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Sustainable Vocational Education and Training

A Practical Handbook for Vocational Schools

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To make the handbook easier to read and use, the masculine form is used in the text to refer to students and teachers. This should be understood as referring to both genders and non-binary people.

Dear users of this handbook!

Due to the environmental impact of printing, we ask that you use electronic versions (where possible).

Thank you ☺



“Big changes are made up of many small steps”, or a word of introduction

We are pleased to present the second handbook in a series of educational materials dedicated to the green transition in vocational education. This publication covers education in the fields of forestry, cosmetology, the textile industry, chemistry, mechatronics, and tourism.

We often think of protecting the Earth in terms of global agreements and megatrends, yet true transformation takes place in the gestures and actions we perform every day - including at work. It is the sum of small, conscious decisions: choosing reusable equipment in the laboratory, programming a machine precisely to minimise waste, or offering tourists local products instead of imported ones. Sustainable development in vocational education is about learning to recognise that every workplace is a ‘frontline’ in the fight to improve the climate.

Our approach is firmly rooted in the European Green Deal strategy. The European Union clearly states that climate neutrality by 2050 will not be achieved without the involvement of millions of workers. In accordance with the Osnabrück Declaration (2020) and the EU Council Recommendations on learning for sustainable development, vocational education must provide ‘green competences’. These are not merely an add-on to a diploma, but a necessary, integral part of every qualification.

The Erasmus+ programme provided funding for the project, enabling us to work with an international team of experts from Poland, Germany, and North Macedonia. This allowed us to approach the topic from a transnational perspective and develop universal tools that can be used across multiple education systems. Our aim was to prepare materials compatible with the core curriculum for vocational education, attractive to young people and easy for teachers to use, in order to maximise their application.

With this publication, we demonstrate that a textile industry worker mindful of a fabric’s life cycle, or a designer creating with easy disassembly in mind, is a key player in global change. We teach how to turn these small actions into a standard that builds a sustainable, ethical, and competitive economy. I invite you to read this publication and share best practices.

dr Magdalena Mazik-Gorzelańczyk
Project Manager



Methodology for using the handbook: from reflection to action

The project is based on the approach of environmental and social education, which distinguishes several levels of impact that must be activated to ensure that the results achieved are real and lasting: from actions to halt processes harmful to the environment, through practices supporting the development of new models, to changes in public awareness – an indispensable condition for success*. The structure of the handbook has been designed to ensure that the learning process is active, engaging, and focused on solving real-world problems that students will encounter in their professional careers. The methodology is based on three pillars: understanding, analysis, and application.



1. Structure of the textbook

The textbook is divided into chapters corresponding to specific sectors. Each module has been developed to combine professional knowledge with aspects of protecting natural resources and people. As a result, we do not teach ‘about sustainable development’, but rather how, for example, to reduce microplastics in a beauty salon, maximise water retention in forestry, or use natural dyes in the textile industry. Each industry-specific chapter identifies specific moments in the work process (e.g. preparing the workstation, selecting raw materials, waste disposal) where the student can make a ‘green’ decision. We show how optimising a small action translates into real annual savings in raw materials. Knowledge of sustainable development should become a natural backdrop to learning.

The publication consists of two parts. The first part was developed in response to the experiences of vocational education experts from partner organisations and the recommendations of the Council of the European Union, which highlight the need to involve vocational education staff in global education and to enhance their competence in teaching in the spirit of sustainable development. Without these resources, it is difficult for instructors to address similar gaps among students. Therefore, the first part includes fifteen lesson plans intended for use in training educators. These can be delivered by teachers with more experience in this area, such as coordinators of international projects in schools, as well as green education trainers. It is advisable that teachers who will be using the lesson plans with students during their lessons undergo prior training based on the section dedicated to them. These consist of three introductory topics and two topics relating to each selected vocational area.

The second part of the textbook contains lesson plans for students. These are divided into modules dedicated to specific sectors: forestry, tourism, cosmetics, textiles, chemicals and mechatronics. Each module contains nine lesson plans corresponding to the topics included in the curriculum for the relevant profession, but presents them from the perspective of the entire ecosystem in which the profession and sector of the economy operate.



2. Lesson plan outline

Each lesson plan is based on a template containing fixed elements:

- lesson title and number: the number next to the title indicates the lesson number and the number of the competence module to which the lesson plan belongs; for example, lesson plan 2.6 'The impact of environmental stress on trees' refers to module 2 'forestry' and lesson plan number 6 within that module;
- learning objectives, which are defined in terms of knowledge ("after the lesson, the student knows"), skills ("after the lesson, the student can"), and attitudes ("after the lesson, the student understands");
- lessons broken down into stages to help the teacher navigate the lesson ("step by step");
- the time required to conduct the lesson;
- a list of necessary materials and teaching aids;
- the preferred number of participants;
- notes for the facilitator on implementing the lesson plan (optional);
- a list of source materials used.



3. Guidelines for working with lesson plans

The authors' intention is for this handbook to be as user-friendly and straightforward as possible for teachers of vocational subjects, hence:

- the lesson plans are divided into clear sections to make it easy to quickly familiarise oneself with the lesson objectives and content;
- the lesson plans contain all the materials and attachments needed to cover the topic, presented in a user-friendly format (usually for display, to minimise the use of printed materials);
- the lessons are tailored to the rhythm of 45-minute lessons, making them easy to integrate into the school timetable

The lesson plans are ready-to-use materials. They contain not only instructions for the suggested exercises but also, for example, questions and tips to help summarise the work. To achieve the educational objective, it is not necessary to cover all the lesson plans, nor to follow the order in which they appear in the handbook. The teacher can select topics and arrange them into a personalised sequence tailored to the needs of the group. It is also possible to carry out a single lesson plan if a particular topic is missing from the current lesson, or to use a specific exercise. This will also fulfil its purpose. Each module contains lesson plans that can be used to teach several professions within a given industry.

A large proportion of the lesson plans are based on the idea of teamwork. This method has been tested by the experts who developed the handbook and is valued for the results it can achieve when working with young people. It involves engaging the students themselves in the process and building on their existing experience. This allows participants to identify more closely with the subject matter and remain grounded in the realities of their world of study and work, and consequently fosters greater emotional engagement. For the instructor, this method requires moving away from 'lecture-style' teaching and actively involving the participants. In practice, this means reducing the number of lectures and talks in favour of exercises, simulations, and discussions.



4. Use of visual materials and sources

Most lesson plans include attachments in the form of photos, drawings, or diagrams to make learning new information easier and more engaging. For several lesson plans, video material has been produced to illustrate the theoretical content. The videos can be viewed on YouTube by clicking the link or by scanning the QR code. All videos are available under an open licence, in the language in which the relevant version of the publication is written. It is worth using these materials when teaching, as they align with the educational preferences of the younger generation, often referred to – not without reason – as the 'visual generation'.

The graphics in the lesson plans and the pictograms have been designed to suggest the individual stages of the lesson and indicate what each section covers. The sources listed at the end of each lesson plan provide a basis for additional information that the teacher can refer to.



5. Good practices and fostering critical thinking

The main aim of this publication is to encourage young readers to think independently and to optimise their professional activities in the spirit of sustainable development. The lesson plans contain the necessary theoretical background and numerous references to the realities of professional life. The content includes practical guidance for teachers, suggesting how to support students in analysing their own behaviour and in independently seeking effective solutions. Self-assessment questions assist in this process, for example: 'How will a single change in my daily work routine affect energy consumption across the whole company?'. Here, the teacher takes on the role of a facilitator, helping students to understand that their daily work has significant systemic importance. An integral part of the materials is also examples of good practices already in use in the market, which bring the real world and the actual challenges facing their industry closer to the students.

* Concept described in J. Macy, Ch. Johnstone, 'Active Hope', Warsaw 2023.



Project Partner Organizations and Outline Authors

FAVEO Foundation for Vocational and Intercultural Education, Partnership Leader

Since 2007, the Foundation has been working to promote internationalization and improve the quality of vocational education in Poland and other European Union countries. Its goals include promoting a modern, environmentally and socially sustainable labor market policy; improving the professional qualifications of employees and students; and promoting high standards of vocational education that take global market processes into account. The results of the FAVEO Foundation's work include hundreds of completed international student internships and dozens of vocational school teachers who have acquired international competencies. It also includes the exchange of experiences among company employees throughout the European Union and several textbooks on modern vocational education. Sustainable development is a cross-cutting theme in all of FAVEO's initiatives. Thanks to a broad and stable network of cooperation with vocational education institutions in Poland and abroad, the Foundation benefits from the synergies and potential offered by a diversity of perspectives on education and development.

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