

ERASMUS-EDU-2021-PEX-COVE**Project number: 101056023****AgriNext project**

Proposal for flexibilization of vocational education and training (VET)

Croatia

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Summary

The agricultural sector is undergoing various changes that are manifested, among other things, through a growing lack of labour force that can meet the needs of such a changing labour market. The Agrinext project aims to contribute to the development of a more flexible and adaptable system of vocational education and training that could respond to constant changes in the labour market. Changes were proposed in ten elements of education, the implementation of which would lead to a system that better meets the needs of students and the economy. These are: flexibility in educational programming and school autonomy, flexibility in the enrolment process, allowing horizontal and vertical passage, providing a range of options for implementing programmes, splitting the programme into modules, allowing for choice, customisation and portability, integrating and developing key competences, an individualised approach to planning and delivering education, involving the social partners and responding to labour market needs, preventing early school leaving, recognition of prior learning, credit transfer and qualifications framework. In order to achieve changes in these elements, continuous cooperation and exchange of information between all stakeholders in the educational ecosystem is needed, which is another goal of the Agrinext project.

Abbreviations/abbreviations

C-VET Continuing Vocational and Technical Education and Training (C-VET)

I-VET Initial Vocational and Vocational Education and Training (VET)

NPK National Vocational Qualifications

VET Vocational education and training (VET)

WBL Work based learning

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1. Introduction

"In the world of the future, the illiterate will be those who do not learn how to learn."

Alvin Toffler

AgriNext, or the **Agricultural and Rural Excellence Incubator and Competence Exchange Platform**, is an CoVE Erasmus+ project. The aim of the project is to create a flexible learning environment that responds to the demand for skills on the labour market in the field of multifunctional agriculture.

The agricultural sector is facing a number of changes that require adjustments. Successful adaptation requires cross-sectoral cooperation between all key stakeholders.

The AgriNext project will facilitate international exchange of knowledge and competences for achieving rural excellence through innovative pedagogical approaches, lifelong learning, continuous professional learning of teachers/trainers/mentors and business incubator activities. The exchange of good practice at international level will enable individuals to gain good, innovative ideas for personal and professional development.

The objectives of AgriNext are:

- Developing a career guidance model (GSM) that adapts quickly to the changing needs of the labour market;
- **Integrating systemic change at national level to make the school system more flexible and responsive;**
- Empowering teachers to respond quickly to labour market demand;
- **Establishing a cooperation system for continuous exchange between employers, teachers, trainers;**
- Creating physical and virtual environments for interaction, demonstration, development and individualisation;
- Promoting rural development and vitality, presenting the potential of multifunctional agriculture;
- Increasing digital competences among students and teachers.

The international AgriNext project aims to establish a collaborative system of continuous exchange between employers, teachers, mentors, students and other stakeholders by creating a networking platform that enables interactive collaboration and by setting up business incubators in each partner country to create a safe environment to support innovation and project development in agriculture.

1.1. The proposal to flexicise vocational and professional education and training in Croatia

With the proposal to flexibilize VET in Croatia, we want to present to all those involved in the education system, especially political decision-makers, legislators and their providers, the different levels, areas and options for a rapid response of the school system to the demands for knowledge, skills and competences reflected by changes in the labour market.

The document Proposal for the Flexibilisation of VET in Croatia is a summary of the documents mentioned in the introduction and of the comments made at the Flexibility of education in the field of agriculture with special emphasis on multifunctional agriculture, which, in the model of vocational and professional education and training, presents ten areas where, in different ways and with the involvement of different providers, the education system can respond quickly and continuously to the needs for knowledge, skills and competences on the labour market, with a focus on multifunctional agriculture.

2. Flexibilising vocational and technical education and training

The path to a transformative and sustainable learning ecosystem.

Adaptive VET systems in the areas of multifunctional agriculture are a pathway to a transformative and sustainable learning ecosystem. They can be transformed in terms of promoting different learning pathways that follow the interests of learners (school pupils, students, formal and non-formal adult learners, people with disabilities) and sustainable in terms of facilitating lifelong learning for all those who co-create the VET system.

A flexible education system allows individuals to move between education, training, employment or self-employment in the MA field. This means that trainees can tailor their educational pathway to their interests and abilities, both during their training and later on when they have already entered their career.

The model has been developed based on the results of an analysis of conditions and examples of flexicurity (level of legislation and implementation) in the four project partner countries and consists of 10 elements that are interlinked and complementary:

1. flexibility in educational programming and school autonomy;
2. flexibility in the enrolment process;
3. allowing horizontal and vertical passage;
4. providing a range of options for implementing programmes;
5. splitting the programme into modules, allowing for choice, customisation and portability;
6. integrating and developing key competences;
7. an individualised approach to planning and delivering education;
8. involving the social partners and responding to labour market needs;
9. preventing early school leaving;
10. Recognition of prior learning, credit transfer and qualifications framework.

The flexibility model is designed as a sunflower, with the central part of the inflorescence consisting of a large number of individual flowers that merge together. The metaphor of connectedness can also be applied to the creation of an ecosystem in which professionals, schools, teachers, learners, social partners and others reduce barriers and increase opportunity towards permeable education and training systems. Only together can we create a flexible VET system that responds to the current challenges in agriculture and related industries. This is the pathway to a transformative and sustainable education and training that enables lifelong learning and the development of the competences of all those involved.

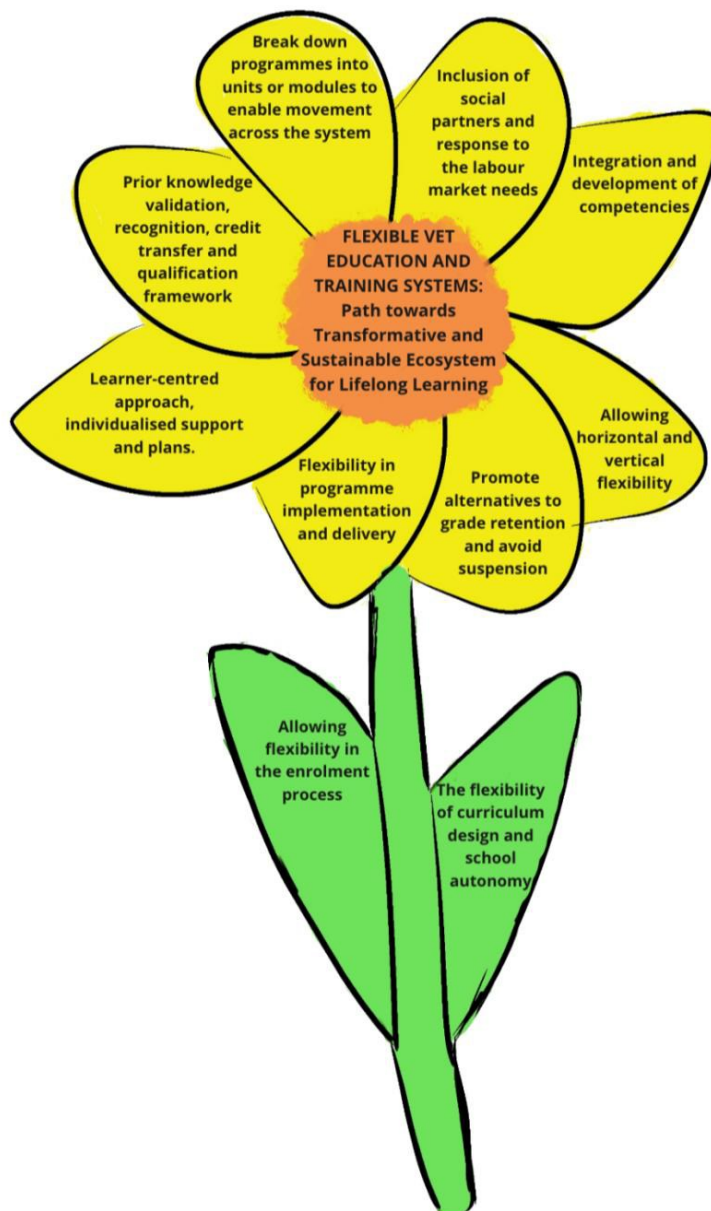


Figure 1: Modelflexibilisation of VET - Sunflower.

2.1. Flexibility in curriculum design and school autonomy

Flexibility in the design of educational programmes and curricula/skills catalogues in the field of MA and the autonomy of schools form a stable basis for responsiveness and adaptability at many levels of the educational process. The curriculum design policy is conducted in dialogue with schools, the Ministry of Education, the Ministry of Agriculture, The Agency for Vocational Education and Training and Adult Education, the Ministry of Labour, employers, professional and trade associations and other social partners, and allows for the development of optional modules and open curriculum modules in addition to the compulsory modules. The open curriculum allows schools to respond quickly to the needs of employers and learners, who can choose from a variety of contents defined at national or school level. In this way, they can create their own mix of competences to meet the needs of the labour market or their own farming activity.

Curriculum/skills mapping also refers to practical work-based *learning (WBL)*, which takes place partly at school and partly in a real work environment. In agreement with the trainee, the mentor in the agricultural enterprise and the organiser of the practical training, the proportion of practical work-based training may be increased. It is important to take into account the actual needs and capabilities of employers and the knowledge and skills of trainees, rather than uncritically following policy trends and theoretical documents.

At the implementation level, schools: teachers/mentors/professors have a high degree of autonomy to integrate modern professional content and pedagogical forms and methods.

The consultation made the following proposals:

Encouraging continuous collaboration between schools and employers to monitor the relevance of each curriculum and to generate adult education programs for acquiring competencies required by new technologies is the task of all participants in the future.

Modular approach to curriculum design will enable more flexibility and provision of skills according to the local labour market needs.

2.2. Flexibility in the enrolment process

Rigid entry requirements and application deadlines can hinder participation in VET. Flexibility in the enrolment process is therefore another important element that builds a solid foundation for a flexible VET system.

To enable flexible enrolment, it is necessary to train teaching staff in the use of individualised working methods, from the preparation of an individual work plan for each student, through their implementation and follow-up. Thus, students do not have to wait a whole school year to enrol in the desired programmes or move from one programme to another or from one level to another under certain agreed conditions.

This allows pupils, especially those who, for various reasons, did not enrol on time or later changed their minds because they were too busy, to start their education at any time during the school year.

The consultation made the following proposals:

High school admissions in the Republic of Croatia are conducted through the National Information System for Applications and Admissions to High Schools. For enrollment in programs in the agriculture subsector, both common and additional elements are evaluated, but there is no

enrolment threshold. Candidates demonstrate their health suitability for performing tasks and job duties in the chosen profession with a medical certificate. All interested candidates who meet the required conditions usually enrol in their desired program. Adult education programs also have prescribed admission criteria, realistically set in relation to the expected competencies acquired through the program.

The data show a reduced interest of primary school students in education in the agricultural sector. There are certain developments in the interest in studies at higher education institutions. The Ministry of Science and Education, in cooperation with competent agencies and vocational schools, is working to raise awareness of the importance of vocational education and training in the field of agriculture, among primary and secondary school students and employers.

2.3. Flexibility in the implementation and delivery of the training programme

The VET education system allows programmes to be delivered in different settings: at school and in the employer's workplace, as practical training with work, or in a dual mode of education with different employer responsibilities. It is essential that schools, when delivering a programme in their own setting, do not narrow the legal options available to them, but make the most of them and link up with the local, national and international environment.

Multifunctional agriculture education takes place within an official school calendar, which determines the start and end of school, school holidays and other days off, but which does not coincide with the growing season, care and processing of plants and animals.

Skills catalogues or curricula define the learning outcomes to be achieved in the course of education, and management, teachers, trainers and others involved in education can choose different pedagogical approaches, teaching methods and content, adapting them to the needs of learners and employers.

Learning with the help of modern technology enables different methods such as distance and blended learning with different implementation models, the use of simulations, artificial intelligence, which allows learners to adapt their time, space and pace of learning.

Inter-enterprise training centres have specially equipped classrooms and other suitable facilities that allow trainees to actively engage in practical training, participate in business incubators and various projects (e.g. Erasmus+).

The consultation made the following proposals:

The implementation and realization of programs fall within the domain of school organization, and planned activities must ensure reaching the target of predefined outcomes and procedures for their evaluation. It is essential to continuously monitor the quality of the educational process through self-assessment and external evaluation.

With regard to modern technologies and approaches in agricultural and food production, educational programs are not suitable for current jobs in the agriculture and food sector. In the mentioned programs, the areas of application are not sufficiently represented: digital and information and communication technologies, communication skills, ecological and principles of sustainability of the agricultural and food sector

2.4. Student-centred approach; individual support and plans

Participants learn most when they are motivated and take an active approach to learning, critical thinking, research and practical training in as realistic a working environment as possible. This requires flexibility in the perception of learning and the definition of the roles of teacher/trainer and participant/learner. A learner-centred approach requires a change in the role of the teacher. Teachers create a supportive learning environment for learners and play more of a mentor, motivator, counsellor role. This role requires teachers to have additional didactical skills to enable an individualised approach so that participants/learners can fully acquire knowledge and develop their skills, abilities, potentials and personal qualities. To this end, they can make use of learning estates as excellent examples of open-air classrooms that allow real-world problem solving, integration of theory and practice, peer support in a safe and stimulating learning environment.

Formal education programmes in VET offer various possibilities for partial individualisation, such as optional modules in an open curriculum or a range of non-formal courses, employer choice in practical training and a range of compulsory electives.

Individualisation is also present in the organisation of additional professional support for pupils with special needs, teacher support, peer support, volunteer support and more.

The consultation made the following proposals:

The key for success in the implementation of curricula and quality of educational outcomes is increasing the share of WBL and students support. A wide range of activities is supported, including: monitoring the work and professional development programs of teachers, monitoring the quality of the teaching process, participation of students in national and international competitions, mobility of students and teachers abroad in order to adopt the best practices.

The imperative in teaching implementation is to achieve a high level of differentiation, apply active teaching methods, focus on the student, and provide continuous support

2.5. Division of programmes into units or modules

VET programmes are modular, allowing trainees to benefit from a better link between theory and practice, and greater choice and transitions between programmes. This modularisation of programmes allows VET to adapt more quickly to changes in the MA labour market by providing relevant skills for employment. Modular structures can be organised as compulsory, optional, specialist or core modules.

Modular structures in VET are based on the credit system, which is based on learning outcomes and allows for progression and the recognition and validation of non-formal learning.

The consultation made the following proposals:

The vocational component of vocational curricula, currently undergoing evaluation, is organized through mandatory and elective vocational modules that incorporate units of learning outcomes from the Croatian Qualifications Framework. Their implementation ensures comparability in determining the possibilities for horizontal and vertical mobility.

2.6. Inclusion and competence development

Vocational and technical education and training (VET) provides students with vocational and key competences that combine the knowledge, skills and attitudes of the different sectors of multifunctional agriculture. This enhances their employability, supports their personal development and emotional intelligence, and promotes interdisciplinarity, critical thinking and active citizenship.

In developing and accessing competences, we need to consider the following:

- Competences are individual and collective (collaborative learning and expertise).
- Competences are acquired through formal, non-formal and informal education (experiential learning). Many participants enter the agricultural sector with valuable experience and background knowledge that must be taken into account.
- Competence means knowing and mastering your job. Social interaction also becomes more pronounced (team learning).
- Competences are about flexibility, tolerance of uncertainty, responsibility and a positive attitude to change.
- Competences require continuous evaluation, assessment and development. Evaluation is both self-assessment and external assessment.
- Competences are context-dependent, so competence assessment is linked to prevailing values and the work environment.

The consultation made the following proposals:

Continuous monitoring of technological advancements and changes in work processes is essential, as is the creation of new units of learning outcomes that will ensure the acquisition of sought-after competencies. These outcomes, in the revision process of vocational curricula, can become a part of them or serve as the basis for developing new adult education programs within the concept of lifelong learning.

The Regional Centres of Competence in Agriculture across play a significant role. They implement innovative learning models and work in close collaboration with economic entities and employers. They focus on specific subsectors, including agriculture, with an emphasis on work-based learning, innovation, the application of new digital technologies and a comprehensive approach to economic and environmental sustainability.

2.7. Validation, recognition, credit transfer and the qualifications framework

Genuine flexibility must allow learners to transfer and build on all kinds of prior learning outcomes acquired in formal, non-formal or informal settings, whether they have learned at school, in the workplace or in their leisure time. Recognition of prior learning means the evaluation of learning outcomes, whether from formal education or from non-formal or informal learning, which were acquired before the request for evaluation was made. It is typical in multifunctional agriculture education to be entered by participants who, even at a young age, have already acquired many vocational and key competences, as well as ingrained beliefs that need to be tested and taken into account in order to be successful learners.

A single system for recognising prior learning (with the possibility of transfer to formal education) and the development of self-assessment tools could play an important role in making education

more flexible and individualised. For trainees, "this broader view" of what is considered relevant knowledge is very important and motivating.

National Qualifications Frameworks (NQFs) play an important role in this by classifying qualifications according to a set of levels based on learning outcomes. The NQF levels reflect what the holder of a certificate or diploma should know, understand and be able to do. By linking or 'referencing' NQFs to the EQF, learners and employers can compare the levels of qualifications awarded at home and in other countries.

The consultation made the following proposals:

In the Republic of Croatia, adult education programs are developed based on units of learning outcomes registered in the Croatian Qualifications Framework. By implementing new vocational curricula, also based on the Croatian Qualifications Framework, both comparability and a basis for recognizing acquired competencies are ensured. A legal framework has been established for the evaluation procedures of informal and non-formal learning in Croatia, and the Methodology for the development of prior learning assessment programs for acquiring micro-credentials, partial qualifications, and full qualifications is in its final stages, with implementation expected to begin soon.

The Recognition of Prior Learning (RPL) is closely tied to challenges and opportunities on the policy level. These relate to areas such as skilled employment, education, equity and immigration. By promoting an individual's self-knowledge, recognition may encourage individuals who have not previously taken part in the formal education system to do so. It also provides individuals with the evidence to meet any entry standards for vocational or higher education. A planned approach to the recognition of informal workplace learning can lead to employees taking part in workplace training or enhancing capabilities and competence and obtaining a qualification.

2.8. Involving the social partners and responding to labour market needs

Involving the social partners in VET systems helps to improve labour market outcomes and address employers' needs for knowledge, skills and competences. Cooperation with the social partners is planned strategically and in the long term. The social partners play an important role in policy and decision-making by participating in the design of specific programmes, the development of vocational standards, curriculum design, apprenticeships, work-based learning, assessment, etc.

Their active participation in the VET system can:

- Effectively mediates between work and education.
- It helps to identify new professional standards and qualification requirements in companies.
- Ensure that vocational and professional qualifications are recognised within the country and, increasingly, beyond its borders.
- It helps to design new educational programmes and promote learning processes in schools, dual systems, etc.
- By mentoring students in practical training through work or mentoring on projects, diplomas, they can contribute to the development of well-trained future employees and enable the development of some competences that cannot be acquired in agricultural schools.

The consultation made the following proposals:

Social dialogue plays an important role in response and in alleviating labour market needs. In terms of designing vocational standards, different stakeholders are key players on articulating labour market needs.

In the future, intensifying activities in this area.

2.9. Allowing horizontal and vertical flexibility and passability

There should be no restrictions in determining the progression of intermediate vocational and technical education and training (I-VET) and continuing education (C-VET). Transition between different education sectors (formal, non-formal, informal) and institutions should be systematically enabled and facilitated. Through lifelong learning, we develop professional and key competences that enable us to advance in our respective agricultural sectors, to remain competitive, to solve professional and private problems creatively, and to be socially inclusive. Participants in training should be able to move at their own discretion between different levels: shorter and longer vocational secondary, technical secondary, post-secondary and higher education programmes, as well as adult education. The National Vocational Qualifications System provides for the recognition of non-formally and informally acquired knowledge for a whole range of national vocational qualifications in the field of multifunctional agriculture that live in practice.

The consultation made the following proposals:

The Croatian Qualifications Framework is an instrument that ensures comparability as the basis for horizontal and vertical mobility.

2.10. Preventing early school leaving

Options to prevent repetition include individual learning support, small group learning, tutoring or counselling, cooperative learning, peer support, increased practical training with an employer, parental involvement, positive teacher-student relationships, participation in extracurricular activities, support from the class community, etc.

Repeating a year should only be used in exceptional circumstances because of its proven negative effects on learning. If, due to specific circumstances, this does happen, we suggest monitoring progress and providing activities that promote the development of the social skills of repeaters to ensure that repetition has a positive impact on students.

The consultation made the following proposals:

Croatia has one of the lowest dropout rates from high and elementary school. Promoting work-based learning, introducing more flexibility in the enrolment process and an individualized approach to each student will contribute to reducing the dropout rate.

3. Conclusion

The rapid development of technologies such as digitalisation and artificial intelligence, climate change, sustainable development and its objectives within individual agricultural sectors, the development of agricultural technologies themselves, an inclusive and fair society, a stable food supply are all contemporary demands that we must constantly keep up with and adapt to. At the same time, the data show a reduced interest for education in the agricultural sector with some increased interest for the education in higher education institutions. On the other hand educational programs are not suitable for current jobs in the agriculture and food sector. Digital skills, information and communication technologies and green skills, are not sufficiently represented.

In order to keep up with these changes, which are reflected in the labour market, it is necessary for the vocational and professional education system to constantly respond and adapt to new technologies, new ways of marketing and communicating with consumers, etc., as well as for all those involved in this system. First and foremost, teachers, trainers, school management and other educational staff, employer trainers and trainees. All other stakeholders, such as political decision-makers, the local environment and, last but not least, parents, should be supportive and helpful.

Multistakeholder round table Flexibility of education in the field of agriculture with special emphasis on multifunctional agriculture highlighted some general recommendations that follow the trends of modern society: digital and green skills should be more represented in curriculum of education in agriculture and schools should have more autonomy to transfer form vocational curriculum to institutional curriculum. Modular approach to education will contribute to flexibility and more flexible enrolment system in order to make movement across the education system easily. It is also necessary to increase the share of work-based learning as well as to adopt individualizes approach to each student. All this will make the education system more flexible and contribute to the alignment of the education system with the needs of the labour market.