. "I'm not wrong, you are wrong."
7. "I don't care about what you are telling me, I know I'm right."
8. "I know more than the rest on this subject."
9. "Well, there can still be more articles on that issue, but I've already read a lot on it and I know exactly what I'm saying."
10. "The people in our office are the best in the entire company, the others don't know anything."
11. "We know perfectly well what we do in this office, we do not need anyone to come from outside and tell us how to do our jobs."
12. "We have assembled a group from the office to play soccer, but don't want to include anyone else."
13. "We don't allow informal dressing in our office; men have to wear a suit and tie, and women a skirt."
14. "We all think the same here, we don't like people who come to question our way of seeing things."
15. "We are very competitive with other departments, we help each other, but if we can make a fool of those in the headquarters, we do."

These statements carry a significant load of egocentric and sociocentric thinking. Reason and elaborate a question for each sentence that you would ask the speaker, to introduce another point of view or with other alternatives.

	QUESTIONS THAT QUESTION EGOCENTRIC OR SOCIOCENTRIC THOUGHTS
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	

HELP	This exercise does not intend to look at these issues from an ethical or moral point of view, and your questions should not be based on whether a behavior is right or wrong. It just tries to question a thought that ignores other points of view, reasons, implications, and consequences, and precisely because of this, tends to be incomplete, unjustified, and wrong.
	Keep in mind the implications that some of the statements may have for you when drafting the questions. Reflect if they collide with your rights or needs, try to manipulate you, can use your question to distort what you want to defend, etc. Thinking in an egocentric or sociocentric way and therefore not rationally can close the mind, they will not admit their mistakes, and/ or state things that are not true.

FINAL REMARKS

A primary obstacle in developing our rational thinking and evaluating information is the natural tendency in humans to have egocentric thinking. Not considering other points of view or the limitations of ours deteriorates the quality of our thinking and our evaluation of information.

Humans tend to not recognize our egocentric assumptions by nature, our egocentric use of information or the interpretation of data, the origin of our egocentric concepts and ideas, and the implications of all this. The human mind tends to deceive itself to trust and seek a space of comfort in which we seem to know perfectly how things are, what reality is like, and that we have also been

objective in doing so. Although human thought is often imperfect, we tend to think that we are in possession of the absolute truth. To counteract this natural tendency, it is essential to routinely question our motivations and those of others, as well as the narrowness of our views.

Egocentric thinking tends to self-justify and validate its position, sometimes distorting reality or data. Rational thinking considers other points of view and strives to understand reality, data, and their implications.

Sociocentric thinking shares the characteristics of egocentric thinking, but takes as a base the social group to which one belongs: national, cultural, religious, professional, family, etc. We are social beings and part of various social groups; these define themselves, establish their rules of behavior, beliefs, taboos... We tend to accept in a thoughtless and irrational way any rules that make us part of the group. Most people internalize these rules, assuming the identity of the group, without reflecting or rationally questioning them, presuming that its belief system, attitudes, and behaviors are correct. This conformity of thought is transversal to all social classes, regardless of their training or prestige. Sociocentric thinking is as destructive as egocentric thinking, because serving selfish group interests above all else nullifies our ability to reason correctly.

AREA 2: DEVELOPMENT OF CRITICAL THINKING AND ANALYSIS

D.U.3 – CONCLUSIONS: reaching conclusions and solutions, testing them with relevant criteria and standards.

PILL 1 – UNIVERSAL INTELLECTUAL STANDARDS

In your job in an animal company, your boss sends you a couple of articles that he has just seen on the internet and asks your opinion on them. Analyze the information they contain and draw some conclusions using the so-called “universal intellectual standards”.

https://www.elespanol.com/ciencia/salud/20200406/coronavirus-mascotas-animales-domesticos-pueden-infectarse/480452321_0.html

<https://www.20minutos.es/noticia/4342304/0/asi-entrenamiento-perros-detectan-coronavirus/?autoref=true>

STANDARD	ARTICLE 1	ARTICLE 2

HELP	Search the internet first for information on “universal intellectual standards” to learn about these concepts.
	It will help you better focus your conclusions on each standard by asking yourself questions on how each article complies with them.
	Although you cannot assess all the standards, the important thing is that you ask yourself questions on the clarity, accuracy, precision, relevance, depth, breadth, and logic of each article to reach conclusions that assess the quality of the information.

FINAL REMARKS

“Universal intellectual standards” are concepts that we can use to evaluate the quality of reasoning or information on any subject. Thinking critically involves knowing and using them, and helps us take responsibility for our own thinking. These are questions that, when asked regularly, end up forming part of our way of thinking and help us to improve our reasoning processes. These standards are applied by asking questions about each concept.

- **Clarity:** Is the information clear? Is the reasoning clear? This is an essential standard, if a thought or information is confusing, it is difficult to know if it is accurate or important.
- **Accuracy:** Is it true? Can it be verified? A statement can be clear but inaccurate.
- **Precision:** Does it provide details? Information can be clear and exact but also imprecise.
- **Relevance:** How does what it tells us impact the underlying issue at hand? A statement can be clear, exact, precise, but irrelevant to the main question.
- **Depth:** Is the complexity of the matter considered? A statement can be clear, exact, precise, and relevant, but superficial, meaning that it is shallow.
- **Amplitude:** Are other ways of approaching the question or other perspectives addressed? A line of reasoning can be clear, exact, precise, relevant, and profound, but lacking in scope.
- **Logic:** Why? Are the reasoning and conclusions supported by a logical chain? When ideas combine and support each other making sense, the thought is logical.

PILL 2 – PRESENTATION OF INFORMATION

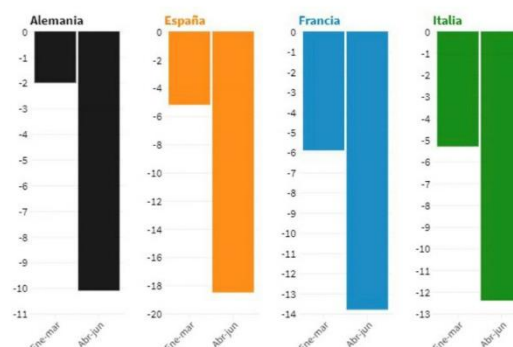
In July 2020, RTVE (the Spanish public radio television) issued a news item on the drop in Spain's GDP and other European countries during the first months of the year due to COVID-19. The news generated an important controversy on social networks, even being classified as manipulation, which caused RTVE to rectify and apologize later. These are two of the images of the controversy:



En rtve.es comparamos las caídas históricas del PIB por el coronavirus en Francia, España, Alemania e Italia

rtve.es/n/2033400

Las grandes economías de la UE
Caída trimestral en 2020



Make your own conclusions about this controversy.

HELP	Remember the “universal intellectual standards” to state your conclusions.
	Pay attention to the curve of the graph behind the news host. Look closely at the magnitudes and the numbers in the graphs.
	Evaluating the intentionality is sometimes complicated but try to do it taking into account that later the media rectified the information: https://www.20minutos.es/noticia/4342460/0/tve-disculpas-corrige-grafico-caida-historica-pib/?autoref=true

FINAL REMARKS

Is it possible that we are faced with accurate and precise but unclear information?

Graphs are a visual way of presenting information in a way that allows for quick and easy understanding of the data. When comparing graphs, it is essential that the parameters are the same, because otherwise they become confusing. Sometimes this is complicated because the available space makes it difficult to work on the same axis of coordinates, but using different or cutting axes, as in this case, makes the effect sought (showing compared data in a visual and easily understandable way) is confusing and unclear.

By asking ourselves about the “universal intellectual standards” we can reach valid and reasonable conclusions about information, by evaluating its clarity, accuracy, precision, relevance, depth, breadth, and logic.

In this information from RTVE, the graphs reflect exact information (the data it uses can be verified) which is also precise (the axes and values are specific) but it still fails in the first of the analysis standards: clarity. The comparison is not clear at first glance because one of the graphs is cut off, and in the other one, the variables are not visually aligned at an equivalent level.

Could there be a manipulative intention behind the information? This intention would be clear if the specific data (which provide accuracy and precision to the information) had been completely eliminated or if it had not been subsequently rectified to clarify it. Assessing this implies our capability for reasoned judgment to reach valid conclusions.

PILL 3 – IDENTIFYING FALACIES

In a work meeting, people talk about various topics and make some statements. Luis, a colleague from another department says “I think you should reorganize the distribution of functions in your department”. The responses of your colleagues are not long in coming. Try to create a response to each statement, to refute what they say.

1. *Luis is not from our department! He doesn't know how we work. What he says about how we organize our work is not valid.*

ANSWER COMMENT:

2. *The truth is that Luis does not value our work, what he really meant is that we do not work hard enough in our department.*

ANSWER COMMENT:

3. *The head of human resources has not said anything about it, so Luis is wrong.*

ANSWER COMMENT:

4. *There is no need of re-organizing our department, because we all know that we function very well as we are.*

ANSWER COMMENT:

5. *We do not know where reorganizing our department will lead us to, so we better not do it.*

ANSWER COMMENT:

6. *If we do to what Luis is saying, they will end up firing someone from our department.*

ANSWER COMMENT:

HELP	All persons who have made the previous affirmations are opposed to Luis's proposal, and therefore to analyze the reorganization of functions of their department. Also, all arguments they use are fallacious, meaning that they include reasoning mistakes, which invalidate the rationality of what they are saying.
	By thinking logically you will be able to detect mistakes in the conclusions or premises being raised.
	Look up information on logical fallacies online, you can more easily see what type of fallacy they are falling into.

FINAL REMARKS

In any discussion we include premises and arguments and we take logical steps towards the conclusions we want to defend, but logical fallacies are sometimes introduced, invalidating the argument.

Fallacies are reasoning mistakes, statements that seem true but aren't; unsubstantiated claims that are stated as if they imply a logical consequence, when in fact they do not. They are usually stated deliberately to manipulate people, although sometimes they come from simple ignorance; they can sometimes be very subtle and difficult to detect.

False reasoning is a weapon used since ancient times to convince and manipulate. In ancient Greece, fallacies were already studied and used. There are hundreds of types of fallacies and there is no single classification, but it is important to know their existence and to know which the main or most commonly used types are.

When you encounter a fallacy, you will see that they are still used too much, both in our daily lives and in the media, frequently in public life, and almost always in politics; it is very important to detect and fight them. In the statements of this activity you can see examples of some of the most used fallacies, but you can find examples and explanations of many others online. Knowing them will help you have better logical weapons to defend yourself.

PILL 4 – CONDITIONING DECISIONS: BIASES

You have started working in a marketing and advertising company. Although you have been hired to help with basic tasks, you have heard several times from technicians and creative staff about the biases they want to use in the advertising campaigns they develop. You are curious and want to find out on your own what they are talking about, and why it seems that these biases are so important in advertising campaigns. Look up information about them and their relationship with marketing online. Note at least five of the most used biases in this field:

	BIASES
1.	
2.	
3.	
4.	
5.	

HELP	You will easily find several pages that talk about how cognitive biases are used in marketing and advertising.
	There are many biases used by technicians in these matters, because they decisively impact on our decisions as consumers.
	You can expand your information on biases by researching how many there are, and how they can influence our decision-making and our conclusions.

FINAL REMARKS

The definition of bias has to do with something that is skewed. Biases are innate characteristics of our thinking that tend to produce certain deviations from optimal reasoning. It is very important to know their existence and effects, because we are faced daily with facts that are presented to us to make use of our thinking biases to help us reach a specific (planned) conclusion.

Haven't you noticed that the prices of things tend to be funny? For example, instead of a price being "4€", it is written as "3,99€". The difference between the two quantities is irrelevant, but our brain tends to see it as different quantities.

All biases have in common that they are innate characteristics that our thinking uses to facilitate decision-making and reach conclusions more quickly. They are not only used in marketing and sales, although they are extremely important in that field. They also impact other fields of knowledge, some can even impact scientific development, because they can condition the search for certain results or conclusions. There are many biases and there is no single classification of

them, the good news is that there is a lot of information about biases online. You will surely find it curious and interesting to read this article:

https://verne.elpais.com/verne/2014/09/29/articulo/1411970154_000194.html

PILL 5 – CONDITIONING DECISIONS: STEREOTYPES AND PREJUDICES

As almost every day, you have to stay for lunch at work, sharing that moment with your colleagues. At lunchtime they talk about many things, and among them you have heard certain statements that some have agreed to:

1. Black persons are better than white persons in some sports.
2. Women are worse drivers than men.
3. Gay persons are more promiscuous than heterosexuals.
4. Dog owners are often more authoritarian than cat owners.
5. All Arabs are Muslims.
6. Immigrants take national jobs from national persons and monopolize social aid.

However, no one is able to provide any information on these topics; they have simply heard them and firmly believe that they are true. If you think any of them is true, look up data or studies that corroborate them online. If, on the other hand, you think that they are all false, look for information that allows you to dismantle them before colleagues who do believe them true.

HELP	Look up information online. Apply the criteria you already know to assess what you find and come to your own conclusions.
	It will also help you to find information on prejudices and stereotypes and their various forms.
	Reflect on how our prejudices and stereotypes can condition our way of acquiring knowledge and prevent us from reaching reasonable and logical conclusions.

FINAL REMARKS

A prejudice is a simplified, usually negative concept that is formed without objective reasons or true knowledge. They are usually focused on human groups to which a negative value judgment is applied as a whole, due to their beliefs, nationality, physical appearance, culture, social class, sexual orientation, job, etc. One can also raise prejudices regarding animals, objects, or processes.

A stereotype is also a very simplified concept that can have both a positive and negative character, and offers an extremely simple image about certain human groups. Due to this ambivalent nature, they are often socially widespread. Stereotypes are similar to prejudices, and in both cases they lack empirical foundations, although sometimes we can trace their origins throughout history.

Stereotyping usually implies simplifying to an absurd standard (Catalans are tight-fisted; French are romantic).

Having prejudices or stereotypes implies getting carried away by simple and false ideas that cloud our ability to think rationally and critically. These simplified ideas should not be considered true, and when in doubt it is always better to try to contrast them by looking for information and data in this field. Prejudices and stereotypes influence the way we perceive reality, learn, and how we retain information, limiting our social relationships and influences our ability to think critically and rationally. They can even create an irrational rejection of certain people, which can lead to violence.

Persons who drive away prejudices and stereotypes tend to have more and healthier social relationships, favoring greater enjoyment of the inherent differences among the enormous variety of persons with whom we share this world. Prejudices and stereotypes impoverish our thinking, its quality, and also the quality of our social relationships.

AREA 2: DEVELOPMENT OF CRITICAL THINKING AND ANALYSIS

D.U.4 – AN OPEN MIND: evaluate the various points of view, don't limit yourself to the prevailing view, and know alternative systems of thought. Question the validity of arguments, rejecting conclusions not based on evidence; detect argumentative fallacies; evaluate the credibility of sources taking into account underlying interests.

PILL 1 – IDENTIFYING HOAXES

Imagine that you receive the following information about COVID-19 through your social networks:

1. Adding hot pepper or garlic to your meals helps protect you from COVID-19.
2. Hot air dryers remove COVID-19 from our hands.
3. Taking plenty of sun baths helps protect you from COVID-19.
4. Mosquitoes transmit COVID-19.
5. Chloroquine is an effective medicine to prevent the spread of COVID-19.

Find out if this news is true or not.

HELP	Before accepting or rejecting a fact directly, always carry out a search for information that confirms or denies it.
	Keep in mind that although public and authority figures defend some facts, they may not be experts on the subject. The president of a country or a well-known blogger spreading information does not mean that what they say is true; information must always be verified.
	To contrast information, it is best to go to prestigious media that carry out their own research and check the reliability of the sources and the information itself; or to prestigious and knowledgeable institutions on the subject. In the case of COVID-19, you can visit the website of the World Health Organization (WHO) which, concerned about the issue, has launched a space to deny hoaxes about the disease: https://www.who.int/es/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters

FINAL REMARKS

We receive a lot of information through various means on a daily basis. Living in a hyper-connected society has many advantages, but also disadvantages like fake news, hoaxes, or even scams. In some cases, this news can even have dangers for our health; what can we do before these threats? The key is to stay informed and question all information critically.

First, identify the source of the information. Fake news either doesn't have a known source or comes from shady sites. Take a look to check if widespread media (newspapers, radio, TV) has reported on it. A very striking information not being reported by the main media is usually synonymous of falsehood; fake news does not usually cite known sources, but rather diffuse ones.

Be suspicious of conspiracy theories: great secrets exist, but there is also a legion of journalists and media of all kinds willing to reveal them. Faced with news of a great deception, it is very difficult for the media not to echo.

In these cases the information must be contrasted. Take a look at the facts and data that support them and their reliability, even videos or photos can be manipulated. Internet search engines can help us find out where an information or image comes from. Public and academic institutions are the best source to contrast.

Sometimes fake news hide behind eye-catching headlines and spread thanks to the fact that we don't really stop to read the contents before re-spreading them. Do not get caught up in the sensationalism of a headline, and contrast information before continuing to spread a falsehood. Fake are usually intended for fast dissemination and tend to ask us to share it with our friends. Be suspicious when asked to proselytizing action linked to alarming news. Remember, first read, then contrast, and if it is fake, tell it to whoever sent it to you. Perhaps that person did it from good will, and with the same good will, we must warn them of the mistake.

PILL 2 – EVALUATING THE CREDIBILITY OF A SOURCE

In your workplace, a colleague tells you a surprising fact affecting other colleagues, and that can have a significant impact on the company as a whole. How would you evaluate the credibility of said information? Create several questions to ponder and decide if the information is credible or not.

	REASONS TO BELIEVE INFORMATION OR NOT
1.	
2.	
3.	
4.	
5.	
6.	
7.	

HELP	In Unit 2 we learned to evaluate information on external and internal criteria; try to apply them when creating your questions.
	The issues to be evaluated have to do both with the source itself -the person who spread the information and their personal characteristics (experience, veracity, impartiality, rationality, freedom)- and with the information itself (timeliness, purpose, precision, accuracy, relevance, logic, originality).
	Also reflect on your own biases and prejudices when assessing the credibility of information. You may be reluctant to accept the veracity of information that goes against our own opinions or position, or we can even ignore information. How would this affect the veracity of the source?

FINAL REMARKS

When we have to assess the credibility of a source or a person, we have to resort to a series of characteristics that indicate whether -in a weighted and reasoned judgment- both the source and the information are reliable and we can grant them credibility. We worked on these characteristics in Didactic Unit 2, and we can ask a series of pertinent questions about credibility on them.

- Authorship: is the person an expert on the field? Do they know the subject first hand? Are they a primary or secondary source? Are they reliable? Have they provided us with accurate information on other occasions? Do they speak freely or could they be coerced in any way? Are they mentally stable?
- Medium: is it public information or is it a scoop? Is it maybe a secret?
- Timeliness: is the information up to date? Why is this information appearing at this very moment?

- Purpose: what objectives can the source have to disseminate said information? Can it have unknown purposes? Does the source benefit from sharing the information with me? Can it do me any harm?
- Perspective: what are the source's views? Which ones do I apply when I know the information? Are there points of view that escape us?
- Impartiality: is the source impartial? Could the source have any hidden interest? Is the source free of conflicts of interest?
- Clarity: is the source clear when transmitting the information or is it confusing? Do they hesitate in what they say? Are they confident?
- Accuracy: is the source accurate in its information? Is the information or concepts used vague? Are they ambiguous in their assertions?
- Precision: is the source accurate regarding the data provided? Can I check said data from other sources? Do they match reality? Can the source explain the basis of their information? Can they explain how they got it? Can they give proof?
- Logic: is it logical that the source has access to said information? Does the source share the information with logic? Does said information match other I already have or I can find?
- Implications: what consequences can said information have? What could happen if it spreads or if it remains hidden?

When assessing the credibility of a source, there is a key element from which we can evaluate other elements: accuracy, meaning if the information matches the facts and if we can verify them. It is possible to analyze and assess the veracity of a source according to criteria related to it, although sometimes our own prejudices or cognitive biases can influence us in one way or another.

PILL 3 – EVALUATING POINTS OF VIEW

In a debate on death penalty, arguments are made in its favor:

1. The Bible supports death penalty: *“He who takes the life of another human being will be sentenced to death.”* – Leviticus 24:17.
2. It has a dissuasive nature: its mere existence makes people commit fewer of those crimes severe enough to be eligible for this penalty.
3. It is the legitimate defense of a victim who can no longer defend themselves, so society does it for them instead.
4. It serves to comfort the families of victims of heinous crimes.
5. Some criminals will never be rehabilitated; not even current science can. They can commit the same crimes again if they escape or get out of prison.
6. The justice system ensures that no innocent person can be sentenced to death.
7. It is more economically profitable for society to execute a criminal than to keep them in prison for life.
8. It decreases overcrowding in prisons.

Make arguments against those above.

	ARGUMENTS AGAINST DEATH PENALTY
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

HELP	Search for information online about the veracity of those arguments in favor of death penalty.
	Think of alternatives to the arguments raised.
	Try to state your alternative arguments from an ethical point of view.

FINAL REMARKS

Evaluating something from different points of view and questioning the validity of arguments is a basic skill to have a positive, constructive, and rational critical thinking. Developing skills to search for information that refutes an argument helps us to have independent and more informed thinking.

Death penalty is a controversial issue; it has been eliminated in many countries with more humane criminal standards than other countries that still maintain it. Death penalty does not truly have a dissuasive nature, and its existence does not contribute to reducing crime. Societies with a greater respect for fundamental human rights and public freedoms consider that it is not justified.

All arguments in favor of death penalty can be met with highly justified ones against it. Death penalty has a vengeful component that should not be part of the legal system: the so-called law of retaliation (an eye for an eye) ultimately implies just revenge, not justice, which tends to perpetuate itself, since there is always something to take revenge. Deliberately killing a person is an unethical practice whether by murder or execution.

Ethics studies human behavior, it reflects on moral issues, and is ultimately about what benefits or hurts people, creatures, and the environment. Ethics should not be confused with religious beliefs, social customs, or current law; these vary greatly between countries, cultures, and religions. Many people believe that social customs, religious beliefs, or laws are ethical in themselves, but they may advocate unethical behavior, as has happened many times in the past, and still continues to happen today. Unethical acts deny fundamental rights; ethical questions can be simple or complex, but they can ultimately be solved according to universal principles and concepts.

PILL 4 – ADVERTISING AND PROPAGANDA

You start a job in a marketing company, and soon after you hear one of the managers say: “here we are dedicated to advertising, not propaganda”, and you thought they were the same! Find out which are the main differences between one and the other, and indicate five moments in history in which propaganda has been an important phenomenon for society.

	HISTORIC EXAMPLE OF PROPAGANDA CAMPAIGN
1.	
2.	
3.	
4.	
5.	

HELP	Use the internet to find information on advertising and propaganda, and the differences between the two.
	If you are looking for examples of propaganda, you will easily find several significant moments in the history of the 19 th and 20 th century in which propaganda was a key element to influence public opinion in various countries and societies.
	There is a terrible example in the world history of the 20 th century that cannot be missing from any list of examples of the social application of propaganda, and whose main milestone was the creation, precisely, of a ministry of propaganda!

FINAL REMARKS

In most areas of our lives we are presented every few minutes with advertisements; we are used to them, sometimes they create the need to buy a product and others they just bore us. Advertising has a decisive influence on our consumption habits, since its objective is precisely that: to influence our perception and reasoning by prompting us to buy a product or hire a service.

In order to protect consumers, several laws and regulations make it necessary to clearly differentiate between advertising and information in any media, although sometimes they can be confused. However, there is no law against propaganda, because it is spread precisely through news and information appearing to be objective but concealing other intentions.

Propaganda, the same as advertising, is intended to influence the public about some cause or position. It is repetitive, and spreads across a wide variety of media. Although it pretends to be simple information, it is not liberal, impartial, and contrasted, but shows partial or biased information to influence the target

audience; it shows facts selectively and omits others, it highlights some information and hides other. It seeks to obtain a more emotional response rather than rational, changing the attitude of persons on political, religious, or social issues. Propaganda is a key weapon in ideological warfare.

A necessary condition for the development of a democratic society is that the general public has truthful, impartial, and contrasted information on national and international events, allowing independent and critical thinking about those events. When the majority of the population cannot recognize the prejudices and biases in the news -when they cannot detect the propaganda- they are unable to know what information needs to be supplemented, confronted, or discarded to form their own critical opinion.

There is media that deliberately dresses their information with an aura of truthfulness and objectivity that it actually lacks. Unfortunately, only a minority of the general public has and knows the skills to recognize the prejudices, biases, and fallacies that characterize propaganda. Few people can detect one-sided interpretations of reality and look for alternative sources of information and opinions to compare with the mainstream media. The majority of the population is at the mercy of their country's mass media, and they adopt as their own point of view its orientations and its friends and enemies, these being countries, cultures, religions, ideologies, etc.

AREA 2: DEVELOPMENT OF CRITICAL THINKING AND ANALYSIS

D.U.5 – SOLUTIONS TO PROBLEMS: assessing and making judgments that allow decision-making with their contribution to meeting needs and solving problems.

PILL 1 – MAKING DECISIONS

We are going to make decisions or evaluate the ones we have made. Think of up to three decisions that are important to you. It does not matter that you have to make them in the future or that you already made them throughout your life. Write them precisely and identify the alternatives you have or had. Evaluate each alternative and decide which one is the best to take, or if the one you took at the time was correct.

	DECISION 1	DECISION 2	DECISION 3
SPECIFYING THE DECISION			
ALTERNATIVES			
ASSESSMENT OF THE ALTERNATIVES			
FINAL DECISION			

HELP	Just as important as specifying the decision we are faced with is specifying its objectives.
	Establishing the alternatives we have may not be as simple as it seems at first glance. Spend some time to see if there are more alternatives than you originally saw; maybe you will find new ones while thinking about it.
	Evaluating the alternatives implies a careful reflection on each of them. In order to assess them, analyze several items: fulfillment of objectives, benefits, disadvantages, difficulties, consequences, risks, etc.

FINAL REMARKS

We make many decisions every day, most of them simple, and most automatically, but others are more complex. We sometimes reflect before making them, so they can be considered rational ones, but others we allow ourselves to be guided by our experience, intuition, or in the worst case by our emotions, making them irrational decisions.

There are strategic decisions (very deep and long ranging), others are tactical (adjusting strategies to daily reality), and others are merely operational (with a very limited scope). There are also emergency, routine, problem-solving, innovative, scheduled and unscheduled, personal, and collective decisions; you can find many forms and methods of classifying them.

In order to make decisions in a rational way, we must resort to several steps:

1. Specify the decision and its objectives.
2. Search for possible alternatives: sometimes they are simple (yes or no, do or do not, go or don't go...), but other times they have multiple alternatives.
3. Assess the various alternatives: establish criteria for this and assess consequences and risks. Some alternatives provide reasonable certainty about their consequences, others that are risky because they can maybe cause very serious or catastrophic consequences, and others are uncertain because we cannot establish reasonable probabilities about their consequences or outcomes. Consider several questions to evaluate:
 - Their objective.
 - Their possible benefits or disadvantages for us or for others.
 - The difficulties, costs, or deadlines for starting or executing them.
 - Their possible consequences, both foreseeable and not, and both in the short and long term.
 - The risks involved.
 - The satisfaction they could bring us.

Assessing these items to a certain degree or on a numerical scale will help us act with greater precision.

4. Making the final decision can be done directly by choosing the alternative that best meets the objectives we have set for ourselves, has the most favorable consequences, and with the least costs and problems; but this can also be done in two steps, first discarding the worst alternatives to focus on the best ones, and then assess them more closely.

PILL 2 – IDENTIFYING PROBLEMS

At work, you are told to sort papers. You have to sort 10 invoice folders from the last six months, by date of invoice. Each folder contains about 200 invoices. You started at 9 o'clock, and at 10 o'clock, you have already sorted 2 full folders. Your boss asks you: "how much time will it take you to finish the job?" What would your answer be? Easy, right? If sorting 2 folders took you an hour, ordering the remaining 8 will take about 4 more hours.

When you have finished sorting the folders, you are sent to sort the rest of the invoices and delivery notes from previous years, which are in dozens of folders and boxes of various kinds. Some time after starting, your boss asks you the same question as before: How long will it take to finish the job? What steps would you take to elaborate your answer?

	STEPS TO TAKE:
1.	
2.	
3.	

Since you seem to be good at sorting papers, you are asked to take care of the company archives. This is not just about delivery notes and invoices, there are many other documents of several kinds. What would you do?

	ACTIONS:
1.	
2.	
3.	

HELP	It doesn't seem very complicated to foresee these steps. You would basically have to find out the parameters we knew in the previous situation and we still don't know for this one (number of folders ordered in a given time), to do the same mathematical calculation as before.
	In the third situation, you don't have to find out how long it will take us to do a job, but check what you are dealing with, plan how you are going to work, anticipate what we are going to need, and get to it.

FINAL REMARKS

The first situation is what is known as a **structured** problem. In this type of problem, all parameters to solve it are known, and there is only one solution to it. This is the type of problems that are posed usually in various subjects in regulated education; they are academic problems.

The second situation is on first sight a ***poorly structured***. We are not given the parameters to fix it, but we can easily deduce them and give a correct solution to the problem, so in the end we are also facing a structured problem.

In the third situation, the problem is poorly structured. We do not know solution parameters nor can we find them easily; we are not facing a single correct solution, since we can choose different ways of ordering a file or using different materials to classify it. Most real-life problems are of the latter type: unstructured; real problems presented to us without a clear exposition of what needs to be solved, without providing the necessary information to solve them (sometimes it is even difficult to get it), and they may have more than one correct solution.

Some also classify problems into two categories (Linda Elder, Richard Paul: The Art of Asking Essential Questions):

1. Problems created by ourselves, by our decisions or behavior.
2. Problems created by external forces.

And in turn, they classify each of these groups into two subgroups:

1. Problems that we can solve, as a whole or partially.
2. Problems beyond our control (we cannot solve directly).

We would be more inclined to solve problems that we have caused ourselves. After all, to solve our problems, we sometimes just need to revert a wrong decision we made before. It is also easier to modify our behavior when it has been what has caused the problem.

PILL 3 – ATTACK STRATEGIES

We are going to use what we learned in the first pill of this unit regarding **decision-making**, since facing a problem has a lot to do with that. Identify a problem you have, analyze it carefully, and draft a plan to find solutions.

IDENTIFICATION OF THE PROBLEM	
ANALYSIS OF THE PROBLEM	
PLAN TO LOOK FOR SOLUTIONS	

HELP	To identify the problem, we should review our goals, purposes or needs, since problems are what prevent us from reaching or covering them. Expressing it clearly and precisely is equivalent to formulating the problem. So what is the real problem?
	Analyzing the problem involves determining the type of problem we face. If it is very complex, you can divide it into parts, to approach each part as an individual problem. When a problem is overwhelming or impossible to analyze, break it down until you can analyze it. When analyzing it, ask yourself if you have originated it or if it is caused by external forces, if we can solve fully or partially, or if it is beyond our control.
	Drafting a plan to find solutions implies developing a strategy that we must follow. First, focus on problems over which you have some control or possibility of action. Seek information on them and open your mind to possible solutions that you didn't think about at first sight. Look for alternative actions and assess them one by one with the same parameters that you learned when evaluating alternatives to decisions (pill 1 of this unit): benefits and disadvantages, difficulties, deadlines, consequences, risks... Lastly assess the ability to solve the problem of each of the alternatives evaluated.

FINAL REMARKS

“Problem solving is what you do when you don't know what to do.” This is how the mathematician G.H. Wheatley defined the concept of **problem solving**.

When we *do* know how to deal with a problematic situation, we are not really facing a problem, but what can we do when we really do not know how to act in a situation? Well, there are no magic solutions or foolproof techniques, but we can approach the situation with a rational use of our intelligence, developing a strategy to face it.

In order to find solutions to a problem, we must develop a work strategy: narrowing down the problem is the first step. We can sometimes be overwhelmed by the scale or complexity of a problem, but formulating it correctly and precisely will help us face it.

Analyzing the problem is the second step in finding solutions to it. Depending on the type of problem and our capability to act on it, we can take the third step, which involves developing the strategy to face it.

This is a rational method of looking for solutions. The scientific method, which we addressed in the Didactic Unit 1 of this Area is also a rational way of finding solutions to scientific problems. There are other methods, not so rational, to find solutions to problems, such as the *trial and error* method: it consists of looking for a solution and testing it; if it works we have the solution, and if it doesn't, we try another one. It is a not so rational method, because it does not care why the solution works, nor tries to solve other similar problems, and can also be ineffective when there are many possible solutions. But sometimes this is the only method we can use (for example when we want to open a lock and we have a bunch of keys to try; there is no other way but to try one by one until you find the right one).

PILL 4 – DOES EVERYTHING HAVE A SOLUTION?

Let's continue with the previous pill. With the strategy developed to find solutions to the problem and the options that we have valued, it is now a matter of using one or some. Since that point exceeds the limits of what we can do in this pill, we ask you to anticipate and answer some questions:

1. - What can you do if the strategy you chose to solve the problem fails?
What if the problem in itself changes?

2. – To what extent is the strategy of procrastinating any good?

3. - Do all problems have a solution?
What can you do with those problems you cannot find a solution for?

THE	In nature, the way that life forms have used to succeed has been change and adaptation. Could this be a positive strategy?
	Have you looked up the meaning of procrastination? What is the difference between procrastinating and adopting long-term solutions?
	Evidently, not everything has a solution, but you can probably think of a couple of rational strategies to at least <i>deal with</i> problems that you cannot solve.

FINAL REMARKS

Some things are beyond our control; only things on which we can act are the ones that our efforts should focus on. Problems beyond our ability to solve should not become a source of personal frustration; we can still always study them and look for ways to solve parts of them, or help others find solutions. Ultimately, if there is no solution, we can at least try to mitigate its negative effects.

Faced with the frustration of not finding solutions, we must use mechanisms that allow us to evolve, which necessarily implies to change and adapt. You have to know how to apply changes in the decisions you make when they are not enough to solve the problem, and learn to adapt our solution strategies to

changes in the problem itself. These are rational attitudes that can lead to success and solutions.

What you should never do is get carried away by frustration or delay facing your problems. People tend to take this action before problems, decisions, or simply unpleasant things, leaving them for later. Avoid procrastination, don't delay facing your problems and decisions, but you can always adopt the rational strategy of adapting your actions and decisions to a justifiably more appropriate time to solve the problem.

So, to recap the steps in the problem-solving process:

1. Identify and formulate the problem.
2. Analyze it.
3. Develop a solution strategy.
4. Implement the best solution decision(s).
5. Evaluate the solution and, if necessary, change it or adapt the strategy.

PILL 5 – ESSENTIAL INTELLECTUAL CHARACTERISTICS

When we try to apply the principles of critical thinking that we have seen in this Area, we aspire to develop the **eight essential intellectual characteristics**. Which ones are they, and what do they imply?

	CHARACTERISTIC	ITS IMPLICATIONS
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

HELP	Look for this information on various websites; make a comprehensive reading effort and synthesize what each characteristic implies in one sentence.
	You will probably also find the eight intellectual mistakes opposed to the essential intellectual characteristics; knowing them will also help you understand their scope.

FINAL REMARKS

In order to grow personally and intellectually in a responsible and rational way, we must strive to cultivate a series of intellectual virtues. Always keep them in mind, both in our academic learning and in our daily and work life, when making decisions and solving problems, and especially when we inform ourselves and acquire new knowledge.

- 1. Intellectual humility:** what do I really know? This does not imply submission or weakness, but rather the recognition of the limitations of what you know or think you know. It implies being aware of our own predilections, beliefs, prejudices, and biases, which can make us fall into intellectual pride. It ultimately implies that you acknowledge the rationale or lack thereof in our knowledge.
- 2. Intellectual value:** what is the basis of my beliefs? Is the willingness to question your beliefs and prior knowledge in light of reason, logic, and facts. It also implies not being afraid to approach unappealing ideas, knowledge, or visions. It is opposed to intellectual cowardice, which implies a passive and uncritical acceptance of what is instilled in us and what we learn.

3. **Intellectual empathy:** am I accurate in understanding what I disagree with? Be aware of the need to put yourself in the place of others, to understand them and reason from ideas, premises, or assumptions that are not your own. This opposes the intellectual narrowness of those who are incapable of understanding others.
4. **Intellectual autonomy:** is it my own way of thinking? Learn to think for yourself using rational criteria. This opposes the intellectual conformity of accepting the beliefs and points of view of others without critic or reasoning.
5. **Intellectual integrity:** is there self-deception in what I believe or defend? Be honest when thinking, using the same rigor of rationality, logic, evidence, and proof that we demand of others. This opposes intellectual hypocrisy, which does not admit the inconsistencies one's own thought.
6. **Intellectual perseverance:** am I going to give up? Face any difficulties, frustrations, and obstacles you encounter when seeking a deeper and rational understanding. This opposes intellectual laziness, which implies letting yourself be carried away by the comfort of not solving, not knowing, or not learning.
7. **Trust reason:** what should be my last criterion? Reason is the best way to acquire knowledge and defend our interests and those of other. Using reasoned criteria is the best way to assume or reject something, and you should encourage reasoning in others. Trusting reason also implies trusting that people can learn by themselves, constructing rational visions and reaching reasonable conclusions, thinking logically and coherently, and persuading themselves through logical arguments. This opposes distrust in reason, in evidence, and logic, which can only lead to ignorance.
8. **Impartiality:** am I being fair in my reasoning? This involves treating all positions and reasoning fairly and without prejudices, regardless of your preferences or social group, religion, or nationality. It opposes intellectual injustice, which imposes prejudices.

AREA 3

DEVELOPMENT OF
DIGITAL COMPETENCES
THROUGH
CRITICAL THINKING



AREA 3: DEVELOPMENT OF CRITICAL THINKING AND ANALYSIS

D.U.1 – INFORMATION, INFORMATIONAL LITERACY, DATA TREATMENT:
identifying and locating, storing, organizing, analyzing, and retrieving digital information, evaluating its purpose and relevance.

PILL 1 – SEARCHING AND DISPLAYING INFORMATION

At work, you are asked to search for information about racist, homophobic, and against other vulnerable groups in Europe in recent years; do that and make your own selection of information.

P I L L	First, analyze what you are going to look for, narrowing down and synthesizing the concepts. You can do previous searches to identify more vulnerable groups.
	Search engines will index (organize) the links according to their own criteria, which do not necessarily match relevance or pertinence.
	Think how to order and display the links you have selected.

FINAL REMARKS

When searching for information online, it is very important to indicate precisely what you are looking for. Do not use too long sentences, because they will yield results less relevant to the topic; use the minimum and essential words.

You need to review the content of the links provided by search engines: before choosing a link for your selection, check if the information is actually related to what you are looking for, and that it comes from reliable sources. Also verify and point out the different types of information (news, reports, websites, etc.).

Lastly, display the results in an orderly manner, grouping them by type and highlighting those that provide the most **accurate** and **updated** information on the question. The format to display the information can take different forms: an e-mail, a text file, etc. When displayed in a text file, take care that the links are copied correctly and the hyperlinks redirect properly where they should.

It is better to ask the recipient how they want us to display the information; which will be preferably displayed through its links, not by copying the entire document (webpage), only copy full documents when specifically requested. Lastly, order the links by type: reports, news, websites... and then by relevance. Be clear when displaying information, and above all, do it in a structured way.

PILL 2 – ANALYZING AND EVALUATING THE PURPOSE OF INFORMATION

Next, we select several texts from different websites; they all deal with the issue of immigration and express different views on it. In this exercise, read the texts and understand and express the ultimate **purpose** of each, regarding this issue. Also recognize and point out three types of text: press articles, opinion articles, and programmatic proposal.

...insisted Saturday on defending an “orderly and legal” immigration, stressing that space in Spain is “not unlimited” and warned immigrants that they either “respect western customs or are in the wrong country”.

<https://www.lavanguardia.com/politica/20181124/453125235123/pablo-casado-pp-inmigrantes-costumbres-pais-andalucia.html>

TYPE OF TEXT:

PURPOSE:

For the speaker, immigration “has to be controlled based on several issues: the needs of the national economy and the lack of expectations of youth, the problem of pensions, unemployment, and the need for social aids for Spaniards”, although if it were up to him, he would not let anyone else in, because “we do not need any more immigration at the moment”.

https://www.eldiario.es/canariasahora/sociedad/video-abascal-vox-hispanoamericano-inmigracion_1_2166996.html

TYPE OF TEXT:

PURPOSE:

In conclusion, we have to answer to these new challenges with firmness on the one hand, demanding that immigrants comply with our standards and respect the Constitution and human rights, and on the other, maintain a positive attitude towards this new social, cultural, or religious reality. We will be no pioneers; this phenomenon has already been experienced by countries like France or Germany. We need to face this phenomenon with responsibility, and demand all economic and social groups and agents to make an effort in the same direction.

<http://web.psoe.es/sectorialparticipacionydiversidad/docs/92761/page/apuntes-sobre-inmigracion-.html>

TYPE OF TEXT:

PURPOSE:

“Europe must not outsource thugs who do not respect Human Rights. It is unacceptable to criminalize NGOs and building walls. The Australian model is unacceptable; it is inhumane and goes against European democratic values.”

https://www.eldiario.es/politica/pablo-iglesias-internamiento-migrantes-inaceptable_1_2057032.html

TYPE OF TEXT:

PURPOSE:

Democratic societies must address migration flows as complex social phenomena, with a global vision, comprehensive policies, and **in a coherent and responsible manner**. They must also assume that this is about Human Rights, not about labor depending on the current needs. And if someone – generally displaying the greatest of cynicisms– accuses us of “goodness”, we can pull official data like the ones being published these days in the media to remember that **immigration is already playing a crucial role in our demographic imbalances**, in addition to being a source of innovation and diversity. This is how we’ll be able to see immigration for what it is, an opportunity, and we’ll get rid of the idea of immigration as a problem, which, deep down, is nothing but a symptom of our weakness and inability to manage it.

https://www.infolibre.es/noticias/opinion/columnas/2018/08/20/por_que_hacemos_inmigracion_problema_85946_1023.html

TYPE OF TEXT:

PURPOSE:

In the years of great growth, more than 400k persons entered Spain illegally each year thanks to a cynical and immoral government policy that favored this apotheosis of cheap work and illegal human trafficking. We must end the policy of four successive governments of keeping narrow channels for the legal labor market and wide rivers for illegal immigration.

<https://www.elmundo.es/opinion/2018/08/01/5b604bdde2704edf2f8b480c.html>

TYPE OF TEXT:

PURPOSE:

HELP	To differentiate the type of text, pay attention to whether reflects the <i>opinion</i> of the writer (opinion article) or whether it informs about the opinion of others (press article).
	Keep in mind that defining the purpose implies synthesizing the objective of the article, not stating your own opinion.
	An express purpose may contain others derivating or hidden at first. It is as important to see the explicit ones as are implicit ones.

FINAL REMARKS

Regardless of your position or opinion on any subject, it is positive to study objectively and in perspective any text, proposal, or opinion to find out its purpose and the objective of the writer. Check the authorship of any information, the identity, capabilities, and competence of the writer; anonymous information is not the same as one written by someone who is not knowledgeable or a specialist in the matter, nor is the same to information written by a person with relevant and proven knowledge on the subject.

It is also essential to differentiate information from opinion: information will refer to specific events, dates, data, people... and can be easily contrasted because it will have been published by various media. Opinion has a different character, its objective is not merely to inform about events; although it can include data, its objective is to publicize the opinion of the writer on a topic.

PILL 3 – NARROWING DOWN SEARCH DATES AND SAVING INTERNET LINKS

The issue of the Greek debt crisis and its intervention by the Troika had a large presence in international media throughout the last decade, all within the framework of the global financial crisis of 2008. News about the origin of the Greek crisis and its evolution over several years were abundant; search for various news items from different years about the Greek crisis online, and select half a dozen that are relevant to know its origin, development, consequences, and critical moments in its evolution.

	SELECTION OF NEWS ON THE GREEK DEBT CRISIS
1.	
2.	
3.	
4.	
5.	
6.	

HELP	To get a quick overview on dates and milestones, first look for some general information on the subject, for example on Wikipedia. This will allow you to narrow down your later searches.
	Search engines show us the latest news about what we search. To get older news, you can limit the dates between which we want to search. Use Google's "tools" menu to search for news within a certain date range.
	In order to safely save the links you want, you can bookmark the page of interest, which will allow you to access them later easily.

FINAL REMARKS

When searching for information on broad and complex topics, you will find many websites with a lot of information on them. It is easy to get overwhelmed by such a wealth of information, so you should first get an overview on the issue by looking through general source like Wikipedia. Once you know the dates on which you want information better, as well as some facts and highlights, you can start looking for specific news.

The "tools" section of online search engines allows you to narrow down results by date: if you want Google to show you news on a topic that was published in 2010, you can do so by specifying sad date on the "custom" option within the "any date" option in the "tools" menu.

Always bear in mind that the texts and news you find will be less specific the more of the event they intend to cover. There is no ideal list of relevant news;

on important and long-standing issues, there is a great abundance of published information and search engines provide us with the most recent ones. A good selection should contain news that allows us to get general information about what we are looking for: **origin, development, and consequences** of the crisis. You can save the links to the websites of special interest by bookmarking. You can manage your bookmarks and delete them when you no longer need them. You can also use tools other than the search engine to save and manage links; there are applications for this like [Pocket](#) with which you can work using your Gmail account.

PILL 4 – NARROWING DOWN SEARCHES BY USING SEARCH OPERATORS

You can make searches much more precise by using *search operators*. When you include them in you search, you will see the number of results you get vary. In order to check how they work and how they restrict the results obtained, first look for information about what and which *search operators* are, and how they are used. Once you have found out how they work, answer the following questions:

- How many websites show up when searching for the words “comprehensive information system”? _____
- How many websites contain the exact sentence “comprehensive information system”? _____
- How many of the previous websites also contain the word “environmental”? _____
- How many of the above do NOT contain the word “water”? _____
- How many of them are from Spanish websites? _____
- How many PDF documents are there among them? _____

HELP	At https://support.google.com/websearch/answer/2466433?hl=en you can identify search operators in Google, see how they are used, and what they are for.
	At http://help.ads.microsoft.com/apex/index/18/es/10002 you can see the use of search operators in Bing.
	It is also possible, for example, to narrow Google image searches (and any other search): https://www.google.com/advanced_image_search

FINAL REMARKS

Search operators allow us to build logical filters to restrict the results obtained; narrowing your searches may be necessary given the enormous amount of information on the internet.

If you have completed the exercise you will have seen how the number of results that meet the search criteria decreased as you included more logical search operators. They can be very useful when using a general search engine. If you write a series of words, the search engine will return all websites that contain one or more of them, even if they are not in the order you wrote them. But if you include quotation marks (“ ”) at the beginning and the end, the search engine will return only websites in which the text appears in the specific word order. You can also use other signs, like * to include various options, or you can exclude pages containing a certain word by adding – before it.

There are many websites that can tell you about search operators and their use.

Note: many websites have their own search engines only for information in them. Search operators are usually the same for different websites and their search engines, and they also work in the same way. On the other hand, websites with their own information filtering systems usually have interfaces to narrow down searches by criteria like date, document types, keywords, etc.

PILL 5 – CREATING A WARNING TO SENDS US INFORMATION

In addition to actively searching for information online, you can also receive it passively in your e-mail inbox. If you are interested in a topic and you want to follow it, you can have new information about it sent to you when there is something new published on it: Google has a notification service that will send you information about publications on a specific topic. In this exercise, create one or more notifications for issues of special interest for you.

HELP	It is a simple procedure: go to Google Alerts to see how it's done.
	You can create various alerts using keywords so you are notified via e-mail when news or other information on a topic is published.
	You can also manage alerts by editing or deleting them.

FINAL REMARKS

The search for information is not only active, you can also receive it passively. In the case of *Google Alerts*, you will receive an e-mail every time the search engine identifies a new publication on the topic specified. You can always change the frequency or details of the alerts so they do not swarm you.

You will also passively receive other information that you didn't request; unsolicited e-mails commonly known as "spam". In order to avoid the annoyance of many e-mails like this reaching your inbox, there is a spam folder for them. Transfer all mails that you don't want to that mailbox, and your mail service will do it automatically once it recognizes the addresses of the senders in subsequent messages.

You can also adjust and customize the security and privacy settings of search engines to control the information that is collected through you searches. For example, in Google you can manage this in "privacy settings", in the management page of your personal account.

AREA 3: DEVELOPMENT OF CRITICAL THINKING AND ANALYSIS

D.U.2 – COMMUNICATION AND COLLABORATION: communicating in digital environments, sharing online resources, connecting and collaborating with other people through digital tools, and interacting and participating in communities and networks; intercultural awareness.

PILL 1 – SHARING FILES

Imagine that you have to send someone else a particularly large file that is impossible to send because e-mail or messaging applications have limited size for attachments. Do it by using a file-sharing application like [We Transfer](#).

HELP	You don't need to create an account, you just need your e-mail address and that of the recipient.
	You can send files up to 2GB. The maximum size allowed by other apps (like <i>WhatsApp</i> , for example) is 100MB.
	Always consider your responsibility when sharing content that is not your own: it may be subject intellectual property and artistic creation laws.

FINAL REMARKS

We use our PC to store files, share them, and communicate using tools like e-mail or messaging applications, but there are more ways to save and share files when we want multiple people to access or work with them, or when they are too large for some applications. For this, we use cloud sharing.

To communicate and share resources in a digital environment, you know basic tools like e-mail, and messaging applications like *WhatsApp* and *Telegram*, or others that add other features like as the publication of materials or video calls (*Twitter*, *Skype*, *Viber*, *Line* or *Snapchat*). However, another way to save files and share them is to handle forms and applications to upload them to the internet and share them by cloud sharing. This term means a virtual online space located on multiple servers in which information can be stored, shared, and retrieved using certain applications. There are quite a few of them with different characteristics, depending on their use, both paid and free. They are very useful for storing information to always have it available from anywhere, and to exchange information with several users while working on the same document or transferring significantly large files.

PILL 2 – SHARING A FILE AND WORKING ON IT SIMULTANEOUSLY

You are asked to draft the annual expense report along with other co-workers, for which you all have to work simultaneously on the same file, Using Google Drive, create a spreadsheet and share it with your coworkers.

HELP	You don't need to previously create and save the spreadsheet on your PC; you can create it directly in <u>Google Drive</u> .
	The interface is very intuitive and similar to <i>(Microsoft) Office</i> ; the key steps are to create a new spreadsheet, save it, and share it. When sharing it, make sure you allow others to edit it, not just view or comment.
	Any files saved and shared like this will be available on any device you use, logging with username and password of your <i>Gmail</i> account.

FINAL REMARKS

There are various platforms for online file sharing: in addition to *We Transfer* or *Google Drive* (used in these exercises) there are many more, such as *Mega*, *Takeafile*, *SendAnywhere*, *Dropbox*, *Filesharing24*, *PlusTransfer*... Each has different characteristics, speed, storage or download time limits, free or paid services, etc. Their main characteristic is that they allow to exchange or share files online, so other users can view, download, add comments, or edit them, depending on the permissions granted by the file's uploader.

These tools are very useful to share and work simultaneously on the same materials; the use of these platforms and work techniques can replace the tedious exchange of e-mails or messages, and also the possible confusing issues from having multiple versions of one file at the same time.

PILL 3 – DISTRIBUTION LISTS

When using instant messaging applications that you probably already know (*WhatsApp*, *Telegram*...) you will have probably sent written or voice messages, pictures, and even videos to specific contacts or groups, so you probably know the advantages and disadvantages of groups. However, there are alternative ways to spread information to a large number of people: distribution lists.

Create a *WhatsApp* distribution list (with family members or a friend group, f.ex.) and find out its characteristics and advantages compared to groups.

HELP	The procedure is very simple and similar to creating groups; the APP will guide you. Keep in mind that law establishes a minimum age of consent to be included, so find it out and who can give the consent of minors.
	Find out the maximum number of people you can add (it is quite a lot).
	Check their differences with groups when receiving answers: you avoid the “noise” generated by direct interaction between members.

FINAL REMARKS

In a group, any messages sent are seen by all members, which is why there often is a lot of confusion, excess messaging and interactions (noise), or intersecting conversations between different members. These negative effects can make groups a poor choice when distributing information to many people.

A small group can be a good framework to carry out certain tasks, because it allows information to be shared and contributed simultaneously; but when they are excessively large, they become less useful and can be a place for avoidable behaviors: spreading unwanted or inappropriate comments or images, those that threaten image privacy of people, harassment, disclosure of other private conversations, etc.

Distribution lists allow you to send the same information to different users, but the answers will not be seen by all the persons included; only the creator of the list will receive them, so they can be very useful.

PILL 4 – “NETIQUETTE”

We suggest you to use “netiquette” in your practical communications from now on. To do this, install the dictionaries of the languages you use on your device, and get in the habit of using autocorrect systems (activate them if you haven’t) when you write. Taking care of your online image is important; track the data about yourself on the internet to know your online fingerprint.

HELP	Search the internet for information on the concept of “netiquette” and bookmark the most useful webpages on this topic.
	Autocorrect systems and dictionaries can be used in practically all writing applications. To install and apply them, go to your device’s settings.
	Do some research on yourself (using your personal data) and check if any images or data show up in an online search.

FINAL REMARKS

By interacting on social networks we can transmit more things than we directly express. When writing it is very important to convey a good self-image, write carefully, paying attention, using the right words to the ideas we want to convey and doing so according to spelling rules (there are digital tools to correct spelling errors). Also take special care to respect basic rules of correctness in any conversation or when writing, to favor good harmony and coexistence. All of this is known as “netiquette”, and this plus the data and information that you upload to social networks, make up your own public image on the internet.

The image you project through social media and messaging is very important. There is a series of good practices that will help you have a good image and become self-responsible when using networks:

- Do not spread rumors, sensational news, chain letters, memes, or private or unpleasant videos or images. Before forwarding a mail, check its veracity.
- If you can’t speak at any given moment, let it be known assertively.
- Write short and understandable sentences, don’t cut sentences.
- Check the content of your messages before sending them.
- Use groups responsibly.
- Hold back a bit when using emoticons.
- Make sure you don’t mistake the person you are talking to or messaging.
- Care for your image online when providing data or images of yourself.

PILL 5 – DIGITAL PARTICIPATION

Social networks put at our disposal tools to promote citizen participation and democratic actions; the public exchange of information and concerted actions are two of them. Visit [Change.org](https://change.org) and create a petition to collect signatures, then use [Twitter](https://twitter.com) to spread the word (create an account if you don't have one).

HELP	Before creating your petition, make sure there is not an identical one. Although there will be similar ones, you can direct it to other different entities, and also sign and adhere to other petitions that you agree with.
	If you do not have a Twitter account, creating it is simple and intuitively. Find out how its public messages work and who can see them. Add people or entities you are interested in, and find out how the tool for sending private messages works.
	The dissemination on Twitter of the petition you have created -or of any other- can be done from the Change.org platform itself.

FINAL REMARKS

In order to get socially involved through online participation, there are many applications at various levels and with a variety of actions: ([Avaaz](https://avaaz.org), [Agora Voting](https://agoravoting.com), [Appgree](https://appgree.com), [Kuorum](https://kuorum.com)...). The potential of technology to promote citizen participation is enormous; there have been citizen movements and public demands that have achieved wide dissemination and monitoring thanks to the use of social networks and technological media. The ability to access and use social networks contributes to increasing citizen participation, transparency, and the democratic quality of our societies.

We must learn to use the social networks, media, and communities that best match our needs and interests, to achieve the objectives of dissemination and participation in the face of the demands that we raise. On the other hand, always have a critical and rigorous perception of the information and initiatives spread by social media, networks, and digital media. It is important to always ask yourself about the authorship, objectives, and possible consequences of any initiative or information.

AREA 3: DEVELOPMENT OF CRITICAL THINKING AND ANALYSIS

D.U.3 – CREATION OF DIGITAL CONTENTS: creating and editing new contents (texts, images, videos...), integrating knowledge and reworking previous content, making artistic productions, multimedia content, and computer programming, knowing how to apply copyright.

PILL 1 – CREATING A PRESENTATION

We suggest you create new content in the “presentation” format. Surely you have seen one, possibly as a projection. They are like slides that combine text and images, sometimes animated or with music or other sounds. Create your own presentation, with at least 5 slides, each containing some pictures. For this first presentation we suggest to make it of a personal topic, using your own photos (of a trip, a place, a special day) and adding specific explanatory texts (dates, places, objects, curiosities) to explain the details of what is seen in the picture. Then you can show it to someone or even make it public!

HELP	Although there are many applications to do this (PowerPoint , Canva , Sway , Prezi , Genial.ly ...) you can use the free Google Drive application. It is easy to handle and has several templates to facilitate your work.
	If you use a template, just change the texts and pictures that appear on each page for your own. Also, learn to use the possibilities that the right mouse button provides! Add new pages or delete existing ones to adapt your presentation to the size or duration you want.
	Apply some transition between the pages to add dynamism. In the same menu, you can also animate texts or images. Name your presentation and save it in the space of your Google account.

FINAL REMARKS

Presentations are a well-known way to publicly disseminate information through texts, images, and sounds in an organized and sequenced manner. They are based on the creation of slides in a certain order, and can include a great variety of effects depending on the possibilities of the application used, allowing to transmit information in a very visual and dynamic way, and are an excellent tool for many occasions, like presenting a work, explaining a proposal at work, giving a lecture, showing photos, etc. When creating presentations, keep these tips in mind:

- Choose fonts, colors, design, and effects taking into account the type of information you show, so the effect you want (playful, formal, dramatic, etc.) matches the framework in which you present the information.
- Use high resolution images and review your texts so the results are good.
- Presentations are a dynamic and visual way of showing information, so carefully assess the length of the texts you include, the time of exposure for each page, and the amount of information you include.

PILL 2 – VIDEO EDITING

Video is a powerful communication tool; recording your own videos is very easy with a smartphone, but as important as recording a video is editing it, both to delete uninteresting parts, or add music or effects. Use your own video recordings to edit them: cut out some part and add background music.

HELP	There are many online video editing applications and tools (Youtube , Online Video Cutter , Hippo Video , Movie Maker Online , etc). In Youtube , first create an account (you can use your Google profile), upload your video (test this with a ~1min video) and add a title and brief description.
	To edit, click on the video thumbnail in the “details” section, on the “video editor” section. Remember that the video is now hosted on the platform; first make the cut of some part of the video and preview how it will look.
	Add background music (Youtube has a copyright-free music library) and save the changes; it can take a few minutes to apply them, depending on length. Remember that you can set the video as private so only you are able to see it, but if you like the result you can make it public.

FINAL REMARKS

Video and sound editing can be a challenge at first, but it is very rewarding and useful to use this to enhance and spread the material you record and to create new content from existing creations. In the case of video editing or including music from third parties, know the license they have, since you have to adjust to the permitted uses. Video editing can be done on your own computer with programs you install, or online, which can be slower but very useful.

PILL 3 – CREATION OF A BLOG

You have surely heard of blogs and bloggers, but what is a blog? Do some research on blogs and create your own, to publish a post with your opinion on a current issue that worries, motivates, or bothers you. You can always keep it or delete it if you want.

T I P	There are many options where to create a blog: <u>Wordpress</u> , <u>Wix</u> , <u>Blogger</u> , <u>SimpleSite</u> , <u>Tumblr</u> , <u>Medium</u> , <u>WebNode</u> , <u>HubSpot</u> , etc. You can use <u>Blogger</u> with your Google profile, it is really easy.
	In addition to publishing a text, try to also include one or more pictures or even a video related to the topic you want to discuss.
	Before publishing, review and correct the text for spelling errors.

FINAL REMARKS

A blog is a web page where you can publish content of all kinds (texts, images, or videos); publications will be shown consecutively, as if it were a diary with entries. In blogs you can do more than publish, you and others can write comments about what you have published, so it can be a very enriching tool.

Blogs usually have a standard structure, although the specific designs can vary:

- There usually is a header showing the title.
- A main column with the latest publications.
- A sidebar, which has different applicable functions.
- A footer, with links and other information.
- A background, which can have different colors or patterns.






Their creation and hosting is free, they are very easy to create and operate, and no programming or design knowledge is required to make one. This is why their designs are also limited and recurring, and their functions cannot be expanded.

Keep in mind that you are not the absolute owner of the blog, it belongs to the platform hosting it, and is subject to its policies and conditions, so sometimes and to finance itself, it may include advertising.

There are different types of blogs: personal ones, professional, corporate, entertainment... they can also serve to publish your personal opinion or express your creativity, and for many other things like promoting services or products, advertising events, finding a job (by showing what you can do), spreading information on topics you know or are passionate about (travel, fashion, cooking, DIY, cinema, video games...), finding clients... There are even people who have turned their blog into a way to earn revenue due to the interest that the content they publish sparks in their followers.

PILL 4 – COPYRIGHT: CAN I USE THIS?

Imagine that you have gathered a series of materials: texts, images, videos, music... for a classroom work you are drafting, and a series of symbols appear in each of them. Find out their meaning and if and how you can use them.

SYMBOL	MEAINING/ CONDITIONS FOR USE
	
	
	
	
	

HELP	Look for information on licenses for use online; you will easily find the icons in the table above.
	Discover the concept of “plagiarism” and find out about it.

FINAL REMARKS

Laws regulate the rights, both moral and patrimonial, that content creators, publishers, and their heirs own. They affect creations and concrete works, not ideas, regardless of their medium (books, music, games, paintings, drawings, photos, computer programs, etc.); but there are texts not subject to these rights, like laws or constitutions, for example.

These rights affect the reproduction, copy, and dissemination of contents; copyright is one of the most widespread formulas to restrict usage. It entails that all rights are reserved and therefore the work (text, image, song...) cannot be freely reproduced, copied, or spread without express permission, and normally including the payment of royalties. These restrictions affect works for a specific number of years, depending on the laws of each country.

However, some works are not subject to restrictions or may be used freely under certain conditions:

- Public domain works are those that, due to the expiration of their copyright, are no longer subject to restrictions on use or copy.
- There are also works that, by express wish of their creators or rights holders, are free to use. These are those with a *Copyleft* or *GNU* license.

- *Creative Commons* licenses allow the free use of contents, respecting the conditions of the author, like being cited ⓘ, not making a commercial use Ⓢ, not making derivate works Ⓔ, or having to share their use with the same license of the original work Ⓒ.
- In any case, whenever we make use of a work, even if it is of public domain, we must cite the author, because using a part of another person's creation without stating that it is not ours, can constitute plagiarism. Although it may not be punishable by law, it is a bad practice that can impact our credibility and public image.

PILL 5 – CONTRIBUTING TO PUBLIC DOMAIN KNOWLEDGE

We suggest you to contribute to increasing or improving the knowledge of public domain, or that you at least know a way to do so it in one of the best known and most used projects: *Wikipedia*. There surely is something in which -by hobby or necessity- you have accumulated knowledge; it can be more or less serious, well-known, or useful, but you have surely dedicated some or many hours of your life to it. Look for the most specific *Wikipedia* articles on the topic, read it carefully, and see if you can correct anything or complete the information with your knowledge (or at least find out how to do it).

HELP	Go to the “edit” tab of an article and you will be able to modify it by changing, adding, or deleting content. This can be done in HTML language or the online editor.
	Before editing the content, carefully read the notice at the bottom of the page about things to keep in mind when changing anything.

FINAL REMARKS

We all accumulate knowledge throughout our lives; sharing ours and enriching the knowledge of others can be a very rewarding feeling. Contributing to public domain knowledge is easy in the environment of new Information and Communication Technologies (ICTs), and there are many public and collaborative projects to expand public knowledge and its free distribution, covering different fields. All of them are based on two main ideas: common good and altruism, and share an open, free, collaborative, and voluntary nature.

AREA 3: DEVELOPMENT OF CRITICAL THINKING AND ANALYSIS

D.U.4 – ONLINE SECURITY: personal protection, data protection and digital identity, security use, safe and sustainable use.

PILL 1 – GOOD PRACTICES TO AVOID COMPUTER VIRUSES

You have surely heard of computer viruses, and maybe you already use an antivirus, but this is not the only thing you must use regularly to protect ourselves against the so-called “*malware*”. Find and describe at least five other common practices that you can do on a regular basis to protect yourself from computer viruses, trojans, worms, spyware, and other forms of malware.

	COMMON PRACTICES TO PROTECT YOURSELF FROM MALWARE
1.	
2.	
3.	
4.	
5.	

HELP	The actions or practices to always keep in mind, that you should write, have to do with preventive attitudes when handling applications and with the maintenance of programs and equipment.
	To better understand risks, you should also know the main types of computer files, and which can hide a risk for our computers.
	To complete this pill, find out if malware only affects computers or if smartphones can be infected too.

FINAL REMARKS

Malware is any type of software (program) that has been designed to cause damage to a computing device, or to illegally obtain information or money, also through blackmail. There are many types of malware: viruses, worms, trojans, spyware... But they all act secretly against the interests of the person using the infected device.

Protection against viruses and other malware can be active or passive:

- Active practices involve installing an antivirus (there are free and paid ones) or *firewall* techniques (which filter the files that reach us). In any case, active techniques require to be updated in order to be completely effective.
- Passive techniques imply preventive attitudes towards certain practices, especially when opening e-mails and attached files; when installing programs, applications, or games of dubious origin; or when browsing the internet without previously configuring the privacy options of our browser.

PILL 2 – RELIABLE PASSWORDS

The use of passwords has become the norm in our daily lives when accessing our devices or accounts in websites or services. They are a key security element to protect our information, privacy, and digital identity, and we often don't give them the importance they have and we use very simple or obvious passwords. Look for some websites to check the strength of some of your passwords and test them. Don't use your current and exact passwords, use old or similar ones.

HELP	There are many pages to analyze password security, such as: https://howsecureismypassword.net/ https://password.kaspersky.com/en/ https://ciberprotector.com/comprodador-de-contrase%C3%B1as
	These types of webpage should only evaluate the reliability of a password based only on it, never give more information, since this will usually lead to receiving advertising of applications for the generation or management of passwords. You can also use free services, like those offered by Google.
	Check out the advice they offer on password security and the elements you should include to improve them so you can apply them in the future.

FINAL REMARKS

Passwords are used to guarantee that only authorized persons access a given resource. They usually conflict between safety and comfort: secure passwords tend to be difficult to remember, and vice versa. Those that want to find out our password use various methods: from password dictionaries, to trying millions of combinations, and the simple method using our names or our relatives', dates of birth, or phone numbers. A surprisingly still widely used and useful method is the fake e-mail posing as a bank, company, or service asking us to update our password due to a problem, so the victim ends up revealing their password.

We sometimes provide personal data on websites or applications that can be used for other purposes, so it is important to maintain some good customs:

- Do not use too easy or obvious passwords.
- Use uppercase and lowercase letters, numbers, and symbols.
- Use different passwords for different services, not just one.
- Change passwords from time to time.
- Be cautious with the personal data you provide, and never provide our password when asked in an e-mail.

PILL 3 – PROTECTING OUR INFORMATION AND PRIVACY

Now we propose a practical exercise to reinforce the protection of our private information or the security of our Internet browsing, depending on which device you are working on right now.

If you are using a PC right now, we suggest that you review the security and privacy settings of the browser that you usually, and make sure that:

- 1- You browse with safe standards.
- 2- The browsing history, cookies, files, and images stored in the cache are deleted from time to time or when the application is closed.
- 3- You restrict the information you grant to the websites you visit, such as location, access to your webcam, microphone, blocking of pop-up windows, etc.

If you are using smartphone, carefully review the permissions to access your personal information (contacts, location, photos, camera, etc.) that you grant to each application. Reflect for each application if it should have permanent access to the resource or if it is better to make it ask you before using it.

You can of course do the exercise of the device you are not using now at another time; moreover, it would be convenient for you to do so.

HELP	Access the browser settings menu and then the privacy section (in both Google Chrome and Mozilla Firefox, click the icon with three dots located to the far right end of the address bar). From there, access “settings” and you will be able to change parameters, appearance, and permissions.
	Cookies are used to make browsing easier and more efficient, so you don’t have to block all of them. What you could do is configure them to be automatically deleted from time to time or when you close the browser.
	Applications or websites don’t need to have unrestricted access to personal information on your smartphone or to resources on your PC to work properly, so we recommended you to set them to ask for permission.

FINAL REMARKS

Personal information flows freely online; we sometimes provide it directly by filling surveys with our data, and others the websites or APPs we use collect it passively (IP address, the characteristics of our device, location, etc). Personal information is very valuable and used for various purposes, most commonly to customize advertising to better aim it to us.

We tend to install programs and applications in our PCs and smartphones with little thought about their usefulness or use. By doing so, you can inadvertently provide access to resources that could provide information about you to third

parties, so you should always take care regarding the access permissions of APPs, games, programs, or when browsing the internet. Also review these permissions from time to time in the configuration menu to ensure that you are protected and have direct control over the access to our information and devices.

There are applications that can help you discover and follow your online “fingerprint”, telling you which companies have your personal data, and can even help you delete it. An example for this is Mine.

PILL 4 – THE ROBINSON LIST

Sometimes we are harassed with e-mails, phone calls, or letters with offers, advertisement, discounts, and other things related to products or services that we have not requested, by companies to which we never provided our e-mail, phone, or address. There is one way you can deal with this harassment: the Robinson list. Look for information about it and that how you can sign up.

HELP	Registration is quick and easy, although its effects have two exceptions: it will not affect companies to which you have consentedly provided your data (in this case you have to claim directly to said company), and 3 months must pass for it to take effect.
	Robinson lists exist in many countries, although each have different regulations and specifications.
	Remember that this is an exercise; you can delete your data at any time.

FINAL REMARKS

Direct marketing associations are who manage the Robinson lists to make it easier for users to restrict and regulate the advertising they receive through the various channels (e-mails, post mail, messages, phone calls...), but there is no organization to regulate or coordinate these lists, and each country has its own specific regulations.

The data included in these lists are provided to direct marketing companies to exclude them from their advertising actions, thus saving the inconvenience to consumers who do not wish to receive them, and also saving those companies the cost of phone calls or flyer printing and shipping. However, there may be companies that -either by mistake or deliberately- ignore our will and use said data. In these cases, we have other resources at our disposal to face these situations, by reporting inappropriate actions to the corresponding Data Protection Agency.

PILL 5 – HEALTHY HABITS

Practically all of us use a smartphone regularly, and it is a very useful tool, although there are cases of problematic or even pathological use. Look up for websites that help you know if you make a healthy and balanced use of your smartphone; take an online test and answer honestly to the questions they ask.

HELP	There are several websites where you can do an online test, such as: https://www.psicologia-online.com/test-eres-adicto-al-movil-4555.html https://cuidateplus.marca.com/bienestar/2019/02/06/descubre-test-adicto-movil-169550.html https://www.whatsnew.com/2018/05/01/como-saber-si-soy-adicto-al-movil/ http://www.revista-gadget.es/reportaje/adicto-al-movil-sintomas/
	If you have an unhealthy use of your smartphone or other devices, you should consider changing your habits or asking for professional help.

FINAL REMARKS

There are two important aspects to consider regarding the effects that the use of technology has on our health:

On the one hand, the habits of use and dependence on them that we can end up having in our daily lives. Smartphones, tablets, computers, consoles, etc. are tools for working, communicating, training, entertaining... but they should not become something on which we are or feel dependent, or that end up interfering negatively in other aspects of our lives or relationships with people. It is essential to develop healthy habits in the use of technology.

On the other hand, it is important to consider having healthy habits when physically working with a computer. Both the posture we have and the comfort and functionality of the furniture and the work environment are very important when it comes to developing healthy habits in our relationship with technology. An inappropriate posture when working at the computer can cause headaches and neck or back pain. Be aware of this and adjust your table and chair to not adopt incorrect or forced positions. Having an organized and manageable workspace also helps to develop good habits; the lighting we work with is also important, not only for having good direct lighting, but also for ambient lighting; noises can also end up having a negative effect.

PILL 6 – TECHNOLOGY AND ENVIRONMENT

A smartphone can have more than a thousand different components, some of them made from rare minerals like coltan. In Europe, around 40% of existing mobiles are renewed each year, long before their useful life expires. The environmental cost of producing new devices and managing used ones is enormous. We propose a pill for you to find out and write down:

1. What are the main coltan-producing countries?	
2. Which are the main countries where discarded devices are shipped to?	
3. What impact does coltan extraction and the management of these wastes have in these countries?	
4. What measures could reduce this impact?	

HELP	There is a lot of information online regarding these issues; for example: https://kuskayabarcelona.com/produccion-de-moviles-y-vulneracion-de-ddhh/ https://ingeoexpert.com/2018/03/28/minas-de-coltan/?v=04c19fa1e772 https://www.concienciaeco.com/2015/01/14/coltan-el-mineral-de-la-muerte/ https://www.cvongd.org/info/9693
	You can also look for information on measures to reduce the impact, from the perspective of how to extend the useful life of devices (batteries, etc).

FINAL REMARKS

The most brutal human exploitation and wars are nowadays often the prices paid to obtain coltan, the essential mineral in the manufacturing of any smartphone, but the extraction of this mineral in countries like Congo hardly contributes to improving the economy or the standards of living of its population. Device manufacturing companies do not report on the environmental and social costs of obtaining the necessary materials for their manufacture, nor is the impact that the huge quantity of technological garbage that is sent there from “developed” countries is generally known.

Consumer dynamics always have negative impacts, and in the case of technology consumerism, these are severe and important, although the worst

always take place in countries far from our usual environment. You can reflect and act to reduce the unsustainable consumption of technology and demand the companies that feed it to exercise their social responsibility of eliminating negative impacts and contributing to a fairer and more balanced distribution of the economic benefits are generated.

AREA 3: DEVELOPMENT OF CRITICAL THINKING AND ANALYSIS

D.U.5 – PROBLEM RESOLUTION: identifying digital needs and resources; making decisions to select the appropriate digital tools according to a given need or purpose; solving conceptual and technical problems of digital means; the creative use of technology; updating your competences and those of others.

PILL 1 – RESOLUTION OF TECHNICAL ISSUES

On your first day at your new job, you are given a laptop so you can work from anywhere. When you start it, it is very slow both in startup and in operation. What can you do about it? Note some basic maintenance tasks to carry out:

	WHAT CAN I DO?
1.	
2.	
3.	
4.	
5.	

HELP	Although there are multiple reasons for slow computer performance, try to find solutions through simple tasks. Look on the internet; there are many websites with information on what to do to improve startup and performance.
	Some basic things you could do are: <ul style="list-style-type: none"> ▪ Uninstall applications or programs that you are not going to use. For this, go to the <i>Applications</i> section in the <i>Settings</i> menu. ▪ Check for malware (viruses etc.) using software like <i>Windows Defender</i>. ▪ Check for both operating system and driver updates.
	Other tasks that will require you to access <i>Management</i> via the <i>Control Panel</i> are: <ul style="list-style-type: none"> ▪ Free up space on your hard drive. ▪ De-fragment your hard drive. ▪ Control which applications start up when you turn on the computer.

FINAL REMARKS

Given the operating problems that can arise in computer devices, it is important to first know what they are made of. “Hardware” is the physical components, meaning the computer itself, and “software” is the various programs you use. Hardware includes the screen, motherboard, central processing unit (CPU), the Random Access Memory (RAM), power supply, hard disk, keyboard, and mouse. We can also have peripherals connected to the pc (printers, scanners, etc.), which need *drivers* or *controllers* that are part of the software.

The most important software on your computer is the operating system (OS), which controls all internal devices and manages the main tasks. There are several OSs, the best known are Windows, Mac, and Linux, which offer various tools to manage the PC and carry out system maintenance tasks.

When a problem arises in your PC, try to locate it to know which part is affected and first look for solutions that you can apply yourself. Sometimes, simple

proper maintenance and software updates can get us out of the problem, but in some others, the issue will be more severe and you will need the help of a professional. In any case, learn from each problem that arises.

PILL 2 – IDENTIFYING A NEED AND GIVING A TECHNOLOGICAL ANSWER

You are asked to help organize the activities of several coworkers who have problems structuring their work visits and the activities they have to carry out. What solutions could be applied to organize them all?

	WHAT COMPUTER SOLUTIONS CAN I APPLY?
1.	
2.	
3.	
4.	
5.	

HELP	Ask yourself for the need to be covered and look up possible applications online to meet it. In this case it is about time and task management.
	There are many applications for managing schedules or creating “to-do” lists (<i>Remember the milk, Things, Todoist, Evernote, FantastiCal 2...</i>). A free application from Google that you can use is <i>Google Calendar</i> . With it you can manage your personal schedule, create and share schedules with/for other people or groups, add to-do lists, reminders, event notifications, and even add other calendars of general interest.
	Create your own schedule in <i>Google Calendar</i> . Add your next appointments (create an event), try sharing it with someone, and create a “to-do” list. The application itself will guide you through the process.

FINAL REMARKS

Identifying a problem or a need (both at work or in our daily life) is the first step to finding a solution, and computer applications can help us. In order to manage your time or your group’s and structure pending tasks, a timetable or calendar application will come in handy, because with it you can note any event and add details about them, such as location, setting warnings to not miss it, share it with other people or create shared agendas, and even publish those agendas online to disseminate them if you are interested.

Schedule management is a powerful tool to specify the characteristics you want; you have access to many public schedules related to the most diverse topics, from the weather forecast of your area, to your favorite team’s matches. In addition to the *help* page of the application itself, you can find many help videos online with explanations of the different uses and how to implement them.

PILL 3 – USING TECHNOLOGY CREATIVELY

Christmas is coming and, as every year, your company organizes a dinner for all workers and their couples. Every year a physical poster is designed to advertise it in various places at the workplace and on the company's website. You have been asked you to make a poster for this year, and have been given a copy of last year's poster as an example.

So, get to work and design a poster however you want. The Christmas dinner this year is at the restaurant of your choice.



HELP	You can use many programs to create a poster. At the bottom of the example poster you can see that was is made with “Piktochart”; you can use it as a template and from it introduce changes to make a new, more creative proposal.
	That program is an online editor. You will be asked to create an account to access; you can use your Google account. The use is simple: it will ask you what you want to do and will show you templates to use in a very intuitive way. Then double click on texts to edit them, and use other keys.
	Your work will be automatically saved in the Dashboard. When you finish your design, export it to your PC using the “download” option.

FINAL REMARKS

Developing your creativity is very important. In this case, by starting from an example and using the same tools as others, you can create new and original works. You don't need to just copy what you have seen, you can improve it.

There are many design programs to make posters, presentations, infographics... both those that you can download and boot from your PC and online ones, with which you can work from any device.

When you need to design something, search among the different programs for the one that best suits the results you want to obtain. The difficulties you may

have when using a new program will quickly become an advantage, because you will have expanded your technological knowledge in the process.

PILL 4 – IDENTIFYING GAPS IN DIGITAL COMPETENCES

Within the training plans for your company's staff, you are offered the possibility of -within your working hours- doing three online activities or training courses each year. Your supervisor asks you to make your selection to complete your training. What would your three requests be?

	COURSES I WANT TO DO
1.	
2.	
3.	

HELP	This is about your own training. You know your accumulated knowledge better than anyone, as well as those areas that you would like to delve into or deepen; there are no wrong answers in this pill.
	Find out what MOOC platforms are and look for courses of interest in the main ones (Coursera , EdX , Google activate ... there are many of them).

FINAL REMARKS

The internet offers thousands of online training courses and activities of all kinds. Many of them have a sign-up price, but there are also many more that are free and can provide you with training and certify the knowledge acquired. MOOC (Massive Open Online Course) platforms are websites where you can find thousands of free courses that will help you complete your training.



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