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PROPAGRI

PROPAGRI- PROFESSIONAL INTEGRATION OF YOUNG PEOPLE THROUGH AGRICULTURE

PEDAGOGICAL FRAMEWORK



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Introduction

Executive Summary

1. Purpose

Involving youngsters in the agriculture field is a challenging intake. Most youngsters don't find it applying and interesting as a career path. This document seeks to develop a framework, offering a theoretical toolbox to analyze context-dependent barriers and enable youngsters. Starting from the intention to fill this gap in the professional development of youth workers and educators by providing guidance regarding teaching methodologies and techniques for youth NEETs in the agricultural sector.

2. Design/methodology/approach

The framework is informed by field research into innovative and attractive educational approaches in the agricultural sector. The theories in the framework are selected from the perspective of field validity in two ways; they were chosen because the topics covered by these theories emerged as relevant during the field research and therefore it can be expected they have applicability to the field. The authors' insights and suggestions are summarized in the propositions throughout the text.

3. Findings

The Framework is based on **five key categories** which are then divided into specific sections addressing a particular principle: 1) General principles, 2) Cross sectoral skills, 3) Teaching and learning methods, 4) Social and emotional aspects and 5) Educational compatibility.

4. Value

This framework makes an ambitious attempt to cross disciplinary boundaries in the field of agriculture to contribute to a more comprehensive and holistic understanding by integrating fresh learning perspectives.

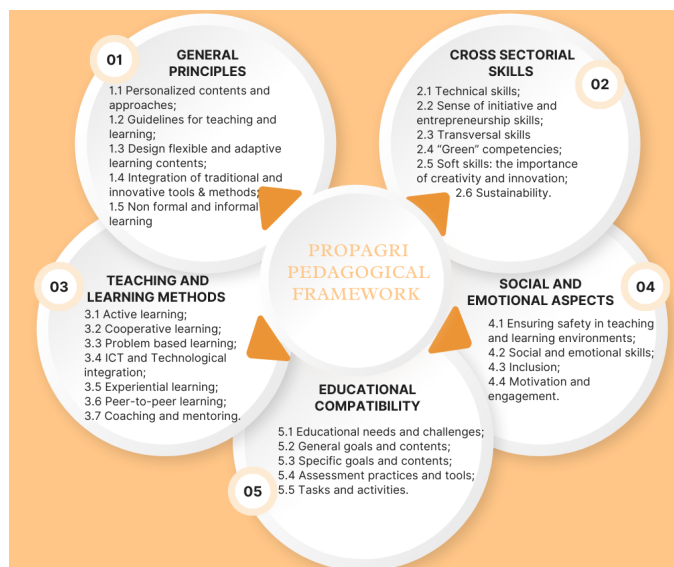


Figure 1. PropAgri Pedagogical Framework.

About the project

PropAgri is a Cooperation Partnership project, funded under the Erasmus Programme with the support of the European Union. The project involves institutions from 5 different countries (France, Italy, Germany, Serbia and Belgium). PropAgri gathers academic institutions in the agricultural field with youth organizations, to encompass a theoretical approach with the everyday practice perspective.

The consortium comprises diverse partners representing a wide range of territorial and cultural contexts, each bringing unique expertise from various fields.

This framework is the first result of the project and is designed following a step-by-step process and activities that will lead to the creation of exclusive educational material.

Step 1: Definition of the PropAgri pedagogical framework

Is the core document of this project result and it will produce a report (this document) as a base for the elaboration of the pedagogical framework of theoretical training.

Step 2: Development of the theoretical content of the courses.

The topics covered will be the basic functioning of a farm and sustainable farming techniques. It will address these themes with a climate-aware approach and will focus on the role of agriculture in these environmental issues. Main result of this task is the preparation of the set of course content. 5 Modules of training content available for educators and youth workers will be designed.

Step 3: Pilot the theoretical courses in the partners' countries

15 young people will be locally selected by the partners and their involved network. The partners will test the theoretical content and prepare a report on the experimentation details and feedback together with a SWOT (Strengths, Weaknesses, Opportunities and Threats analysis. A report on the main results from the experimentation phase will be created and used for the fourth and final step.

Step 4: Optimisation of pedagogical framework

The framework will be upgraded and adapted based on the evaluation and analysis at the previous stages and will be optimized for further application. An evaluation and optimization report of the theoretical courses will be produced and available for future users.

Why this pedagogical framework?

This Pedagogical framework offers a planning process and structure to guide curriculum, assessment, and instruction of young NEETs in the field of agriculture and climate change. Its two key ideas are contained in the title: 1) focus on teaching and assessing for understanding and learning transfer, and 2) design curriculum “backward” from those ends.

The PropAgri framework consists of:

- (1) design principles created based on the theoretical and empirical understanding of teaching and non formal learning in the agricultural field;
- (2) recommendations and guidelines for considering these principles in the design of educational content, and;
- (3) concrete examples of how these principles have been considered in the PropAgri design and how they can be considered when using in teaching and learning.

The special focus is on agricultural sustainable practices and climate change related studies to learners coming from a young age group (18-35 years old) NEETs (Not in Education, Employment, or Training).

Most of the design principles can be, however, applied in the design of any other learning fields.

This document's primary aim is to support trainers, youth workers, educators, teachers, farmers etc. that will be able to use this framework to create educational content to deliver training sessions to young people.

The value

The PropAgri Framework identifies the theoretical basis of the framework, illustrates how this informs teaching strategies, and outlines key research driven perspectives and considerations important for informing design.

- It answers youth workers' need for high quality professional training material to use with young people, especially NEETs;
- Addresses the need of the agricultural sector for more attention and contribution from the youngsters;
- To raise young people's awareness about rural and sustainable and provide them with knowledge on basic functioning of a farm and sustainable farming techniques
- will increase their awareness of environmental and climate issues and how the agricultural sector can address them

The framework intends to be a creative and innovative content that merges the agricultural practices and non formal education methods.

How to use it?

We hope that the framework can guide youth workers, trainers and educators in the selection of efficient teaching and learning methods, task and activity types, i.e., ways of teaching and learning (how), and of teaching and learning contents (what), particularly in the context of agricultural, cross-curricular key competences for lifelong learning, and climate change-enhanced awareness and learning for the target age groups.

When designing the training content, one can choose the most relevant design principles to be considered each time, based, e.g., on the specific learning objectives, instead of trying to keep

all principles in mind. Educators/Trainers/Youth workers can also choose to focus on specific design principles based on their personal professional development needs, for instance.

The pedagogical framework, design principles and, recommendations is a result of efforts consisting of:

- literature review (documentary analysis);
- comparative curriculum analysis in France, Italy, Belgium, Serbia and Germany;
- collaborative work of the ProgAgri project's pedagogical researchers and technicians.

Key points about the framework

- ❖ Supports the development of educators' and youth workers practice and places a focus on learners at the center of designing, practicing and reflecting on learning;
- ❖ Aspirational and supportive of educators', youth workers' and teachers' ongoing improvement allowing for consistent, shared understanding of learning and teaching across in and out the classroom learning content mainly focused in the field of agriculture;
- ❖ Adaptive and multi layered, enabling adjustments to use different elements depending on need and context of each user;
- ❖ Evolving and responsive, allowing for adaptation through feedback and new information (at a later stage of the project, the framework will be optimized);
- ❖ Relevant to various phases of learning from 18-35 years old NEETs.

We envision this framework as a versatile and accessible tool, available in both English and the national languages of each project country. It could be expanded and replicated in new local contexts and adapted to various target groups.

Target groups

Due to the aforementioned specificities of the project "Propagri" we can therefore individuate and define three major target groups, together with their roles:

- ❖ Youth workers/Educators/Trainers: the main target of the project;
- ❖ Professionals in the agricultural field: key stakeholders;
- ❖ Young NEETs and disadvantaged youth: the indirect target of the project.

In order to create effective and successful activities, and therefore address properly the criticalities that were identified during the previous stages of the project, we will need to define and analyze the respective relevance, specificities and needs.



Youth workers

As the main target of the pedagogical framework, we will firstly need to address the role of youth workers in the project.

First and foremost, youth workers is an umbrella term that defines all the professionals that are involved, at different levels, in the guidance of youths in their personal and professional development.

This wide definition, perhaps too wide, covers a variety of different figures, spanning from young volunteers to fully fledged trainers and educators, but that are united under a common approach: the employment of non formal and informal education practices and methodologies.

Due to the relatively recent realization of the importance of the role of a youth worker in the development of youngsters, especially in the frantic world that we are experiencing these recent years, there is an increasing need for tools that can guide and support these professionals in the development of activities.

The work of youth workers can be very different from one case to another, and can vary based on several factors:

- ❖ professional profile of the youth worker;
- ❖ objectives and focus of the activity;
- ❖ specific needs of the target group.

That being said, most of the work of youth workers is centered around providing youngsters with formative opportunities, volunteering, development of soft skills, active citizenship, creativity, project writing and dialogue with local and national stakeholders and policy makers.

The recognition of youth work and its professionals is still undergoing and varies from country to country, but its importance is more evident with each passing year.

Their professional involvement with youngsters, especially those with difficult backgrounds (victims of discrimination, youngsters with disabilities or with fewer opportunities, NEETs, etc...) serves as a complementary approach to their development, supporting them in the acquisition of theoretical and practical transversal skills that will help them in the achievement of their life goals and expectations.

The work of these professionals is defined and guided by 4 main “pillars”¹:

- ❖ **Active participation and empowerment of young people:** the promotion of the development of creative and personal approaches to personal and professional life, along with the acquisition of tools that will give each youngster the capacity to make informed choices in their personal and professional lives;
- ❖ **Voluntary participation:** the interactive, social and relational nature of the activities that are typically developed in the youth work framework makes it a great way to promote engagement and dedication to future activities on a voluntary base;

¹ <https://www.nya.org.uk/what-is-youth-work/>

- ❖ **Non formal education and informal learning methodologies:** non formal and informal education techniques allow for a broader variety of approaches, making it perfect to create specifically tailored learning pathways that can properly complement “traditionally” structured, formal education;
- ❖ **Equality, equity, diversity and inclusion:** youth work values and respect the individual choice and inherent differences among youngsters, and support them in the process of acceptance of themselves and their peers. Moreover, it focuses on the importance of social justice and equity, often aiming to evening out the social and economical imbalances that affect youngsters.

Over the course of this Pedagogical Framework, along with the following steps of the project, we will be focussing on the strengths and specificities of the youth work approach to learning, and their unique role in the coaching and mentoring of youths.

By keeping in mind the specific assets that youth work brings to the table, we plan on providing them a ready-to-use tool to employ when working with a difficult to reach target group (NEETs and youngsters with fewer opportunities) and with a theme that is nowadays often overlooked, or even considered undesirable, professional field (primary sector, specifically sustainable agriculture).

Among these professionals, and arguably the main target of this project, we can identify those that actively take part in the educational initiatives that are carried through non formal educational methodologies: trainers and educators.

The specificities of both the field of work that we are going to tackle and the target group for the activities are often viewed as difficult to work with, also due to a rather scarcity of contents available that can be used to support the development of new and innovative educational initiatives.

Agriculture is often perceived as a distant alternative to the more vibrant and modern city lifestyles, with little to no chances to have a prosperous career and therefore not worth the hard work that it requires, and NEETs as a whole are by definition a difficult target group to reach and engage throughout.

These factors were the main reason why we chose to develop the project PropAgri, in order to give actual resources that could be used to tackle the topic even for the less experienced trainers and educators by joining the expertise of professionals in both the youth work field and agricultural backgrounds.

Professionals of the agricultural field

The project “Propagri” aims to highlight the modern agricultural sector as a viable and rewarding career option for youngsters, in order to break the stigma affecting it that mostly sees it as hard, tiring, and unrewarding.

Such stereotypes are indeed out of touch with the reality of a field that is seeing a great modernization and that would benefit greatly from a fresh perspective of youngsters coming from many different social and economical backgrounds.

The professional profile of these professionals is widely diverse, and heavily depends on the field that they operate into (farming crops, livestock), the methodologies employed (conventional farming practices, advanced agricultural technologies), the extension of their farms and their geographical context.

Moreover, as older farmers are retiring, fewer and fewer young people are choosing to start a career in farming. Only 11% of the EU's farm managers are under 40 (as of 2016). It is a challenge to attract younger talent to the sector. And there is an increasing need for youngsters with diverse professional backgrounds that can work together with the "older" generation of farmers in order to access those fundings, often viewed as too difficult to obtain and/or properly manage.

This aspect of modern agriculture is especially important as it is heavily focused on the ecological and sustainable transition, which is also one of the main goals that this project wants to pursue.

Only by understanding the critical points of the worklife of these professionals can we hope to build a lasting network that will link together the supply and demand, while shaping a structured internship and training programme.

NEETs

NEETs, an acronym for "Not in Education, Employment, or Training," refers to a specific demographic group characterized by their disengagement from the labor market and educational institutions. When defining a target group of NEETs in Europe, it's essential to consider the diverse socio-economic and cultural contexts across different European countries. However, some general characteristics can be outlined:

- ❖ **Age Range:** NEETs in Europe typically range from late teens to early thirties. This group often includes recent school leavers and young adults struggling to find stable employment or educational opportunities. For the scope of this project, we will consider the NEET population aged from 15 to 29.
- ❖ **Education Level:** The education levels of NEETs can vary, but they often include individuals with low educational attainment, those who dropped out of school or failed to access further education, and individuals with limited access to higher education due to various socio-economic barriers.
- ❖ **Employment Status:** NEETs usually have limited or no experience in the labor market, which can be attributed to a lack of job opportunities, limited skills, or other barriers preventing them from accessing employment. Some might have had sporadic or short-term employment but struggle to secure stable, long-term work.
- ❖ **Socio-Economic Background:** NEETs come from various socio-economic backgrounds. However, many in this group often come from disadvantaged

backgrounds, facing financial challenges, familial issues, or other socio-economic barriers that hinder their access to education and employment opportunities.

- ❖ **Geographical Context:** The specific challenges faced by NEETs can differ based on the country and region within Europe. Factors such as regional economic disparities, availability of educational resources, and local labor market conditions can significantly impact the experiences of NEETs.
- ❖ **Skills and Training Needs:** Many NEETs lack essential skills required for the modern job market. As such, tailored training and skill development programs are often required to improve their employability and reintegrate them into the workforce or educational institutions.

The NEET concept encapsulates a heterogeneous group, represented by (i) long-term and short-term unemployed NEETs, (ii) unavailable NEETs due to family duties, (iii) unoccupied NEETs, i.e., those not actively seeking a job, but also not restricted due to other obligations, (iv) NEETs seeking opportunities, including youth actively trying to find a job or education and training but who are still waiting for offers that match their competencies and status, and (v) voluntary NEETs, i.e., those who choose to be in such a situation.

In 2020, over 13.7% of European youngsters could be considered a NEET², with an inversion of the decreasing tendency of the previous decade.

This increase is obviously closely linked to the Covid-19 pandemic, along with the difficult socio-economic times that some European regions and countries are facing right now.

When targeting this group, it's important to consider these characteristics and design targeted interventions, policies, and programs that address the unique challenges faced by NEETs in Europe. Such initiatives may include vocational training programs, educational support, career guidance, mentorship programs, and initiatives promoting social inclusion and community engagement.

Certainly, addressing the challenges faced by NEETs in Europe requires a comprehensive understanding of the factors contributing to their disengagement from education, employment, or training. Here are some additional insights on this demographic group:

- ❖ **Barriers to Entry:** NEETs often encounter barriers preventing them from entering the labor market or pursuing further education. These barriers can include a lack of job opportunities, discrimination, mental health issues, physical disabilities, or limited access to affordable education and training.
- ❖ **Social Exclusion and Isolation:** NEETs can experience social isolation and exclusion, leading to feelings of alienation and disengagement from mainstream society. This can further exacerbate their challenges and hinder their ability to seek out opportunities for personal and professional growth.

² <https://www.eurofound.europa.eu/en/topic/neets>

- ❖ **Impact of Technological Advancements:** Rapid technological advancements can also contribute to the challenges faced by NEETs. Many lack the necessary digital literacy and skills to adapt to the changing demands of the modern workforce, thereby limiting their access to employment opportunities in tech-driven industries.
- ❖ **Policy Interventions:** Various European countries have implemented policy interventions to address the issue of NEETs. These policies often focus on providing educational and training opportunities, promoting youth entrepreneurship, establishing mentorship programs, and offering financial support to encourage their participation in education and the labor market.
- ❖ **Intersectionality:** NEETs can belong to diverse and intersecting demographic groups, including minorities, immigrants, individuals with disabilities, and those from marginalized communities. Addressing the unique challenges faced by NEETs within these intersecting identities is crucial for creating inclusive and effective support programs.
- ❖ **Community and Peer Support:** Community-based support systems and peer networks can play a vital role in reintegrating NEETs into society. Encouraging community engagement and fostering a sense of belonging can provide NEETs with the necessary emotional support and guidance to help them overcome their challenges.

The long-term consequences of prolonged disengagement among NEETs can have a significant economic impact, leading to increased rates of poverty, decreased productivity, and a strain on social welfare systems. Therefore, addressing the NEET issue is not just a matter of social welfare but also an economic imperative for sustainable development.

To effectively address the challenges faced by NEETs in Europe, it is crucial for policymakers, educators, employers, and community leaders to collaborate in implementing holistic and sustainable solutions that promote education, employment, and social inclusion. These solutions should be tailored to the unique needs and circumstances of NEETs in different European regions.

Defining the framework for the PropAgri workshops

Methodology and principles for the elaboration of the Framework

The process for the development of this pedagogical framework was centered around several pivotal points, starting from the critical examination of previously existing scholarly works, research studies, and educational materials related to the development and implementation of effective teaching methods and strategies.

In the case of this document, the process can be summarized in the structure presented below:

- ❖ **Theoretical Foundations:** the first step will be the definition of the key concepts that define the development of a pedagogical framework. We will address issues such as



educational theories (constructivism, behaviorism, socio-cultural learning theories, etc...) along with their effects on the designing of an effective teaching approach;

- ❖ **Pedagogical Strategies:** The foundation of a good pedagogical framework is the underlying strategy that was employed in order to engage and motivate students while fostering the achievement of the expected learning outcomes. We will discuss the role of active learning, critical thinking and knowledge retention strategies, along with the integration of newer technologies.
- ❖ **Assessment and Evaluation Methods:** Each and every educational and learning pathway requires a specifically tailored strategy for the evaluation and assessment of the progress of youngsters, in order to promptly identify learning obstacles and gaps, and adapt the learning contents and strategies accordingly;
- ❖ **Teacher Training and Professional Development:** This step is the core of the project, and represents the main reason for its development. We will discuss the importance of the education of trainers and facilitators, while highlighting the importance of providing them with the necessary tools, resources and support to effectively apply these pedagogical strategies in their day to day work, adapting to different situations and educational landscapes;
- ❖ **Challenges and Future Directions:** Lastly, we will briefly discuss the challenges and barriers that are commonly associated with the development, and practical application, of pedagogical frameworks, such as resource constraints, resistance to change and other social and cultural factors. We will try to propose recommendations and future directions that can be adopted to refine and enhance the quality of future pedagogical frameworks, promoting the continuous improvement of educational practices.
- ❖ **Literature Review:** it focuses on recent research on the topic of agriculture. The studies cover different areas, considering the broader panorama of agriculture, mainly at the European level. Based on the most relevant literature for the project PropAgri we tried to summarize main topics. We used different sources for this research, mainly based on: 1) Gray literature: reports and articles published by civil society organizations or produced for public policies purposes; and 2) Scientific literature: books, articles and reports based on scientific methodology.

With the creation of this pedagogical framework, educators, researchers, and policymakers can gain valuable insights into effective instructional practices and design pedagogical approaches that foster holistic student development and academic success.

Each of these steps will be explained in its own section, with each one of them specifically addressing the materials that were used in the development of the present document.

Theoretical Foundations

The theoretical foundation of a pedagogical framework represents the conceptual basis that forms the backbone of education strategies and practices. A theoretical foundation clearly defines the rationale, principles and objectives that guide the development and implementation of effective educational and learning approaches, regardless of the methodology applied (formal, non formal and informal education).

Among the vast variety of different models, there are some that are more commonly applied and considered best practices in their own field:

- ❖ **Constructivism:** The emphasis on this theory is put on the role of active learning in the construction of their knowledge, while fostering an educational environment that is focused on the creation of meaningful experiences that support the process of settlement of the concepts acquired. According to this theory, learning is an inherently dynamic and interactive process that has to foster the engagement of learners in activities that are aimed at the exploration of new ideas. For this reason, rather than being a passive receiver of knowledge, they are spurred in participating in hands-on experiences, experiments and tasks that support them in a process that is aimed at developing their own personal mental model and perspective, while also counting on the support of trainers and educators. One important aspect of constructivism, moreover, is the role of social interaction among peers, as learners can constantly benefit from the discussion of their own ideas and co-constructing their knowledge with others. Through the application of this method, educators and trainers can foster the development of critical thinking, creativity and lifelong learning of soft and hard skills that can be applied in a wide array of personal and professional scenarios. For this reason, pedagogical frameworks structured with the application of this theory are heavily grounded on principles that encourage student-centered learning, individualized and personalized curricula, collaborative problem solving and the use of real life scenarios to facilitate the process of construction of knowledge.
- ❖ **Cognitive Load Theory:** The theory revolves around the concept that learners have a limited capacity for processing new information, and therefore it is of utmost importance to properly manage “cognitive load” over the course of training and formative sessions. Cognitive load can be divided into three different categories:
 - **Intrinsic Cognitive Load:** the inherent complexity of the learning material in itself, which is directly dependant on the level of difficulty and intricacy of the subject taught;
 - **Extraneous Cognitive Load:** the additional mental effort that is required due to the presentation of the learning materials which is not strictly related to the learning objectives. The amount of extraneous cognitive load is deeply connected with the quality of the learning materials used and of the learning environments in which educators and learners operate.



- **Germane Cognitive Load:** the cognitive effort required by learners to integrate the newly obtained information with previously existing knowledge, which as a result fosters the development of meaningful learning and the construction of mental schemes.

A pedagogical framework that is influenced by cognitive learning theory focuses on presenting information with a structure that optimizes learning by minimizing the amount of extraneous cognitive load, and promoting the development and organization of optimized learning materials.

- ❖ **Social Learning Theory:** Stemming from the work of Albert Bandura, the theory capitalizes on the role and inherent value of social interaction and observational learning in the shaping of human behavior and cognitive development of learners. This theory assumes that individuals learn by observing and adapting to their environment, and particularly by modeling their behaviors, attitude and emotional reactions based on the feedback received from the external world. A pillar of the theory is the concept of self-efficacy, which suggests that each individual's belief in their own capacity plays a vital role in their motivation, perseverance and capacity to reach their goals. As a result, behavior is seen as a product of the dynamic intersection of external/environmental influences, personal cognitive factors and behavioral responses, highlighting the role and importance of a social and learning context that actively fosters quality learning.
- ❖ **Experiential Learning Theory:** Based on the model first developed by David Kolb, experiential learning makes for a comprehensive framework that emphasizes on the importance of direct experience and observation in the learning process. The theory is therefore based on the concept that learning is a continuous cycle between concrete experience, reflective observation, abstract conceptualization and active experimentation. These 4 steps, deeply interconnected and iterative among each other, represent the foundation of a successful learning environment. Pedagogical frameworks developed following this model are focused on the importance of engaging in hands-on experience and on the critical reflection on the outcomes of these experiences, leading to long term retention of the knowledge acquired and an overall deeper understanding of the topic. By channeling knowledge in practical tasks, Experiential learning aims to foster holistic learning and the development of critical thinking, problem solving and adaptive behaviors.
- ❖ **Socio-Cultural Theory:** Developed by Lev Vygotsky, Socio-Cultural Theory is a widely renowned learning model that puts social and cultural factors at the foundation of cognitive development. According to this theory, individuals acquire knowledge and cognitive skills through their relationships and interactions with their more knowledgeable peers and elders (such as teachers and educators, parents, friends, etc...). In the definition of this theory, Vygotsky puts the emphasis on the importance of social collaboration, language and one's cultural tools in the learning process, especially as

factors that promote cognitive growth. Moreover, this theory defines what is known as the “zone of proximal development”, where individuals can engage in activities performed with the assistance of others. This dynamic relationship that links individual development and social interaction highlights the role of social guidance, cultural influences and experiences and collaborative learning experiences in fostering cognitive development and problem solving experiences.

- ❖ **Behaviorism:** This theory is deeply rooted in the work of B.F. Skinner, which states that all human (and to some extent even non human) behaviors are acquired and instilled through conditioning by external and environmental stimuli, such as positive reinforcements and the usage of specific and measurable objectives and goals. The application of this theory in the educational field relies deeply on the usage of repetitive patterns and drills, along with the employment of behavior modification techniques in order to facilitate learning and retention of knowledge. Such psychological and educational theory is seeing less spotlight in nowadays educational approaches and is often perceived as “old fashioned”, but can still be integrated to some extent to a successful pedagogical framework.

From this brief, non exhaustive, summary of the different major educational theories, we can surmise that there is a wide plethora of different approaches to teaching and learning, which can be adapted, integrated and combined with each other.

In doing so, educators can develop more specific pedagogical frameworks that can be used to pinpoint and achieve specific learning outcomes, cater to diverse learning styles, and therefore creating and fostering a supporting and engaging learning environment for their pupils.

This integration process, though, can be successfully implemented only through a deep knowledge of the specificities of each one of these models, in order to capitalize on each one's strengths and compensate for their weaknesses.

Pedagogical strategies

Once the theoretical foundations and models are decided, we can move to the next part of the development of our pedagogical framework: the decision of the strategies that we are going to use in order to promote the pupils' learning and their retention of knowledge.

Such strategies, which we will later explore in depth in the relative section of the actual pedagogical framework, span across multiple different types of approaches, and try to capitalize different strengths and adapt to various learning needs and situations.

The specificity of each of the models calls for different strategies and techniques, for example some of them are more focused on working on the environment around the individual to

produce a conditioning on the way that they react and develop, whereas some other approaches are much more focused on the work on the individual in itself.

For this reason, it's important to understand the deeply intertwined relationship that links these two aspects of a pedagogical framework, since a mismatch in this phase of its development can lead to ineffective educational attempts, both in terms of learning outcomes and engagement of the pupils.

Moreover, these strategies need to be chosen in order to seek an approach that is coherent with the field and topic that are currently being discussed by the educators. Each strategy is potentially effective in developing knowledge on a given topic, but it is apparent that some are more suited than others.

This specific pedagogical framework, for instance, is being developed in order to build knowledge and know-how on the field of agriculture.

Historically such competences are passed down through “active learning” and experiential learning, with the objective of reaching a deeper connection with nature and its “rules” in order to obtain the best possible outcome in terms of quality and quantity of the harvest.

As time progressed, and technological breakthroughs became more and more advanced, we understood that empirical learning was not enough, and that agriculture, like many other professional fields, needed a more theoretical approach that could effectively complement the invaluable and essential “traditional” learning approach.

This combination represents the natural evolution of the learning and educational efforts that are done while developing pedagogical frameworks for each and every field of expertise.

Assessment and evaluation methods

The assessment of the quality of the education has a central role in the development of pedagogical initiative, one that is most of the time severely underrated.

Indeed, some of the most “traditional” and old fashioned educational and pedagogical approaches use the evaluation of the learning outcomes just as a measure of the value of the learners retention of knowledge, often resulting in underachieving students problems with self esteem and ultimately resulting in lower engagement in the learning experience.

Luckily this approach is seeing less and less usage in modern education, and the assessment of the learning journey is no longer just a method to give a score to the student, but most importantly a way to pinpoint critical control point in the development of the pedagogical framework, points that need to be addressed promptly to ensure the best possible learning experience for all the learners involved.

Obviously this does not entirely rule out the importance of the evaluation of the learning outcomes in the learners, but it effectively shifts from a method to evaluate and score them to a way to improve the education experience of present and future learners.

Such evaluation can be carried out through several means, so here as some of the most frequently used ones:

- ❖ **Formative assessment:** a continuous method of assessment of the learning progresses of the learners, which can be used in order to provide immediate feedback on which part of the teaching is properly working and what needs changing;
- ❖ **Summative assessment:** an evaluation conducted at the end of a learning period to evaluate learners' overall understanding and mastery of the relevant learning outcomes. Leaves small to no space for improvement on the student itself, but can be used in order to have a better grasp of an educational programme in its entirety, potentially saving changes to programs that need more time to really show their results;
- ❖ **Standardized testing:** this assessment is administered uniformly to understand the capacity to perform of students in a given situation or on a specific set of topics, and is mostly used to compare results at a regional, national or international level, regardless of the pedagogical method employed;
- ❖ **Performance based assessment:** this evaluation requires students to demonstrate their knowledge and understanding of the topic by performing real life tasks and project, which will allow them to find and explore practical applications of their learning, along with improving their analytical and critical thinking abilities;
- ❖ **Portfolios:** a collection of several work samples, self assessments and reflection carried through by the student spanning a set period of time during their learning journey, and can be used to obtain a oversight of the progresses that each student made and to individuate eventual critical points and "shortcomings";
- ❖ **Observations:** the evaluation is carried out by the mentor and educators through methodological observation of the student's behavior and interaction with the learning materials and their peers, providing insight in their social and emotional development;
- ❖ **Self assessment:** the educational programme is structured in a way that leaves space and time for each pupil to have a break and independently assess their learning experience and outcomes, encouraging each one of them to take an active role in their education and promoting awareness of their strengths and weaknesses;
- ❖ **Peer assessment:** the evaluation is conducted in a safe and positive environment which allows each pupil to provide feedbacks on each other's work, therefore promoting collaborative learning and the capacity to give constructive feedback;
- ❖ **Feedback and conferences:** Usually associated with coaching and mentoring teaching methods, this evaluation approach is based on one-on-one meetings of educators and pupils to discuss their progresses, strengths and strategies for future development;

Carrying out a proper evaluation of the learning process results in a better experience for learners, improving their engagement and allowing them to explore their own cognitive profile, their strengths and weaknesses and therefore potentially supporting them in their growth process and future life and career choices.

Teacher Training and Professional Development

The quality of any educational program lies first and foremost on the capacity of the educators involved to convey effectively the notions that the students need to internalize.

This capacity is dependant of several different factors, which can be lumped in two main categories:

- ❖ their personal and professional skills as educators;
- ❖ the quality of the teaching materials at their disposal.

Improvements on these two areas of expertise are fundamental in order to attain better students' achievements and overall satisfaction in their learning, and will support and motivate them in following through with each additional step in the process.

This last aspect is even more important when we take into consideration the specific target group that we want to address, as the NEET phenomenon is often born due to a school and educational structure that fails to cater to the specific learning needs of a certain percentage of youngsters.

Obviously the causes are many, with many of them that are completely unrelated to the quality of the education provided (such as socio-economic backgrounds or personal factors), but it is clear that a different approach to education and teaching can at least catch up on many youngsters that are now feeling lost, abandoned and are lacking hope and motivation to carry on with their education and professional career.

This framework, and the PropAgri project as a whole, were designed with one common goal in mind: the creation of a handy and ready to use toolkit that would support educators and youth workers in their work with youngsters in the agricultural field.

For this reason, this framework will contain guidelines to improve both of these aspects by providing these professionals with self assessment and refinement tools along with instructions, outlines and materials that originate from the expertise of experienced professionals in the fields of youth work and agriculture.

Challenges and Future directions

The past sections of this document should have provided readers with an overall understanding of what defines a pedagogical framework.

We consider each one of the previously presented sections as a fundamental brick to the development of a comprehensive framework, and each one of them requires fine tuning and tinkering in order to properly fit the needs of educators and learners.

This development process comes with many challenges, and it is impossible, even with nowadays methodological and technological advancements, to find a one-fits all solution to the

wide and near-infinite spectrum of different learning and teaching needs that a youth worker might encounter in their professional journey.

That being said, we hope to have provided them with the information that they will need in order to ease their burden, and we aim, with the following section, to provide them with a good starting point to develop their own, personal, approach to teaching and coaching the younger generations.

Literature review

Our Pedagogical Framework is based on the most relevant literature for the project PropAgri and specifically for the elaboration of the Pedagogical Framework. It aims to help people interested in agricultural education and sustainability to have a broader and deeper perspective on the relevant topics concerning these areas. We studied the bibliography to identify general challenges and practices of education and involvement of youth NEETs in the field of agriculture. We used different sources for this literature review, mainly based on:

- 1) Gray literature: reports and articles published by civil society organizations or produced for public policies;
- 2) Scientific literature: books, articles and reports based on scientific methodology.

The methodology followed in the consulted documents reveals diverse studies, including case studies centered on qualitative and quantitative methods and several works that combine both methods. Those that rely on qualitative methodologies tend to use individual or group interviews, especially in the case of exploratory analyses. On the other hand, global or comparative studies resort to quantitative methods supported by survey techniques such as Organisation for Economic Co-operation and Development (OECD)³ and EC reports.

There are the two core themes involved in the PropAgri project: on the one hand promoting a more sustainable way of applying agriculture and on the other promoting “agriculture” as a plausible path of the engagement of youngster NEETs. The ideal would be to combine these two thematic domains and bring new contributions and perspectives to each other. The solution would be to create an education path that finds in the agriculture issues its own ideas and needs to be satisfied, or conversely to find in the agriculture answers for some of the environmental problems to be solved.

In order to promote this possible partnership, the PropAgri project uses training workshops aimed at an audience in difficulty and not included in a training path.

³ <https://www.oecd.org/>

Framework Design Considerations

Drawing on these theoretical perspectives, and associated research to date, we can identify key aspects that contribute to our pedagogical considerations:

1. Building informal and nonformal learning scenarios for teaching youth NEETs;
2. Agriculture and educational potential for inclusion of NEETs;
3. Agricultural Education proposals to combat climate change.

Building informal and non formal learning scenarios for teaching youth NEETs

Constructing informal and non-formal learning scenarios tailored to the specific needs of youth NEETs is pivotal in addressing the challenges they face in their educational and vocational journeys. This section seeks to highlight the importance of creating such learning environments and the strategies that can be employed to effectively engage and educate this demographic.

To effectively build learning scenarios for youth NEETs, it is essential to understand the multifaceted challenges they encounter, including social exclusion, lack of motivation, and skills gaps. Acknowledging these challenges lays the foundation for the development of targeted learning programs that can rekindle their interest in education and equip them with the necessary skills for future employment.

In 2022, 11.7 % of 15-29 year-olds in the EU were neither in employment nor in education and training (Eurostat, May 2023). For this age group, the European Union has set an EU-level target ⁴ stipulating that the share of young people neither in employment nor in education or training should be less than 9 % by 2030. In 2022, an average of 11.7 % was identified as NEET within the EU but it ranges from 4,2 % (lowest in the Netherlands) and 19,8 % (highest in Romania). Therefore, it is important to make sure that the transition from education to work is smooth and also highlight the risks of being neither in employment nor in education or training. There are risks, both for the individual and in the long run for society, if young adults find themselves disengaged from both education and the labor market.

Based on these concise premises, it is necessary to shape educational experiences for young individuals not in education, employment, or training (NEETs) that are engaging and inspiring, aiming to regain the trust that educational institutions have lost in their perspective. The loss of faith in the effectiveness of education and the lack of confidence in the potential benefits of schooling primarily stem from the disparity between what educational institutions promote and assess as valuable in an educational offering and the external reality. This distance is a multi-layered and complex issue (Resnik, 1995), to which the pedagogical scientific debate has tried to answer for a long time, proposing many different ways. One prevalent option, widely embraced within the scientific community is the insistence that both formal and informal

⁴ <https://op.europa.eu/webpub/empl/european-pillar-of-social-rights/en/>

education and training should be grounded in the experiences of the individuals. In essence, education should be tailored to align with the interests of the students, enabling the creation of genuinely enriching experiences (Dewey, 1932).

On the other hand, most young people are not attracted to living in rural areas and to jobs with strenuous working conditions, low income and long working hours. Generational renewal, particularly in the agriculture part of the agri-food sector, remains challenging. In 2020 only 1 in 3 farm managers was 40 years old or younger (Eurostat, farming 2020).

From this brief overview, we can assess that whichever learning scenarios that we want to pursue in this Pedagogical Framework has to be finely tuned on the specific needs of the stakeholders and target groups involved, especially the professionals in the agricultural field and the NEETs.

For this reason, we will need to integrate a theoretical approach, which will provide the learners with the extensive knowledge needed to properly operate in a modern farm, with the practical aspects of the work, which are of utmost importance for two main reasons:

- ❖ The capacity to keep NEETs engaged throughout the process, thanks to the establishment of internships and networks among local farmers and youngsters;
- ❖ The possibility to meet the needs of the professionals in the agricultural sector, most of whom are struggling in finding young people interested in joining their work at all levels (from the grassroot up to the logistic and financial management of the farm).

All these theoretical and practical learning modules will be focused on the development of farming practices in the local and national communities that will take inspiration from the most cutting edge sustainable practices available in Europe and abroad, but without forsaking the traditions that deeply bind this sector, and which is the pride and legacy of many farmers.

Moreover, due to the wide percentage of NEETs that are also faced with various kinds of different disabilities, these learning modules will be developed in a way that can ensure their accessibility to a wider range of learners.

The theoretical training material must be designed to address their needs which can be summarized as:

- ❖ Provide these young people with a safe and suitable place to learn;
- ❖ Increase their awareness of professional opportunities in the rural and agricultural sector;
- ❖ Provide them with knowledge, skills and tools for better inclusion in this professional field;
- ❖ Promote the values of sustainable development, especially while keeping in consideration that modern techniques and traditional ways are not mutually exclusive.

Agriculture and educational potential for inclusion of NEETs

In the last few years, with some of the highest registered percentages of young NEETs becoming imperative to guarantee decent work and ensure their inclusion. This focus has drawn uniform attention across and beyond Europe, evidenced with the reduction of NEETs population being highlighted in the Sustainable Development Goals 2030 (specifically goal 8.6), and thus adopted by all United Nations Members in 2015.

Agriculture, the backbone of human civilization, has the potential to not only ensure food security but also serve as a transformative tool for the education and inclusion of young NEETs. Negative perceptions about agricultural professions may discourage young NEETs from considering agricultural education as a viable option. young people need to be persuaded to view the sector more positively than they do now (Bello Ars 2015).

Agricultural education often involves hands-on learning experiences that allow learners to directly engage with farming practices. By creating comprehensive training programs that integrate theoretical knowledge with practical, industry-relevant skills (experiential learning). It can help youngsters gain a better understanding of the modern and innovative aspects of agriculture, which can help dispel outdated stereotypes and perceptions according to the International Journal of Agricultural Education. Whilst the formal education has a significance in fostering essential life skills (e.g. crop cultivation, animal husbandry, and agricultural management). The non-formal and informal education can help NEETs acquire soft skills such as communication, leadership, sense of initiative etc. which not only enhance their employability but also equip them with valuable knowledge for personal development.

According to research published in the Journal of Applied School Psychology, hands-on engagement with nature, as is often the case in agricultural education, can positively impact mental health by reducing stress, anxiety, and depression. For NEETs, who often grapple with feelings of exclusion and purposelessness, the sense of community and purpose that comes with agricultural involvement can play a pivotal role in improving their overall well-being.

Climate change poses a number of challenges for agriculture in the EU. These contemporary challenges necessitate a comprehensive understanding of sustainable agricultural practices. The Intergovernmental Panel on Climate Change (IPCC) has underscored the urgent need for sustainable agricultural methods to mitigate the adverse effects of climate change. Up to date agricultural education can provide NEETs with a solid foundation in sustainable practices, fostering environmental stewardship and promoting a sense of responsibility toward the planet.

It is not possible to ignore and capitalize this important learning potential in an educational direction. The motivational and inspiring potential can contribute to promote social inclusion at a larger scale, ensuring that all individuals have the opportunity to participate in society as esteemed members who can contribute to the overall welfare of the community (Omidvar & Richmond, 2003).

In addition to the possibilities of developing sensibility and awareness through the activities of sustainable farming, there is also the prospect of developing entrepreneurial opportunities and economic empowerment of the NEETs. Agricultural education can serve as a catalyst for entrepreneurial ventures, as evidenced by research conducted by the International Food Policy Research Institute (IFPRI). By nurturing an understanding of market dynamics, supply chains, and value addition processes, agricultural education can empower NEETs to establish their own agribusinesses, thereby fostering economic self-sufficiency and contributing to sustainable local and national economies.

Agricultural Education proposals to combat climate change

In recent years, there has been a notable global upsurge in the awareness of environmental and climate issues, driven by a confluence of factors and events. One significant factor is the mounting scientific consensus on the grave consequences of human-induced climate change, such as rising global temperatures, extreme weather events, and the rapid loss of biodiversity. As a result, public consciousness has grown around the urgency of taking meaningful action to curb these threats and preserve the Earth's ecosystems for future generations.

Media platforms, including documentaries, news coverage, and social media, have played a pivotal role in disseminating information and fostering a better understanding of environmental issues. These channels have facilitated a broader discourse on sustainability, pollution, and the interconnectedness of human activities with ecological systems. Moreover, environmental advocacy groups and grassroots organizations have actively raised awareness, mobilizing communities and individuals to participate in local conservation efforts and adopt more sustainable lifestyles.

In educational settings, there has been a concerted effort to incorporate environmental education into curricula, ensuring that future generations are equipped with the knowledge and tools to address these challenges. International efforts, such as the Paris Agreement⁵ and the United Nations Sustainable Development Goals⁶, have also underscored the need for collaborative action on a global scale, emphasizing the importance of international cooperation and policy coordination.

Corporations and industries have increasingly recognized the importance of adopting eco-friendly practices, not only to reduce their environmental footprint but also to align with the growing consumer demand for sustainable products and services. As a result, sustainable business practices and corporate social responsibility have become integral components of many companies' strategies, contributing to the broader narrative of environmental consciousness and responsibility.

⁵ <https://unfccc.int/process-and-meetings/the-paris-agreement>

⁶ <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>



In this scenario of ever increasing awareness of such vital issues we can pinpoint agriculture, and the primary field as a whole, as one of the most important actors in the theme of environmental and climate issues.

The “Climate change” and “agriculture” meet each other in a number of ways. On one hand climate change affects directly and indirectly the agriculture sectors. And on the other hand agriculture is a big contributor to the release of air pollutants and Greenhousegas⁷(GHGs).

It is true, in fact, that the primary sector is one of the most impactful fields from an ecological standpoint, especially through damaging practices such as mass cultivation and intensive livestock farming, practices that became more diffused over the last century in order to satisfy increasing consumption and waste.

These practices are responsible for the decaying of the quality of life of many people under the poverty level, the decreasing variety of habitats and biodiversity, and the employment of damaging fertilizers and pesticides.

Specifically, these agricultural practices are responsible for:

- ❖ Increasing deforestation rates and forest cover loss due to agricultural expansion and logging.
- ❖ Water pollution levels and water resource depletion resulting from agricultural activities.
- ❖ Emissions of greenhouse gasses, including methane and nitrous oxide, from livestock farming and other primary sector activities.
- ❖ Soil degradation and erosion rates linked to unsustainable farming practices and land-use changes.
- ❖ Loss of biodiversity and habitat destruction due to agricultural and forestry practices.
- ❖ Trends in waste generation and disposal from the primary sector.

At the same time, agriculture is the most impacted economic sector by climate change and the ecological crisis, as they lead to severe challenges whose repercussions mostly hit the most disadvantaged links of the economic sector, being the local producers and the farmhands.

Looking to the future, experts in the field expect that agriculture is affected by climate change and global warming. Putting emphasis in creating generations that are invested and prepared in facing these upcoming challenges is one of the main policy trends shaping agriculture's future.

Shifting sustainable agriculture practices and production as well as growing awareness of sustainable consumption will amplify the implementation of change for the future.

Evidence shows that to face these challenges, it will be crucial a revolution of the skills needed. Young people should be ready to face the change and be resilient: to predict future change, to discover new opportunities and markets, and to respond to new demands and changing customer preferences.

Such skills, education and training are essential for getting the next generation ready to farm sustainably.

Education and training design, curricula and delivery can support these efforts. Integrated educational programmes encompassing agriculture can raise awareness among young learners. Practical, experiential learning, vocational education and training (VET) and non-formal learning, can provide young individuals with a genuine understanding of the nature of employment within the agri-food field.

⁷ <https://public.wmo.int/en/our-mandate/focus-areas/environment/greenhouse-gases>

Non-formal education applied in the field of agriculture holds a significant importance in the collective effort to combat climate change. NFE offers a flexible and inclusive platform for delivering vital knowledge and skills to a broad spectrum of learners. The methodology of non-formal learning encourages innovation and experimentation, enabling participants to adapt to changing climate conditions and develop solutions that reduce the carbon footprint of agriculture. By fostering a deeper understanding of the climate-agriculture nexus and promoting eco-friendly practices, non-formal education plays a pivotal role in equipping communities to mitigate climate change and build a more sustainable, resilient future for agriculture.

Through tailored agricultural education programmes, the next generation can develop a comprehensive understanding of sustainable agriculture and climate change, enabling them to make informed decisions that are environmentally responsible and economically viable. Some of the experts proposals to combat climate change are:

- ❖ developing transversal programmes on sustainability and climate change specific on sustainable and urban farming and for bio-based production;
- ❖ ensuring integration of classroom-based and practical hands-on learning;
- ❖ championing soft and transversal skills related to management digitalisation, creativity and teamwork as essential complements to hard ones;
- ❖ support and guide youngsters in the agri-food businesses to access to public and private funding;
- ❖ partnerships with local farmers, conservation organizations, and community experts to connect with mentors, gain practical insights, and participate in community projects that promote sustainability.

By creating a holistic educational programme about addressing climate change through agriculture, you can empower the next generation with the knowledge and skills they need to be effective stewards of the environment and resilient farmers in the face of a changing climate.

The propagri Pedagogical framework

Moving on to the most important part of this document, we will now describe the specificities of PropAgri Pedagogical Framework.

The framework is based on **five key categories** which are then divided into specific sections addressing a particular principle.

Each different section contains a description of the rationale behind the decision to include it in the framework, along with some recommendation to effectively integrate it in the day to day work of a youth worker and educator.

As a pedagogical framework we will be focusing of the methodology for the development of contents and activities related to the field of inclusion of NEETs in the agricultural field, and therefore it has to be intended as a series of guidelines which will shape the contents contained



in the more “practical” documents developed over the course of the project, but also as a mean to adapt such content to the specific needs of a given group or activity.

1. **General principles:** Pedagogical principles which can be applied generally in the design and use of learning and teaching activities.
2. **Cross sectoral skills:** Cross-curricular competencies considered relevant particularly for the PropAgri design and use.
3. **Way of teaching and learning:** Pedagogical models and ways of teaching and learning considered essential particularly for the PropAgri framework.
4. **Social and emotional skills:** Principles referring to ensuring safety in teaching and learning environments, enhancing the social and emotional skills, inclusion of everyone and ensuring the motivation and engagement of learners in the process.
5. **Educational compatibility:** Main aspects that ensure that the educational content is compatible to be applied in different contexts.

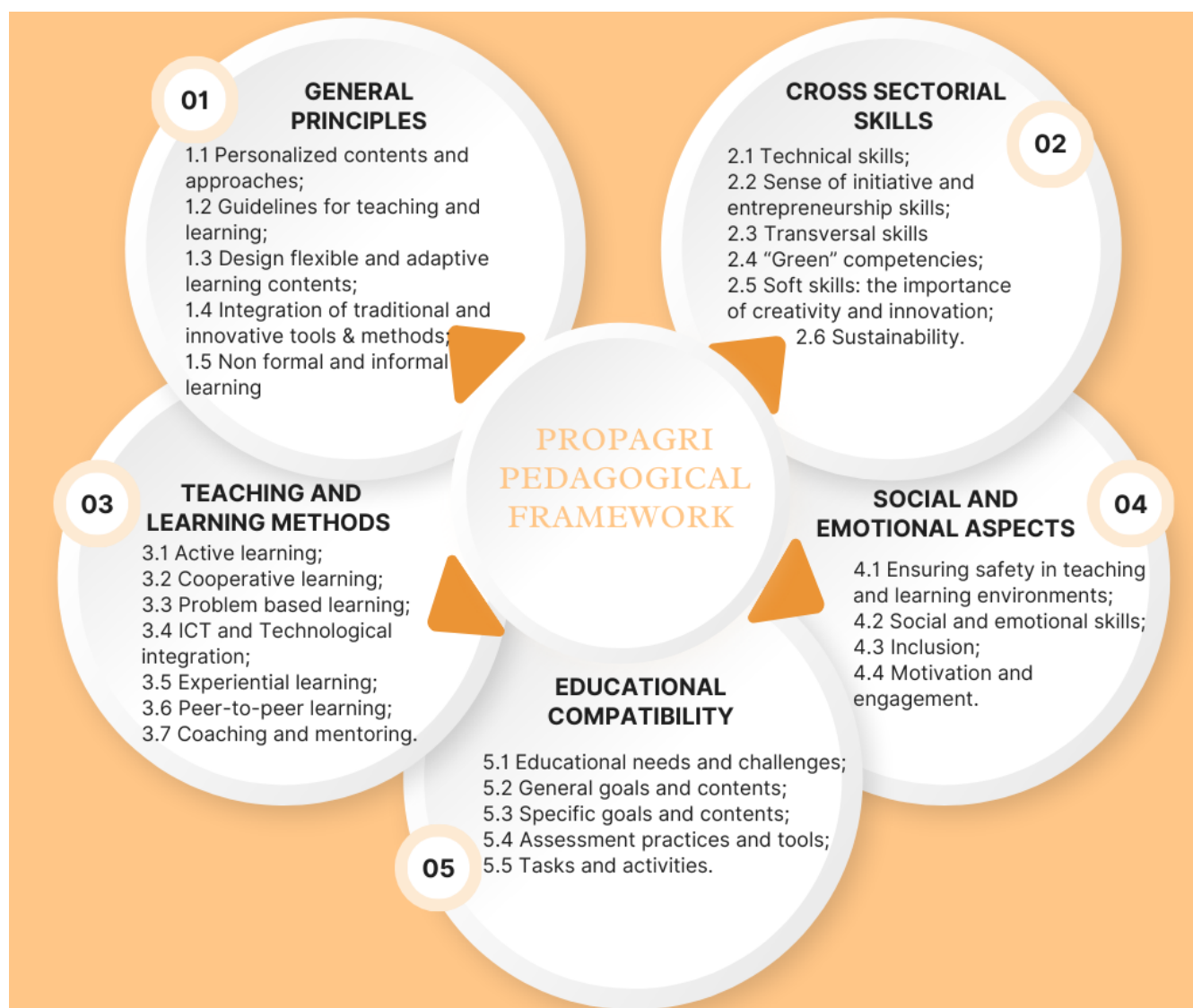


Figure 2. PropAgri Pedagogical Framework

The application of these categories should provide educators with a structure that allows them to get a better grasp of which are the factors that need to be taken into consideration when developing their own teaching approach, starting from the creation of the actual contents, the delivering of such contents and the evaluation of the retention of the knowledge.

Before moving forwards to the actual body of the framework, we will provide some of the founding ideas that are behind its creation:



- ❖ Reflection and individual planning of the contents of the curricula deeply affects the overall learning experience, and through this framework we plan to facilitate this process while leaving educators room for change;
- ❖ Many of the methodologies of this framework are aimed at integrating theoretical and practical knowledge as way to improve their retention of knowledge and to properly train them on the specific needs of the labor market;
- ❖ Evaluation and assessment made over the course of the activities plays a vital role in the honing and improvement of the whole curriculum during its lifespan. This continuous improvements will maximize learners overall experience and their satisfaction in the outcomes and achievements;
- ❖ True understanding of a concept can be reached only through application of theoretical concepts in a practical environment, and by being able to individually explain, interpret and apply such contents.

1. General principles

As the name suggests, the first section of this pedagogical framework is dedicated to the founding principles that motivated the consortium in the development of the project “PropAgri”. These principles are centered around the rationale for the choosing of the methodologies and the development of the didactic materials that were and will be prepared in the other stages of the project.

Further sections will then focus on specific aspects of these principles, adding details and specific instruction to this structure, fleshing out the complete document.

1.1 Personalized contents and approaches

Rationale

Modern education and pedagogical initiatives are rapidly shifting focus from a one-fits-all approach to a more personalized and learner-centric model, whose aim is to properly cater to the specific needs and inclinations of each individual learner.

For this reason, the implementation of specifically tailored educational approaches has become such a key factor when it comes to enhancing the overall learning experience, as it allows educators to work on instructional methods and materials that are aligned with their learners strengths, interests and learning styles.

The inclusion of each participant's personal hobbies and skills in the learning process is a major tool to ease the process of assimilation of the competences acquired, fostering a deeper understanding of the theoretical concepts while, at the same time, providing learners with a

greater insight in their practical applications. All in all, this approach strengths lies not only in the promotion of active engagement and motivation, but also in the cultivation of a sense of relevance and real work applicability, which in turn encourages learners in developing an holistic and comprehensive understanding of the topic.

Recommendations

1. Preliminary and ongoing assessments to the past and current competences of the students can help in targeting the areas that should be focused and those that are in need of different approaches.
2. Don't be afraid to experiment with different educational approaches, as they can differently satisfy the learning needs of each learner. Keep in mind that changing your approach too frequently can be perceived as destabilizing. Moderation in all things.
3. Ask for feedback and suggestions from the learners, and make them an active part of the educational approach, for instance providing options for different types of assignments.
4. Emotional and personal connection is an invaluable resource, especially in the relationship between mentors/educators and their students.

1.2 Guidelines for teaching and learning

Rationale

Teachers and educators can be learners as well, and cooperative learning and sharing of previous experiences is particularly important in the field of education.

The acquisition and sharing of different practices, methodologies and schools of thought can and will enrich the cultural baggage of every educator, with great benefit to their pupils.

The creation of environments that are fruitful and optimal for learning will increase the satisfaction of learners and the professional competencies of educators

Teachers and educators play a multifaceted role in the educational landscape, not only as facilitators of knowledge but also as perpetual learners themselves. In the realm of education, the cultivation of a collaborative learning environment, coupled with the sharing of diverse experiences and pedagogical approaches, holds significant importance. This collective exchange of practices, methodologies, and educational philosophies serves to enrich the cultural repertoire of every educator, fostering a dynamic and multifaceted learning environment for their students.

Furthermore, the establishment of conducive and enriching learning environments is instrumental in enhancing the overall satisfaction of learners and the professional development of educators. By fostering environments that promote active engagement, critical thinking, and open dialogue, educators can effectively nurture a sense of curiosity and intellectual growth

among their students. This, in turn, cultivates a positive and supportive learning atmosphere that encourages the exploration of new ideas, the exchange of perspectives, and the development of essential competencies among both educators and learners alike. Such an environment not only fosters academic success but also contributes to the holistic development and lifelong learning journey of every individual involved in the educational process.

Recommendations

1. Focus on supporting the development of professional competences of the educators involved, promoting the access to updated resources and training materials and fostering a sharing and cooperative environment among youth workers and educators.
2. Promote inclusivity and acceptance of diversity in the educational environment to enrich the conversation and the learning opportunities that are naturally created in situations of intercultural exchange.
3. Encourage cooperative learning opportunities even among different groups and educators, in order to let learners and educators experience different methods of teaching and learning.
4. Technological integration is a crucial factor in the development of successful educational initiatives, especially when dealing with a target group that is difficult to approach such as NEETs.

1.3 Design flexible and adaptive learning contents

Rationale

When working with diverse target groups characterized by varying backgrounds and skill levels, the cultivation of flexibility becomes not just beneficial, but essential. By devising adaptable activities and content that can seamlessly accommodate the distinct requirements of each group, educators can ensure a smoother transition and a more inclusive learning experience for all participants involved.

Emphasizing the need for flexibility underscores the importance of tailoring educational approaches to suit the specific learning styles, abilities, and preferences of the diverse individuals within the target groups. This approach not only fosters a more inclusive and supportive learning environment but also empowers educators to effectively address the unique challenges and requirements of each group, thereby enhancing the overall quality and impact of their instructional efforts.

Recommendations



1. Prepare different materials that make use of different techniques and methodologies in order for them to be interchangeable without losing educational content and quality.
2. Within the same activity, educators should be provided with tips for facilitation and suggestions for changes based on the foreseeable differences in the target groups. It is not necessary to account for all the possible differences, but to at least provide suggestions to what could be changed while keeping intact the educational contents.
3. The usage of supplemental resources can help bridge the differences among target groups and the specific differences among individual learners. These supplements can include additional accessible resources for youngsters with different kinds of disabilities or simply materials that can be used in order to allow for further exploration and in depth understanding of the concepts.
4. Foster propositive environments in order to obtain feedback and suggestions from the learners on the methods used to carry out the sessions. Try to integrate as many suggestions as possible, while keeping the materials and contents relevant and responsive to the learner's needs.

1.4 Integration of traditional and innovative tools and methods

Rationale

Modern learning and teaching should capitalize on the strengths of traditional educational approaches, while keeping an open mind and an integrative approach towards newer models and technologies.

There is not a set formula for this integration, allowing educators to experiment with different tools and methodologies, especially thanks to the vast usage of non formal education techniques in this project, which naturally favors this integration compared to its formal counterpart.

Recommendations

1. Online platforms are readily available online, and can support educators with a near infinite array of options when it comes to integrating traditional learning approaches. Online survey websites can be used as a means to collect feedback and impressions, while the creation of multimedia contents (or the presentation of those available online) can help learners in obtaining a better grasp of the topic at hand.
2. Methodologies such as gamification and problem based learning are becoming more and more prominent in the educational environment, and even though they are usually very time consuming for the educators and the developers of the activities, their usage can prove very beneficial to virtually any educational initiative.

1.5 Non formal and informal learning

Rationale

Non-formal and informal education initiatives play a pivotal role in the agricultural sector by providing valuable learning opportunities for NEETs interested in pursuing careers in farming and agribusiness.

Through non formal education we can offer practical training in agricultural techniques, sustainable farming practices, and agri-entrepreneurship, equipping NEETs with the necessary skills and knowledge to excel in the dynamic agricultural landscape. Informal education in this context often involves hands-on learning experiences, community-based agricultural projects, and mentorship from experienced farmers, enabling NEETs to gain practical insights and cultivate a deeper understanding of agricultural processes and best practices. By integrating non-formal and informal educational approaches, tailored agricultural programs can effectively nurture the next generation of skilled and knowledgeable individuals who are poised to contribute to the sustainable development and innovation within the agricultural sector.

Recommendations

1. Integrate non formal education activities with informal practices (e.g. visits to a site, games, challenges between learners etc.) and formal school learning (e.g. frontal presentations, invite experts to talk in your lessons etc.).
2. Many different resources and activities can be found online and as part of other projects results, which can be easily integrated in the toolkits of less experience educators and trainers;
3. Select tools and participatory methods focused on the learners and their interest.
4. The training content addressed to youth workers/educators (as planned in the results of PropAgri) should contain: a general introduction on the theme of the workshops, with reference to the benefits of combining the theme of agriculture with that of climate change and sustainability; the basic contents to be delivered through the workshops; indications on how to conduct the activities; rules for facilitating teaching strategies present in the project; indications on how to conduct the “debriefing”; and indications on how to use the tools for the evaluation of the results.
5. Integrate evaluation and recognition instruments such as certificates, rewards etc. at the end of the learning process.

2. Cross sectoral skills

This principle refers to the cross-curricular skills that represent competences considered relevant particularly for the PropAgri. The cross-curricular skills selected are in line with some of the main European frameworks defining 1) Key competences for lifelong learning (European Commission, 2018), 2) EntreComp (European Entrepreneurship Framework, 2018) for skills,



attitudes and behaviors needed to be entrepreneurial and to create values for others, GreenComp (European Sustainability Framework 2022) for green and sustainability competences and LifeComp (European Framework for personal, social and learning to learn key competence 2020).

2.1 Technical skills

Rationale

The development of technical skills is of utmost importance when preparing youngsters with no prior experience in the field of agriculture to navigate this sector.

Providing learners with adequate and updated professional competences will serve as the foundation for navigating a world which is in continuous evolution, which has seen the integration of newer technologies and methodologies in order to increase productivity and sustainability.

Proficiency in areas such as data and market analysis, precision farming and fundraising (especially important due to the sheer amount of financial resources available in Europe), will lead to a better optimization of the resources at hand, and will ultimately ensure the industry's capacity to meet the rising global demands for food while keeping in mind the importance of building a sustainable infrastructure.

Recommendations

1. Develop learning content that follows the latest developments in terms of new skills and skills necessary for the future.
2. Apply hands in practice methodologies and create real-life simulations that mirror the actual application of knowledge in professional settings.
3. Create connections with professionals from the agriculture field by enabling exchanges and visits.

2.2 Sense of initiative and entrepreneurship skills

Rationale

The agricultural field, similarly to many fields that are driven by small and medium enterprises, highly value the capacity of an individual to take an active role in their professional life.

For this reason, during the activities developed through this pedagogical framework, we will have to account for the need to promote the development of entrepreneurial skill and sense of initiative in the learner involved.

The importance of this step becomes even more crucial when we take into consideration the specific profile of many NEETs, which are often lacking in this particular professional aspect.

A keen sense of initiative empowers professionals in any field to take proactive measures to react to external and internal stimulus, giving them an edge over the competition and allowing them to thrive.

By cultivating these skills we can ensure that the next generation of professionals in agriculture will have the necessary tools to actively contribute to the well-being of the industry, to its growth and long term sustainability.

Recommendations

1. Empower learners to foster knowledge, skills, and attitude that develop an entrepreneurial mindset and sense of initiative.
2. Support them into turning their ideas into concrete actions and guide them in grasping the opportunities available for young farmers.
3. Foster the comprehension of effective business management by presenting different business models such as Business Model Canva or Social Business Model Canva.
4. Apply different learning and practical methodologies such as “elaboration of business plan”, creation of a “pitch, role playing etc.



Figure 3. Visual presentation of EntreComp.
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2.3 Transversal skills

Rationale

Similarly to the previous section of this chapter, supporting the development of other transversal skills will improve the capacity of learners to adapt to different professional and personal situations.

Specifically:

- ❖ Cultivating skills such as critical thinking and problem-solving enables individuals to analyze complex agricultural issues, devise effective strategies, and implement sustainable solutions.
- ❖ Effective communication and teamwork skills facilitate the seamless exchange of knowledge and ideas, encouraging cross-disciplinary collaboration and fostering a cohesive agricultural community.
- ❖ Adaptability and resilience equip professionals to navigate the dynamic nature of the agricultural sector, enabling them to respond adeptly to evolving market trends, technological advancements, and environmental changes.

Recommendations

1. Adapting and integrating activities originating from other fields or tackling different topics can be useful as a way to target specific transversal competences.
2. Promote group work as a means to actively engage learners in cooperative work environments, possibly changing the disposition of the members of the groups and their roles (see point 3.2).
3. The diverse backgrounds of the participants in the activities can be integrated in order to share competences developed during previous work experiences and in their personal lives.

2.4 “Green” competencies

Rationale

Achieving a higher environmental ambition and supporting climate change mitigation and adaptation is the cornerstone of the main agriculture policies. People in agriculture face a dual challenge, as they must both cultivate food and ensure the preservation of nature and the conservation of biodiversity. It is crucial that the current and future generations have the awareness, the tools and knowledge necessary to guide the process towards a wise utilization of natural resources for sustaining food production and enhancing our quality of life.

Recommendations

1. Design learning opportunities aimed at developing green competencies and assessing where one stands in supporting learners to develop green skills;
2. Promote a conscious awareness of the issues linked to the ecology and the impact that human activities have on nature's balance.
3. Empower learners with knowledge on the most recent technologies that can be used in order to develop initiatives that are as sustainable as possible in every aspect.
4. Focus on the role that each individual has on changing the perception of the ecological crisis and in the search for solutions.
5. Keep an open mind on different points of views, and try to convey the idea that a complex problem can be tackled from many different sides, without meaning that one idea is inherently better than another one.



Figure 4. Visual representation of *GreenComp*.
© European Commission

2.5 Soft skills: the importance of creativity and innovation

Rationale

Creativity and innovation are the actual driving force behind the development of modern day sustainable agricultural practices.

For this reason, during the educational process, educators will have to promote the exploration of new and creative ideas from the learners, which will be essential to develop novel solutions and approaches to enhance actual methods while minimizing environmental impact.

Activities will have to guide learners towards expressing their own ideas, while giving them the needed knowledge to understand what could and couldn't work in practice.



Recommendations

1. Promote creativity by inspiring learners to merge diverse tools, as well as various scientific and creative models, to articulate their ideas.
2. Encourage them to seek information and get inspiration from successful cases and enhance the depth of their learning materials.
3. Encourage the exploration of creative and innovative pedagogical approaches that transcend subject-specific knowledge by combining insights from fields like digital, social, economical and environmental.
4. Integrate various modes of mentoring and leadership programmes to foster the learners through providing supportive attitude, nurturing connectivity, and increasing self-confidence.
5. The learning programmes should encourage the learners to integrate innovative solutions, technologies and practices and share them with each other.

2.6 Sustainability

Rationale

The concept of sustainability has to be clearly understood by all learners, and therefore it is important to foresee activities and learning modules that specifically focus on this topic.

More specifically, it will be a priority to convey the importance of ecological sustainability without underselling the concept of economical sustainability.

Practices presented during the learning modules will have to give the opportunities to participants to analyze the strengths and weaknesses of each methodology presented regarding these two aspects, in order to define which approach better suits their own future professional ideas and their surrounding environment.

Recommendations

1. Develop learning content that aims to educate on the topic of sustainability in three levels:
 - a. knowledge- knows the background and the expected future for sustainability scenarios,
 - b. skills- has the capacity to envisage solutions for sustainability that are grounded in science, creativity and value, and
 - c. attitudes- is aware of the consequences on self and the community and is motivated to take action.
2. Encourage “Acting for sustainability” among learners- to take action at individual and collective level to shape sustainable futures, to the extent possible and to invite them to demand action from those responsible to make change happen.



3. Promote the integration of issues that go beyond only the application of agriculture but that are related to the:
 - a. social field (e.g., how to use agriculture to empower and improve communities, inclusion of disadvantaged groups, to attract more women in agriculture etc.),
 - b. economical (e.g., long-term economic planning, revitalisation of rural areas etc.) and
 - c. environmental (e.g., reducing waste and pollution) sustainability in learning contents and applications and contributing to address climate change, preserve biodiversity and protect the natural resources.
4. Present learners with virtuous examples from their local and international realities, if possible involving representatives of such organizations in the development of the activities.

3. Teaching and learning methods

As previously stated in the methodological part of this framework, pedagogical strategies make for a crucial role in the development of a successful educational initiative.

In the following sections we will address the most important characteristics of the suggested strategies, with a focus on their strengths and expected results, along with some recommendations for the implementation in actual real-life activities.

Keep in mind that, while some strategies might target the same learning areas and competencies, the differences in the approach might lead to different results, therefore it is important to clearly understand which approach could benefit more a given target group or the tackling of a specific theme.

3.1 Active learning

Rationale

Active learning represents an instructional educational approach that goes beyond traditional methods by engaging learners in discussions and collaborative group activities spanning across different relevant themes and subjects.

As the name suggests, this strategy encourages and promotes active participation, prompting its participants in contributing through their own ways, giving each one of them plenty of space to express their thoughts and emotions.

This way, educators can foster the creation of a productive environment that allows for a rich exchange of ideas and for a deeper exploration of the topic at hand.

Unlike its passive “counterparts”, one of the main goals of active learning is the empowerment of learners in taking an active role in understanding through effective communication, critical thinking and problem solving.



Last but not least, active learning cultivates a sense of intellectual curiosity which encourages learners to proactively and enthusiastically embrace a process which sees them as the main supporters of their own educational journeys.

By definition, active learning represents an educational “umbrella” which contains many different, and more specific, pedagogical strategies which will be presented in the following sections of this chapter.

Recommendations

1. There are many great examples of visitable farms and learning experiences that are available to explore for different age groups and with their focus on different crafts in the agricultural field. Creating links with these realities can produce great results to give even the least informed participant a detailed insight on the specific needs and challenges of modern farming.
2. Educators should always put the priority in the creation of an environment that allows learners to experience the educational contents in their own terms. Be careful to give room to every participant while facilitating discussions and workshops.
3. Encourage participants in giving feedback on the activities developed and integrate such inputs in the following modules, in a way that gives them the idea that their proactivity has a tangible impact in their learning experience.

3.2 Cooperative learning

Rationale

Working in a group to achieve a given learning objective has shown great results in the development of skills in the areas of teamwork and communication skills, which add up to the specific competencies which were the main topic of the learning exercise. Due to the relevance of these two soft skills in the modern labor market, it goes without saying that an approach that is based on the development of these kinds of activities can be greatly beneficial in order to reintegrate NEETs in the workforce.

The development of interpersonal skills, fostered by this strategy through peer interaction and the collective environment, nurtures a sense of collective responsibility toward the achievement of the learning goals, and the understanding of the importance of different skill sets in a workgroup.

Through this process, learners not only enhance their understanding of the academic content but also develop vital interpersonal skills that are essential for effective collaboration and success in various academic and professional settings.

Recommendations



1. The work of the groups should be followed closely to understand the dynamic among individuals and encourage a similar contribution from all members.
2. Develop activities that challenge the normal teamwork patterns to have participants adapt together and actively cope to adverse work situations.
3. Don't be afraid to mix participants in different groups: the separation of existing groups can be beneficial for some learners in order to get out of their comfort zone.

3.3 Problem based learning

Rationale

The development of authentic, real-life scenarios within the learning environment serves as a means for empowering learners to engage in hands-on experimentation and cultivate their problem-solving and analytical abilities.

The integration of real world, multifaceted challenges in the educational approach allows for the development of more immersive learning experiences, encouraging learners to participate more actively in the sessions and developing a more critical approach to the topic.

This application of theoretical knowledge to practical scenarios supports them in acknowledging all the different aspects of a theme, the consequences of decision making and the possibility for each choice to lead to different results, possibly with more than one correct answer.

By integrating this methodology in a curricula, educators can aim at creating a sense of confidence in the learners, which will surely help them in navigating future critical moments in their personal and professional lives.

Many NEETs are stricken with a sense of overwhelming anxiety, which often originates from their own self assessed lack of practical and theoretical knowledge, and as such they could greatly benefit from this methodology.

Recommendations

1. Real life scenarios are a cheap and easy to implement way to promote a problem solving attitude towards critical situations which can be perceived as tangible and real from the participants.
2. Ask for the support of professionals in the field of agriculture to provide real examples of difficult situations to foster brainstorming and discussion among the group, while also providing them with professional solutions with their consequences.

3.4 ICT and technological integration

Rationale

The integration of modern technologies and tools in the education of learners have a proven positive effect on their capacity to retain and use the knowledge gained during the sessions.

Moreover, despite the “traditional” guise of the agricultural field, which is often seen as a practical and not particularly innovative sector, we are actually witnessing a modern technological revolution in the field, one that requires a certain prowess in the handling and understanding of such technologies.

For this reason, the integration of technologies in the learning process can help to bridge this transition in participants and give them the tools to keep up with these changes.

Recommendations

1. Integrate various types of ICT solutions to facilitate learning.
2. Use activities with technology as an opportunity to solve problems and learn about technology.
3. Use digital instruments and tools to keep evidence and track of the learning process for the learners to consult in the future.
4. Integrate technology, such as data collection tools, mapping software, and agricultural apps, to enhance the learning experience and prepare students for modern farming practices.



Figure 5. DigComp Main areas.
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3.5 Experiential learning

Rationale

When working in a practical field such as agriculture, it's mandatory to set up an educational plan that allows for learners to dive practically into the work.

Experiential learning serves as an invaluable methodology in cases where the administration of theoretical materials and competencies are not sufficient.

This approach involves a practical and hand-on approach, allowing learners to gain firsthand knowledge, and get a real feedback of all the theoretical competences that they learned during the previous phases of the training.

The first-hand involvement in real world agricultural practices, such as crop cultivation and livestock management, enables them to understand the practical complexities of the field, in a way that could not be achieved through a strictly theoretical approach and fostering a new generation of skilled and knowledgeable professionals who are equipped to address the evolving demands and opportunities within the field.

Recommendations

1. Clearly define the learning objectives and outcomes for each experiential activity. Ensure that they align with the overall goals of the training program.
2. Find ways to connect learning with real-life experiences and phenomena with both physical and virtual tools that agricultural professionals encounter in their work. This helps learners see the practical applications of what they are learning.
3. Use experiential learning methods consisting of “hands-on learning” and “learning through reflection on doing”.
4. Apply a variety of experiential learning activities, such as field trips, hands-on experiments, role-playing, and case studies, to engage different learning styles.
5. Provide access to necessary resources, including tools, equipment, and materials, to ensure that students can engage in hands-on activities effectively.

3.6 Peer-to-peer learning

Rationale

The exchange of knowledge and information among peers usually results in a greater compliance, enjoyment and engagement in any kind of learning experience.

Usually, in non formal and informal educational approaches, peer to peer learning is usually endorsed and promoted among the groups of learners, but it's an important factor also while involving other professionals and external speakers to share their insights on the topic.

Seeing professionals of a similar age share their knowledge has a major impact in the motivation of learners, who will feel more compelled to take part in future steps of the educational program and realize that there is a possibility for the creation of a profitable career.

Recommendations

1. Create a safe and inclusive learning environment where learners feel comfortable sharing their knowledge and experiences.
2. Foster a sense of community and teamwork among learners.
3. Use a variety of grouping strategies, such as small groups, pairs, or larger teams, to promote interaction and diversity of perspectives. To that add period groups rotation to encourage learners to work with different peers.
4. Encourage learners to provide constructive feedback to their peers. This contributes to the improvement of the quality of peer learning, creating a culture of mutual learning and avoiding possible conflicts.
5. Encourage learners to see peer-to-peer learning as a model for lifelong learning in agriculture, as the field is continually evolving.
6. Promote the educational resource sharing such as articles, videos, or books, with their peers, to expand the pool of knowledge.

3.7 Coaching and mentoring

Rationale

The integration of mentoring and coaching methodologies will prove a vital ally in the cultivation of a dynamic and sustainable farming educational journey, especially when targeted and tailored towards a NEET target group.

By implementing these techniques in our approach, we plan to not only impart the essential knowledge on technical themes, but also to nurture in these learners a sense of entrepreneurship, purpose and direction.

The involvement of professionals and experts in the agricultural sector, we will provide personalized guidance in the form of support in defining goals and objectives and development of action plans that will focus on those aspects of their education.

Through hands-on training, goal-oriented workshops, and one-on-one mentorship, these programs create a nurturing environment where aspiring farmers can develop a deep understanding of modern agricultural practices, sustainable techniques, and market trends, thereby empowering them to make informed decisions and contribute to the growth and innovation of the agricultural landscape.

Due to the encompassing nature of these methodologies within the framework, we will further explore their aspects in a standalone document.

Recommendations



1. There are many different approaches and models to coaching and mentoring, each one with their own specificities. Try to match different models with the specific needs of the learner.
2. Explore the motivations and objectives of each learner to support them in their learning process and help them evaluate their progress.
3. Develop personalized learning programmes for each learner, taking into account their current skills, knowledge and the areas that need improvement. Match these needs with the coach/mentee.
4. Contribute to build strong mentor-mentee relationships based on trust, respect, and open communication.
5. Help mentees to network with agricultural experts, professionals, organizations e.g. share invites for local events, arrange field visits, invite them in your activities etc.

4. Social and emotional aspects

The quality of teaching can only be as good as the setting where participants learn.

The importance of creating a safe and welcoming learning environment is one of the cornerstones of non formal education, the main methodology that we are going to address in this pedagogical framework, and the main reason for its success in modern day educational approaches.

4.1 Ensuring safety in teaching and learning environments

Rationale

Fostering and nurturing a sense of safety in learners is crucial in order to create a conducive atmosphere which supports them in reaching their full potential.

Safety has to be declined in every shape and form, physical (especially in a potentially dangerous field such as agriculture) and emotional (which is crucial when dealing with a target group of NEETs).

The cultivation of an environment which promotes the development of trust, security and psychological well being enables them to engage more proactively and fearlessly in the learning process.

Indeed, a safe learning environment promotes a more open communication, encourages the exploration of new and personal ideas, and facilitates the free exchange of thoughts and opinions without the fear of judgment or reprisal. It enhances concentration, reduces stress, and encourages collaboration, thereby promoting holistic development and enabling learners to develop critical thinking skills, creativity, and problem-solving abilities. By ensuring physical safety, emotional support, and a respectful atmosphere, a safe learning environment lays the

foundation for a positive educational experience, encouraging students to embrace challenges, take risks, and pursue knowledge with confidence and enthusiasm.

Recommendations

1. Especially in activities carried out in groups there might arise tensions and disagreements among participants. Be quick in tackling such situations in order to de-escalate them before they undermine the overall experience of all participants.
2. Keep an open minded approach to the feedback and inputs from the participants to show them that they can actively participate in the discussion without feeling judged and/or wrong for their ideas (within reason).
3. The creation of a safe learning environment is often linked to small details that can be perceived by learners as “dangerous” or “protective” depending on their sensibility. Try to account for as many of these details as possible, especially learning from previous experiences with different groups.

4.2 Social and emotional skills

Rationale

Social and emotional skills such as empathy, communication, self-awareness and resilience greatly to the growth of individuals from a personal and professional standpoint, as it allows them to build meaningful relationships, manage conflicts and adapt to diverse and even adverse working and learning environments.

For these reasons it is important that any educational initiatives account for the importance of developing such skills as they effectively give youths the tools required to navigate modern world's complexities.

This empowerment is not limited to the enhancement of a learner's emotional intelligence, but also promotes a more positive and inclusive learning culture that is based on concepts such as mutual respect, understanding and collaboration.

Moreover, the cultivation of social and emotional skills empowers students to regulate their emotions, make responsible decisions, and persevere through challenges, laying the groundwork for lifelong success, well-being, and overall personal development. As these skills are transferable to various facets of life, including career advancement, interpersonal relationships, and community engagement, their integration into educational initiatives is crucial for nurturing well-rounded individuals who are equipped to contribute positively to society.

Recommendations



1. Support learning emotional and social awareness, emotional and behavioral regulation, empathy, team and relationship skills.
2. Create a safe space for expressing emotions and for caring and empathetic words. Remind of the importance of thinking before expressing emotions in and out of the classroom”.
3. Support team building between learners with different backgrounds, experiences and skills.
4. Considering the objective of this Framework, highlight the emotional connection between agriculture and environmental sustainability. Encourage learners to feel a sense of responsibility for the planet.
5. Discuss the ethical aspects of agriculture, including animal welfare, sustainable practices, and social responsibility.

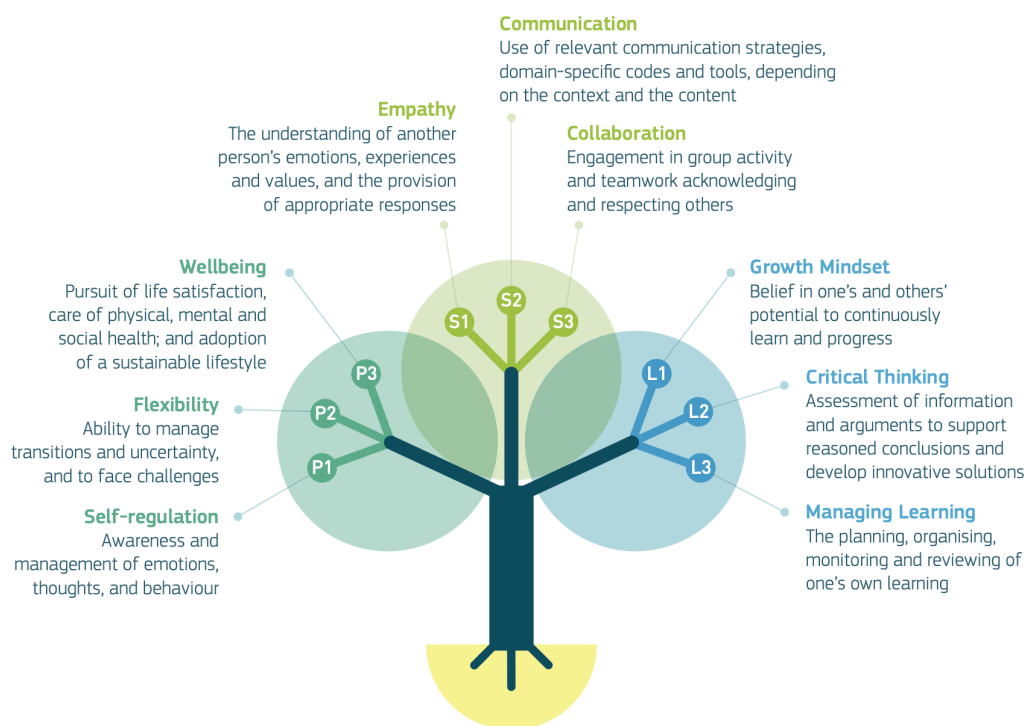


Figure 6. LifeComp at a glance.
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4.3 Inclusion

Rationale



As previously stated, NEETs are usually youngsters coming from many different social and economical backgrounds, and often come from realities that offer them fewer opportunities than their peers.

Such factors can be linked to external influences (rural backgrounds, economic regression, etc...), but also to individual factors (such as belonging to a minority group or living with some kind of disability). For this reason it is important to develop educational initiatives that are as inclusive as possible, accounting for the different needs of such a varied target group.

The value of inclusivity in education is not limited to its inherent openness to these groups, which are often left out from traditional learning environments (which can be backed out by higher than normal drop-out rates), but is also linked to the fostering of a sense of belonging and acceptance among students and the promotion of empathy, understanding, and appreciation for different perspectives and experiences.,

By promoting inclusion in education, societies can build a more compassionate and equitable future, where every individual has the opportunity to reach their full potential regardless of their background or abilities.

Recommendations

1. Promote the idea among the group that the differences among them come with different approaches and ideas, which can be linked together to explore innovative approaches to common problems.
2. A proper inclusive environment supports differences and peculiarities without being perceived as limiting and oppressive to the participants.
3. Be mindful of the specific needs of the different participants in the activities in every aspect of the organization of the initiative, starting from the contents of the materials to the accommodation and meals provided.

4.4 Motivation and engagement

Rationale

The capacity to boost motivation during an educational initiative is pivotal, especially when targeting NEETs, a target group that is often hard to reach and even harder to actively involve in any kind of activity.

For this reason, we will aim to develop activities that are aimed at increasing enthusiasm, commitment and sense of initiative in learners, instilling in them a sense of purpose and hope for the future. This motivation will be sought through the showcasing of success stories in the field of agriculture (especially from youngsters with similar backgrounds as theirs), and by highlighting the potential of sustainable farming and agriculture in the modern world, both as a means to protect the environment and as a profitable means of living.

Moreover, we will focus on a hybrid approach which will see the integration of theoretical and practical knowledge, which will further boost the sense of purpose in these youngsters, as they will be able to experience the results of their learning.

Ultimately, by integrating motivational elements into educational programs, the agricultural sector can nurture a generation of passionate and knowledgeable individuals who are driven to contribute to the advancement and sustainability of global food production.

Recommendations

1. Motivation and engagement can come from different factors in different individuals, which means that you will first have to explore together what drives them to be actively involved in the process.
2. Incorporate active learning strategies, such as hands-on experiments, field trips, and problem-solving exercises, to engage learners and tailored activities especially for the learners having low engagement.
3. Utilize positive feedback, encouragement, and rewards to increase their motivation.
4. Guide learners towards autonomy, intrinsic regulation and self-determined behavior by encouraging them to choose personally relevant tasks they want to study and to self-evaluate their work.
5. Create inspiring and motivational learning content. Share real stories and case studies of successful farmers and agricultural entrepreneurs to inspire and connect with learners on a personal level (especially taking into account the needs of the NEET youngsters).

5. Educational compatibility

In this last section we are going to address the general and specific learning outcomes that we want to achieve with the implementation of this pedagogical framework.

Moreover, we will discuss the specific learning needs and challenges that are strictly linked to the theme at hand and to the target group that we want to involve.

Finally, we will briefly present some evaluation and assessment techniques, which will ensure that the learning outcomes will be on par with the quality standards that we want to achieve.

5.1 Educational needs and challenges

Rationale

Both the theme and the target group of this educational initiative come with their individual needs and challenges.

First and foremost, agricultural knowledge requires the development of comprehensive learning materials that account for the integration of theoretical and practical knowledge.

This aspect needs to be accounted for properly, since most NEETs completely lack the practical skills that are required to effectively work in the agricultural field.

Overcoming the challenge of limited resources and funding for such initiatives is also essential to ensure the availability of necessary tools, technologies, and infrastructure for effective learning.

Finally, addressing the socio-economic barriers and stigmas associated with agricultural work is pivotal in encouraging NEETs to perceive sustainable agriculture as a viable and rewarding career option, thus ensuring the long-term success and impact of these learning initiatives.

Taking in consideration all the individual and collective needs of the target group, along with the specific needs of the agricultural field, will ensure that these training modules will develop learners' capacities, knowledge and motivation in a way that is beneficial and useful to the needs of the labor market.

Recommendations

1. At the beginning, conduct an assessment of each learner and of the group to identify their specific educational needs, background, and learning preferences.
2. Design flexible learning pathways that enable NEETs learners to follow at their own pace and which support educational needs (e.g., low performance or engagement levels).
3. Provide activities which focus on both cognitive (e.g., conceptual change, prediction, anticipation of consequences) and affective (e.g., interest, engagement, teacher-learner relations) dimensions of learning.
4. Provide additional support beyond the training program, helping learners access job placement services or further education.

5.2 General goals and contents

Rationale

The project “PropAgri” aim is to reach different general goals:

5. The rehabilitation of NEETs and their inclusion in their community economic structure;
6. The promotion of the importance of sustainable agriculture in many aspects of a community and in the development of a sustainable life (from a ecological and economic standpoint);
7. The abolition of the stigma that revolves around agriculture as an unrewarding and undesirable work field;
8. The creation of a connection between demand and offer by educating youngsters specifically on what the labor market needs.

These general goals are planned to be achieved through the usage of different analysis and teaching tools, which are all being discussed and specified in the previous and following sections of this framework.

Recommendations

1. Support the creation activities which fit to the local context and curriculum. Consider, for instance, country-differences in ways that cross-curricular or transversal competences are included in the curriculum (see also the other principles).
2. Ensure that the training content is aligned with the agriculture standards and practices, keeping it relevant and up-to-date.

5.3 Specific goals and contents

Rationale

Similarly to the general goals of the project, specific goals and contents have been discussed and decided upon, and can be described as follows:

- ❖ Provide knowledge on field organization and composition along with the development of a rotational plan for different crops;
- ❖ Specificity of the most commonly used crops and how to properly tend to them;
- ❖ Sustainable best practices and next steps of modern agriculture;
- ❖ Development of practical experience on the field through international internship programs;
- ❖ Creation of a support infrastructure for learners through coaching and mentoring techniques.

Recommendations

1. Describe clearly the subject-specific goals, contents, and expected outcomes in the teaching outlines.
2. Allow modifying the goals and contents depending on the necessary requirements (e.g group, time, resources, specific needs etc.).
3. Keep in mind that this is a general framework but white as it takes into account that there are country-differences, for instance, in the ways agriculture, sustainability and climate change are taught (e.g., as separate subjects, as part of environmental studies, or as cross-curricular themes).

5.4 Assessment practices and tools

Rationale

A well structured evaluation process is the key to developing effective educational activities. First and foremost it allows us to assess the effectiveness of the learning process and to ensure that the achievements of learners are aligned with their desired learning outcomes.



Assessment methods can vary depending on the stage and type of activity that we are developing, but will involve the usage of project based assessment, self reflection and peer evaluation, in order to give each learner a deeper insight on their own learning journey.

Moreover, it empowers them with a better grasp of their own strengths and weaknesses, promoting critical thinking and self assessment.

Including varied and different evaluation methods can provide educators with a spectrum of feedback that can be used in order to make adjustments to the learning modules, facilitating continuous improvements and the personalization of the learning experiences.

Relevant feedback will be collected not only to improve the activities proposed, but also to implement and modify specific sections of this document as a whole.

Recommendations

1. Allow for moments of self and group reflection to allow learners to evaluate their progresses and their achievements over the course of the activities.
2. When developing the agenda of any training or course, foresee the development of activities that are aimed at evaluating the competences of the participants before, during and after the activities.
3. If you identify relevant criticalities in the approach and methodologies that you are employing with a given target group, don't be afraid to explore the topic with the participants: giving inputs will make them feel heard and will give you plenty of ideas to improve your work in the future.

5.5 Tasks and activities

Rationale

The creation of the activities and the tasks proposed to the group of learners should be guided by a variety of factors that depend heavily on the composition of the group and the complexity of the competences that you want to transfer.

A well planned, simple, activity can bring more satisfying results than a complex alternative which was poorly designed.

For this reason, spending more time to prepare adequate materials will greatly improve the impact and the satisfaction of the whole learning journey for the participants in the activities.

Recommendations

1. Incorporate a variety of task and activity types to accommodate different learning needs and cater various learning styles. The variety contributes also to make the learning path more interesting and less boring for the learners.
2. Provide detailed guidance when assigning more complicated tasks.
3. It looks like a cliché but it is not to be taken for granted. Ensure that each activity is aligned to the learning objectives. Even if it is a good activity, applied in the wrong context doesn't bring any value for the learners.
4. Implement continuous assessment to ensure the effectiveness of the tasks and activities in reaching the wanted objectives.

Operative guidelines

Non formal Education Methodology

Non-Formal Education plays a prominent role in the activities proposed. Non-formal education is a type of education that takes place outside the curriculum provided by formal education. Non-formal learning activities take place on a voluntary basis and are carefully designed to foster the personal, social and professional development of the participants.

In Europe, most citizens have received some form of schooling in their lives. This formal school education is normally based on a “vertical” relationship between student and teacher: the one who possesses the knowledge and transmits it (teacher) and the one who receives it (learner).

Non formal education, on the other hand, can be explained with the formula “learning by doing”, or learning directly in the field. The learning methodology consists of the interaction between learners and the concrete situations they experience. There are no teachers who give ex-cathedra lessons: young people, youth workers, and educators (trainers) develop knowledge and skills together, in a “horizontal” relationship.

Typical features of Non-Formal Education programmes:

- ❖ **Outside formal buildings:** As opposed to formal programmes happening in schools or universities, typically these programmes can happen in various places, including nature, or, in our case, football/sport fields;
- ❖ **Non-Hierarchical:** The process of learning in NFE foresees that trainers/facilitators are at the same level of the “students” or participants. Everyone can learn from each other, and the trainer is more a guidance (providing also theoretical inputs and insights where necessary) than a teacher;
- ❖ **Voluntary:** The activities within this frame are never obligatory but participants should be motivated to take part in it;



- ❖ **Safe Space:** It's important to have a good building of the team in the beginning where everyone can feel safe and respected, as we will need the contribution of everyone without shame to express different opinions or fear of being wrong;
- ❖ **Structured with Precise Objectives:** As mentioned, NFE is always set with a structure and every single activity has a set of objectives to reach by the end of it, which can be evaluated in the end;
- ❖ **Educational Aims:** Although some activities might be very playful or funny, the fun itself should never be the ultimate goal of NFE activities, but just a drive to let participants enjoy their learning. All activities ultimately have the goal to produce a learning experience or be instrumental to make it as productive as possible (as per team building activities, for example);
- ❖ **Experiential:** Non Formal Education privileges practice over theory. Participants are set to make an experience (a simulation, a game of some kind, a brainstorming about a topic) and then to reflect upon it debriefing the experience with the coach/trainer and moving on to find solutions to issues identified, to be applied in their daily life and in systematic ways. Participants should always be invited to "Learn by doing";
- ❖ **Stimulates Creativity and Participation:** The workshops developed want to have participants using their creativity and imagination. The more the participants are stimulated to take part in discussions and work, the more the whole group will benefit from the knowledge and ideas of each other;
- ❖ **Learner Centered:** The activities should always be focused on targeting the participants' needs, in terms of objectives, but also of their capacity and knowledge. Everything should be tailored to the group of participants for maximum impact;
- ❖ **Holistic Approach:** While formal education typically privileges the raising of knowledge about theory and less about practice, NFE works to affect our actions in three dimensions of learning: Knowledge (or what you get with your brain), Skills (what you can do with your hands) and Attitudes (behaviors and values guided by our heart);
- ❖ **Cooperation vs Competition:** Rather than trying to understand who is the best "student of the class", our approach puts people in groups in order to cooperate towards community learning rather than indulge in checking who knows more about a given topic. The ultimate goal is learning, after all, so the fact that someone knows less should never be an obstacle. If someone knows a lot about a certain topic, he or she should be invited to share their experience with the others as much as possible;
- ❖ **Self-Assessment and No Marks or Diplomas:** Nobody can judge the level of preparation reached by a participant in the field of the educational workshops developed. There should be instead, a process of evaluation comprising a self-assessment stimulation for participants to realize by themselves what they have been learning during the activities. For this reason, nobody can give any kind of votes or marks, or do any kind of exams.

Guidelines for the facilitators of the course

Having stated all the premises of the development of the activities based on this pedagogical framework, we will now move on to a more “operative” and practical section of this document: the development of the activities.

First and foremost, it is important to divide such activities in different stages:

1. Theoretical contents;
2. Hands-on activity;
3. Presentation and Debriefing;
4. Reflection.

Keep in mind that the informations contained in this pedagogical framework are mainly aimed at the development of activities that target specifically the involvement of NEETs in the agricultural world, but that with the needed modifications could be used as an inspiration towards the creation of activities tackling different themes and topics.

Theoretical contents

The development of an activity starts with a research on the theoretical contents that we want to convey to our learners, and with the creation of an agenda on the curricula.

In the scope of this project, for instance, we decided to divide the courses into 4 different modules, with each one tackling a different aspect of a sustainable agricultural profession:

- ❖ The Basics: addressing cycles, planning and specificities of different kinds of agricultures enterprises;
- ❖ Sustainable tools and practices: addressing the different types of sustainability, and which tools and practices are more suited to be employed in a properly “sustainable farm”;
- ❖ Agriculture and ecology: addressing the way in which agriculture and nature affect each other, along with causes and consequences;
- ❖ Raising livestock: addressing the specificities of the farming, breeding and raising of animals.

Each of these sections’ contents were developed after researching the topic, exploring different practices and by working closely with the professionals in the field.

It’s important to carefully plan the contents of any training course or educational activities, as only with a proper comprehension of the subject can we hope to effectively convey the information to the learners and therefore achieve our desired learning outcome.



Hands-on activities

Moving on with the practical section of the courses, we have foreseen the development of a multi-staged workshop which will be aimed at the creation of each group's "ideal farm".

After each theoretical section, participants will work in groups and integrate with the newly acquired knowledge their model of farm, reacting to different challenges and tasks that will be given to them by the trainers and facilitators.

In the guidelines for the activities, a document which will contain the session outlines of each session, we have foreseen some of these tasks and challenges, but keep in mind that versatility and adaptation might be needed in order to fulfill different learning goals.

Ensure that each learner is given the required materials and the space that he needs to express their personal thoughts and opinions, possibly giving rotating roles of leadership within the groups.

Presentation and Debriefing

Obviously, after each session, participants and their respective groups will be asked to present their own work, and the modifications made along the way.

The other groups will be prompted to provide their constructive feedback and inputs, in order to allow them to integrate them in the future steps of the activities.

Moreover, due to the research nature of some of the workshops, participants will gather and share more information on useful practices and competences than they could possibly achieve by themselves in such a short timespan, further increasing the educational value of the activity.

Reflection

At the end of the process, participants and their groups will be asked to first and foremost work collectively to reflect on the improvements that could be done to their farm model based on the feedback from other participants and their presentations.

Moreover, some space will be given for a moment of self reflection, which will boost learners' ability to retain the knowledge matured over the whole session (during the theoretical, the practical and the debriefing parts).

The last part of the course will consist in a brief presentation, an "elevator pitch", which will be used in order to consolidate in few minutes the ideas of the groups on their own models, and allowing them to develop skills linked to conveying such ideas in an effective and captivating way to a potential stakeholder/investor.

Evaluation and Impact Assessment

Importance of tracking and evaluating the learning process

As previously stated, one of the most important phases to take into consideration when developing a pedagogical framework is the evaluation and the assessment of the learning outcomes in the participants.

By incorporating evaluation processes into content creation, educators and content developers can:

- ❖ **Ensure Alignment with Learning Objectives:** A well structured evaluation process serves as a tool to verify that the educational contents developed are in line with the learning objectives set and the achievements reached. This process ensures that the materials will be relevant in attaining the specific knowledge that learners need to acquire;
- ❖ **Tailor Content for Diverse Learners:** Evaluation allows to assess and identify different learning styles and needs of the participants, along with their individual preferences. Understanding these aspects is the key to adapt and cater to diverse learning needs, making activities much more accessible and engaging for all kinds of learners;
- ❖ **Enhance Effectiveness and Engagement:** Due to the wide variety of approaches that can be employed to reach the same learning objective, the assessment of their effectiveness is crucial in understanding which educational strategy works best, and to assess the need for integrations (technological, multimedia and interactive components). Successful implementation of these components enhances engagement and promotes active learning, which in turn improves the overall experience for the learners;
- ❖ **Maintain Relevance and Currency:** Evaluation helps in ensuring that the educational content remains up-to-date with the latest research, trends, and advancements within the field. This enables learners to access accurate and current information, fostering their understanding of the subject matter in the context of contemporary developments.
- ❖ **Promote Continuous Improvement:** By incorporating evaluation mechanisms, content creators can gather feedback from learners and educators, facilitating continuous improvement and refinement of the educational materials over time. This iterative process enables the content to evolve in line with changing educational needs and technological advancements, ensuring its long-term effectiveness.

To summarize, evaluation serves a major role in the development of educational activities and contents, as it contributes to its relevance and coherence, its effectiveness and to its ability to meet diverse learning needs.

Tools for the evaluation of the learning outcomes

There are many different tools and methodologies that can be used to assess the effectiveness of a pedagogical framework along with its impact.

During the process of development and execution of the activities inspired by this framework, we will promote the realization of small activities that will focus on the evaluation of the overall experience and the collection of feedback that will be then used in order to refine the final version of this document.

Some of the tools and techniques employees will be:

- ❖ **Surveys and Questionnaires:** Utilizing surveys and questionnaires allows for the collection of quantitative and qualitative data on participants' experiences, satisfaction levels, and perceived learning outcomes.
- ❖ **Interviews and Focus Groups:** Conducting interviews and organizing focus group discussions provide an opportunity to gather in-depth insights and qualitative feedback from participants, facilitators, and stakeholders, allowing for a comprehensive understanding of the program's strengths and areas for improvement.
- ❖ **Observation and Reflection Exercises:** Employing observation and reflection exercises enables program organizers to monitor participant interactions, behavior, and engagement during activities, providing valuable qualitative data on learning processes and participant experiences.
- ❖ **Case Studies and Portfolios:** Implementing case studies and portfolio assessments allows participants to showcase their progress, achievements, and acquired skills, providing tangible evidence of their learning journey and personal development throughout the program.
- ❖ **Performance Assessments and Practical Demonstrations:** Integrating performance assessments and practical demonstrations enables the evaluation of participants' applied knowledge and skills, providing insights into their competency levels and the effectiveness of the non-formal educational approach.
- ❖ **Self-assessment Tools and Rubrics:** Offering self-assessment tools and using rubrics for evaluation empowers participants to reflect on their own learning progress and outcomes, encouraging self-directed learning and fostering a sense of personal responsibility for their educational development.



Some of these tools are aimed at assessing the level of improvements of the learners on the specific theme of the workshops, whilst others are more focused on the capacity to convey and improve transversals and soft skills, along with a general assessment of the level of satisfaction in the activities themselves.

Connection with key strategies and resources in the field

European Green Deal

The PropAgri Framework:

- Recognises that a shift to a sustainable food system can bring environmental, health and social benefits, as well as offer fairer economic gains.
- Acknowledges that the connection of Sustainable agriculture and protection of the natural go hand in hand.

EU Youth Strategy

The Framework:

- Reflects the youngsters empowerment approach at the center of the learning activities.
- Compliments to the importance of quality youth work development on all levels, including training for youth workers and educators.
- Links to the the EU youth goals, especially to #6 Moving Rural Youth Forward and #10 Sustainable Green Europe.

17 sustainable development goals by the United Nations

The Framework:

- Recognises the central importance of sustainable agriculture practices knowledge to effectively contribute to sustainable development.
- Supports the belief that we must inspire young people to act for the Sustainable Development Goals.

GreenComp - European sustainability competence framework

The Framework:

- Supports the four interrelated competence areas of the GreenComp: 'embodying sustainability values', 'embracing complexity in sustainability', 'envisioning sustainable futures' and 'acting for sustainability'.
- Links to the GreenComp set of sustainability competences to feed into education programmes to help learners develop knowledge, skills and attitudes that promote ways to think, plan and act with empathy, responsibility, and care for our planet and for public health.



European Education Area Strategic Framework

The Framework:

- Reinforces the central purpose of life long learning; that all students achieve their potential through schooling and beyond.
- Provides flexibility in the application of key teaching practices recognising the diversity of learning contexts, pathways and aspirations that comprise.

CAP - the EU's common agricultural policy

The Framework:

- Acknowledges the connection between agriculture and climate change. In particular in help to the sustainable management of natural resources and promotion of jobs in the agriculture associated sectors.
- Supports the policy's domains emphasizing the importance of involvement of skilled NEETs who can create, innovate and digitalise agriculture.

Conclusions

The 3 main components of the “PropAgri” pedagogical framework are:

- 1- Theoretical background** - lays the foundation for the theoretical aspects of teaching youngsters, specifically NEETs about agriculture and sustainability.
- 2- Principles of educational design** - Understanding these foundational principles is crucial for designing effective lesson plans and strategies in the future.
- 3- Recommendations and useful practical information** - these insights aim to further enrich your teaching experience and help you create an inclusive and supportive learning environment.

The framework and its design principles gather a wide range of teaching and learning related aspects that can be used in the design of non-formal education in the agricultural sector. It is not, however, meant to be an exhaustive collection of design principles. On the other hand, not all principles necessarily apply to every training design. The relevancy of these design principles depends on the training design focus and purpose, and some new design principles may need to be added.

The framework will continue to be developed across the project with two key aims:

- 1. To create theoretical workshops based on the principles and recommendations of the overall pedagogical framework.
- 2. To use the framework to identify detailed individual pedagogical affordances and design requirements for each principle and module created throughout the project.

The workshops will provide opportunities for discussion around these initial ideas that will support the ongoing development of a pedagogical framework for designing educational paths to support the teaching and learning of young NEETs agriculture.

We hope that the pedagogical framework, design principles, recommendations and guidelines described in this publication supports educators and trainers in the agricultural sector to create innovative and tailored training content for the inclusion of NEETs.

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