



# Teacher Manual

## Introduction

***TOOLS FOR SKILLS***  
***INTEGRATED LEARNING OF ENGLISH AND FORESTRY***  
***TEACHER TRAINING***  
***PROJECT N° 2015-1-SE01-KA202-012255***



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## BACKGROUND

European forestry has gone through a rapid change during the last few decades. Manual work by unskilled staff with chainsaws has been replaced by modern computerised harvesters, forwarders and skidders. This development has increased the request for competent and well trained operators of forest machines as well as the demand of mobility of such work force.

Beside all the technical skills that are needed for the modern forest worker, communication skills have become more and more in focus. The forest machine operator must be able to communicate, not only with his work mates, but also with the land owners, the public and the spare part dealer. Since the job market is getting more and more international the need for language skills, especially English, is increasing.

The increasing mobility is partly a result of frequent storms throughout Europe causing large areas of storm felled forest in a random distribution between countries. English is the language mostly used in manuals, spare part catalogues and computers and it is necessary to have a basic level of English to operate a forest machine and work in another country.

Many young students in vocational forestry training tend not to put language learning as their first priority, and it is a challenge for many forestry training centres in Europe to find a methodology that increases the motivation for language learning.

We believe that, by integration of language learning with the learning of a vocational subject, students will be much more interested, when they see the usefulness of the terms and phrases they learn. This interest will even be increased if they know that this will result in work placement or a course in another country, where the professional language is used.

In order to meet all these needs a European partnership has been formed and a project has been created of which this Teacher Manual is an important guide for the language and forestry teacher to apply the tools that have been developed in this project.

## THE TOOLS FOR SKILLS PROJECT

Tools for skills –Teacher Training is a project financed by the European Commission under the Erasmus + Program, Strategic Partnership. The project aims at increasing the level of professional skills and language skills among the European Forest Machine Operators.

The project aims have been achieved through the development of useful training tools that fill in the gaps in English language training within the system of vocational education and training and provide language skills equivalent to the current needs of the Forest industry.

The project products and results are applicable in vocational college schools, universities and any short-term or long-term vocational training of forestry company staff. It also works excellent as training materials for lifelong learning for individuals employed in the forestry or woodworking industry sector

It is built on the work of several previous Leonardo projects. One of the first projects in this field was the International Education for Forest Machine Owners and Operators, a pilot project aiming at creating curricula that was agreed on in all the partner countries.

That project started in 1996 with partners from Sweden(coordinator), Finland, UK and France. From that project a number of projects evolved concerning students' and young workers' mobility within the forestry area, as well as multiple effect projects, and new projects in related areas, such as forestry legislation and health and safety in the wood working industry. Apart from the core countries mentioned above, partners from Bulgaria, Czech Republic, Germany, Greece, Latvia, Lithuania, Slovakia, and Spain, have been involved at different stages in the over 20 year development in this area.

The main outcomes of the Tools for skills project are:

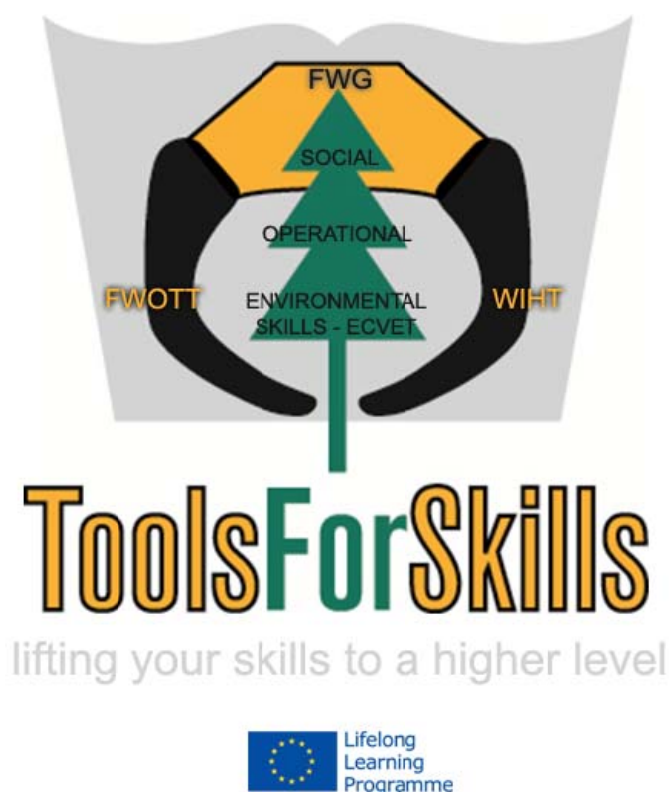
- An updated multilingual glossary on technical forestry terms to assist forest harvesting operators in foreign countries to communicate. The glossary will also help Non-native English speakers to understand English forest machine manuals and spare parts catalogues
- An updated integrated learning material for training
  - *professional skills with comprehensive test-yourself questions and case-studies*
  - *and language skills for Non-native English speakers to be better prepared to communicate in a work situation This material is built on the published books: 'Working in Harvesting Teams' part 1 and 2 (in English)*
- A Teacher's Manual on how to use the material in a teaching situation, where interdisciplinary team teaching methods are applied
- Teacher training seminars throughout the partner countries
- Student mobility between 5 countries in order to test the material

The duration of the project is 29 months: from September 1, 2015 until January 31, 2018.

The partnership includes the following partners: University of Forestry (Bulgaria), OikoTechnics Institute (Greece), Stora Segerstad Naturbrukscentrum (Sweden), National Forest Centre (Slovakia), Jämsä College (Finland), IES Foramontanos (Spain) and Niedersächsische Forstliches Bildungszentrum (Germany).

The partnership of the project has been selected with regard to the nature of activities of each organization focusing on vocational training. Each partner has already established a contact network with vocational colleges, universities, professionals in Forest Industry and SMEs, managers and decision makers in their

country as a result of many years of experience and participation in various national and international projects in the field of education, forestry and wood industry.



*Figure 1.1. The logo of the project gives an idea of the structure of the tool. The green spruce in the middle represents the desired skills of the European forest machine operator, environmental skills (biology), operational skills (technology) and social skills (communication). These skills, described in the ECVET units, are developed ("lifted to a higher level") by the symbolic crane consisting of three parts, the text books (Working in Harvesting Teams), the online training tool (FWOTT) and the Forest Workers Glossary(FWG). The operator of this symbolic crane is the team of teachers who work together in an interdisciplinary team teaching situation. This image also forms the starting page of the web tool "Tools For Skills" ([www.cd.dictyon.net](http://www.cd.dictyon.net))*

## THE BOOKS "WORKING IN HARVESTING TEAMS"

The whole tool is based on the text books "Working in Harvesting Teams" part 1 and 2. Below follows the author's, Per-Erik Persson, own introduction to the books.

### **Background**

Based on the author's (and numerous contributors') long experience of working in forestry, it is apparent that the work has radically changed in recent years, as it has in other fields. The demands placed on a harvesting organization have increased in

several ways. Greater responsibility has been transferred to operatives, while administrative burdens have declined. The profession therefore places great demands on the skills of those involved in production.

The profession is somewhat different from many others in that it requires a unique kind of expertise. Being able to drive a machine with a steady hand while maintaining good productivity is only a small part of the required set of skills. Working in harvesting teams demands abundant knowledge related to numerous, practical aspects of forestry.

For some time I have been involved, in various ways, in forestry-focused education. The work includes addressing, and explaining, diverse issues. In this context there has been an obvious lack of a relevant manual. This lack prompted the production of these handbooks, which aim at presenting diverse expertise as accessible and informative as possible.

### ***Structure of the handbooks***

The document was originally planned to be a single handbook, but was subsequently divided into two, integrated, manageable books; designated “Part 1” and “Part 2”.

These handbooks summarize and explain the many components of working efficiently in a harvesting team. The texts do not cover everything a machine driver needs to know, but present the most important details. Very little of what is mentioned in the text has been taken from other literature. Instead, the books are based on knowledge derived from professional experience of numerous people, gained over many years. All the facts have been carefully considered and analyzed. Everything mentioned in the texts has its place in a specific situation.

### **Environmental and Conservation aspects are not explicitly addressed**

The environmental and culture conservation issues that have to be considered in connection with a harvesting project are not covered in detail in these books. These aspects are already well described in many places (books, websites etc.), hence they have not been explicitly addressed. At various points in the text environmental and culture conservation issues are mentioned, but not with the intention of providing a comprehensive account. Instead, the goal is to provide tips or points regarding good fundamental practices for handling environmental and cultural conservation.

### **Reasons for rich illustration**

As most people know “a picture is worth a thousand words”; describing in text what can be easily seen in a picture, is often very difficult. The text can easily be misunderstood while an image can convey the message in a very concrete and simple way.

Forestry professionals are often good at interpreting things they see, such as:

- a tree's appearance before the harvester operator fells it,
- the signs that a stem has passed through the harvester head,
- the appearance of the harvesting site, which is important for planning trails through the site.

The professional needs to use impressions of numerous things when making his assessments and to make the right decisions.

In addition, for most people, learning can be simplified and thus accelerated with the help of good illustrations. Further, when knowledge is stored in the form of images in someone's mind it makes learning more permanent, and remembered images can be compared with visual impressions of the daily work. For these reasons, among others, the text of the handbooks is liberally illustrated.

Future goals include making the handbooks available as a PowerPoint presentation and audio-CD.

## ***Targeted Users***

### **An aid for beginners**

These handbooks have been primarily created for the beginner. They describe most of the elements that forestry production personnel absolutely must know and consider. A key aim was to help beginners to acquire the basic skills and knowledge that they need to apply in their daily work as easily and conveniently as possible. Thus, hopefully the books will provide a shortcut to knowledge that would otherwise be difficult to acquire without years of production work. For a student who will eventually become an operator of a forwarder or a harvester, as an employee or self-employed person, the books may be valuable for a long time.

### **Advice and support for the professional**

In addition to helping beginners, the handbooks are intended to be useful for those with many years of experience in the profession, since there is always more to learn and forestry professionals deal with situations of great complexity. Thus, despite years of experience and good practice, they may still need to acquire information on certain issues that arise.

### **Help for the manager to give instructions and knowledge**

People may have high degrees of professional skills, but still require relevant material for instructing a colleague or an employee. The books may be useful in this context, as the basis for formulating certain guidelines or directives.

There is a major difference between forestry work and many other kinds of production activities, in the frequent lack of straightforward instructions and strict



tolerances. These books may have great value in this context too, by providing a basis for discussion and establishment of guidelines for the daily work. Therefore, attempts have been made to establish tolerances for certain parameters of the work. Everything written in these handbooks may not be precisely applicable in a given situation. However, in such cases they may provide a useful platform for discussion. The value of this possibility should not be underestimated.

### **The manuals can provide insights for the supervisor**

The supervisor should have good insight into the work done by the harvesting team. The better the knowledge he has about their activities, the better he can perform his work and communicate effectively with the team.

These books provide good opportunities for the supervisor to obtain the required knowledge of forest harvesting. This in turn should improve the efficiency and cost-effectiveness of all work involved in harvesting.

### **The landowner should have insight into the work**

For the landowner, these handbooks may be highly beneficial, since they give insights into the great complexities of harvesting work and the challenges that harvesting organizations often face. Self-active landowners could also greatly benefit from information presented, for example regarding Scaling Regulations.

## ***Part 2 — An Amplification Of Part 1***

The material has been divided into “Parts 1 and 2” in a logical manner. “Part 1” should be seen as a platform, which covers most of the skills a driver needs to obtain before he starts to drive a machine in production.

Part 2, in contrast, provides information that may be needed before and during use of the machines. This includes many hands-on instructions and tips that may be useful while the work is done. The work has been broken down in detail, and in some sections attempts have been made to provide tolerances for key parameters.

### **A mixture of personnel gives strength**

In the author’s view, a mixture of people of different sex, color, cultural perspectives etc. in an organization is a major strength, which helps the organization to thrive. However, for their various attributes to promote a company’s aims a certain tolerance of the diversity, and recognition of the value of all kinds of personnel, is required.

## **Men and women, the gender perspective!**

Men and women undoubtedly have the same potential to become skilled machine operators. An opinion in this context is that women seem to be somewhat better at handling the machines carefully and appropriately. The likelihood of someone becoming a skilled machine operator has nothing to do with their sex, but instead depends on factors such as their motivation and interest in the profession.

## **The reason for using “he” and “him”**

When starting to write these books the author decided to refer to the machine operator as “he” or “him”, in order to write simply. An alternative, of course, is to write “he/she” and “him/her.” However, this option means more words to “stumble over” and seems rather contrived. Thus, this feature of the text has no connection to anyone’s opinion about the fitness of either sex as a machine operator!

## **THE ECVET UNITS**

The European Credit System for Vocational Education and Training, often referred to as ECVET, is a technical framework for the transfer, recognition and (where appropriate) accumulation of individuals' learning outcomes with a view to achieving a qualification. Guided by a European-level Recommendation, ECVET tools and methodology comprise a description of qualifications in terms of units of learning outcomes, a transfer and accumulation process and series of complementary documents such as learning agreements, personal transcripts and user guides. ECVET is intended to facilitate the recognition of learning outcomes in accordance with national legislation, in the framework of mobility and for the purpose of achieving a qualification.

ECVET aims at supporting the mobility of European citizens, facilitating lifelong learning (formal, informal and non-formal learning) and providing greater transparency in terms of individual learning experiences, making it more attractive to move between different countries and different learning environments.

At a system level, ECVET aims towards better compatibility between the different vocational education and training (VET) systems in place across Europe, and their qualifications.

From a geographical mobility perspective, ECVET aims at facilitating validation, recognition and accumulation of skills and knowledge acquired during a stay in another country, with a view of ensuring that such experiences contribute to the achievement of vocational qualifications.

In the tools for skills project ECVET units and agreed learning outcomes have been developed for the training of forest machine operators in UK, Germany and Sweden. The ECVET criteria are applicable and recognised by the partner bodies in SE, UK and

Germany and provides a methodology on how the criteria can be practically applied in other European countries.

The learning outcomes has been described for three different areas, namely environmental management, mechanized forestry and social skills. These are ready to be used in mobility programs between the three countries as well as in other countries with similar conditions. Having obtained common knowledge and additional qualifications, trainees of the Tools for Skills program will improve their communication skills, work safety, and chances of employment in these three countries.

## **THE FOREST WORKERS GLOSSARY**

The multilingual glossary has been developed in co-operation with Elmia Wood, the organiser of the world's biggest forestry fair. The glossary contains more than 3 000 technical terms concerning forestry and forest machinery in the following languages: English, Bulgarian, Czech, Greek, Finnish, German, Estonian, French, Lithuanian, Polish, Romanian, Russian, Slovak, Spanish and Swedish.

The glossary is available through the website and is fully searchable in any of the included languages, and can be downloaded for free to smartphones for use anywhere, anytime. (Search for Forest Workers' Glossary).

Each term includes a definition in English, the English pronunciation, useful links to other relevant sites, cross references such as videos, photos (if any), etc. and it is fully indexed with the Forest Worker's Online Training Tool (see below).

Terminology correctness has been checked and reliability verified by leading educational/professional authorities in the respective languages.

## **THE FOREST WORKER'S ONLINE TRAINING TOOL**

The interactive Forest Worker's Online Training Tool provides training material for the development of language skills by forest workers who are non-native English speakers to make them better prepared to communicate in a foreign work environment.

The Tool comprises 48 Lessons in 21 Chapters, and it is based on the book "Working in Harvesting Teams, Part 1 & 2" (in English).

Each Lesson contains an introductory section, with subsections like "Can Do", Warm Up" and "Learning Tasks", and it is followed by a practice section with "Exercises", "Case Studies" and "Glossary Practice" subsections. ICT learning tools were used to develop closed-type questions for self-study, whereas Case Studies contain open-type questions for in-class discussions. Vocabulary building is assisted by raw and spaced repetition exercises, and trainees are encouraged to think creatively and develop their own mnemonics and share them in class.

The Tool is available online and can be downloaded for free and the trainees can use their smartphones and laptops as training tools.

## THE TEACHING METHODOLOGY

We believe that language learning is most efficient in a context where the learner has a direct use of the language. The motivation of the forestry student increases if he realises that he needs to know the name of the spare part he is going to order, or if he needs to explain about the work to the foreign machine driver who is going to take over his shift. The most authentic learning situation is created when the student is practising his skills on a work placement in a foreign country, where English is the only way of making himself understood.

We want to challenge language teachers and forestry teachers to come together and create an authentic learning environment where the forestry skills and the language skills are taught at the same time. We have described this methodology in Chapter 2 of this manual as “Interdisciplinary Team Teaching” and “Content and Language Integrated Learning”, a totally new approach of interdisciplinary teaching of English and vocational subjects where language teachers and vocational teachers are challenged to work together with their different subjects in the same teaching situation.”

## TEACHING ENGLISH WITH TECHNOLOGY

This material is very much based on the use of ICT and access to good internet connection and there may still be some teachers and schools that are reluctant to the use of technology in language teaching. We believe however that the use of technology in the classroom is becoming increasingly more important, and will become a normal part of the teaching practise in all parts of the world. The reasons for this are well described in the book “How to teach English with technology” by Gavin Dudeney and Nicky Hockly (2007) from which the following quote:

“-Internet access...is becoming increasingly available to learners

- Younger learners are growing up with technology, and it is a natural and integrated part of their lives. For these learners the use of technology is a way to bring the outside world into the classroom. And some of these younger learners will in turn become teachers themselves.
- English, as an international language, is being used in technologically mediated contexts.
- Technology, especially in the internet, presents us with new opportunities for authentic tasks and materials, as well as access to a wealth of ready-made ELT materials.
- The Internet offers excellent opportunities for collaboration and communication between learners who are geographically dispersed.

- Technology is offered with published materials such as course books and resource books for teachers.
- Learners increasingly expect language schools to integrate technology into teaching.
- Technology offers new ways for practicing language and assessing performance.
- Technology is becoming increasingly mobile. It can be used not only in the classroom, lecture hall, computer room or self-access centre; it can also be used at home, on the way to school and in Internet cafés.
- -Using a range of ICT tools can give learners exposure to and practice in all of the four main language skills – speaking, listening, writing and reading.”

We hope that you will find this manual helpful and that you as a teacher, trainer or learner at least will find parts of the Tools for skills useful in your teaching and learning process. It is our hope that the material will enhance the development of language skills and vocational skills and that many learners will take part in the target process of the Tools for skills programme: “lifting your skills to a higher level”.

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