How to use the Forest Workers Online Training Tool in a teaching situation

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Photeinos Santas
Athanasios Stavropoulos
Regas Santas

OikoTechnics Institute
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**“...Just because you are up there teaching,
doesn't mean that we' re learning”**

*From the top student in a Physics class to the professor
who happened to be the student’s father...*

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INTRODUCTION

The Forest Worker Online Training Tool (FWOTT) is an integrated, interactive learning tool for developing professional skills in mechanized forestry and improving language skills for non-native English speakers. The instructional content is available online so that trainees can study anywhere, anytime provided they have Internet access.
The objective of the Trainer Manual is to provide broad methodology guidelines and hints for in class teaching of the Forest Worker's Online Training Tool. It is expected that the implementation of the FWOTT will vary by country, instructor and educational institution.
The FWOTT is addressed to a variety of non-native English speakers of forestry vocational training schools from widely different teaching philosophies and cultural backgrounds. Thus, it was practically impossible to customize the educational material to accommodate all these differences.
Strict teaching rules were replaced with the much more flexible approach of providing the learning tools, showing trainees how to use them, and let trainees have fun using them for successfully learning the educational material.
New approaches, methods and tools have been combined with traditional ones; for example, classroom brainstorming with choral reading in class, bilingual simultaneous teaching by a linguist and a technical expert, or active learning vs. passive learning.
Some of these approaches may seem strange to experienced trainers who have established their time-honored teaching habits. It is acknowledged that there will always be a lot of inter-trainer and inter-cultural variation in teaching style and effectiveness. However, the Consortium of the "Tools for Skills" project believes that there is always room for improvement, and asks trainers to make the transition in their teaching methodologies to

Put the fun back in learning

so that students

Study less and learn more

and

They learn permanently

We can accomplish all three above goals by following the proverb

Give a man a fish, and you feed him for a day.
Teach a man to fish, and you feed him for life.

Teaching and/or learning

how to think (or learn)

instead of

what to think (or learn)

is a universal, powerful, and dearly missed tool that only needs minor adjustments to deal successfully with every teaching on learning situation in life.

ASSUMPTIONS

The teaching of the material in the FWOTT contained some uncertainties and a lot of variation resulting from the different educational systems in the partner countries.
To contain the wide variation within reasonable limits, the following set of assumptions were required:

1. Trainees have an intermediate knowledge of English, defined as the B1/B2 level of the Common European Frame of Reference for Languages (http://www.coe.int/t/dg4/linguistic/Cadre1_en.asp). Hence, the Forest Workers Online Training Tool (FWOTT) was not designed to teach the four language learning components (reading, listening, speaking and writing). Rather, these components were considered indispensable means for a) trainees to become acquainted with essential forest harvesting issues and how to handle them, b) building technical vocabulary skills, c) teaching the ECVET Learning Outcomes (http://cd.dictyon.net/ECVET-7). The teaching methodology for the ECVET Learning Outcomes is covered in the section "How to use the ECVET units in a teaching situation" of the Tools for Skills – Teacher Manual.
2. Max class size: 12 - 16 learners. Can be adjusted if required. The size of the class is limited by resource (instructor, space and equipment) availability; for example, simulator seats available, available instructors for teaching the linguistic and technical parts, workshops, etc.
3. Class ethnic origin: If the class is comprised of a uniform group of non-native English speakers with a common mother tongue (e.g. Swedish, Bulgarian, German, etc.), then the linguistic material should be taught in English, whereas the technical part may be more relaxed and spontaneous use of the native language may be allowed. If, however, the class is composed of an international/mixed group of students, then English is the only option for both the linguistic and the technical parts.
4. Learner profile: 16-21 year old students of forestry vocational school or professionals outside the above age group wanting to take a refresher course or wishing to take a course for switching jobs or on a lifelong learning program. Prior to the start of classes, trainers should have an introductory meeting with each trainee. The purpose of the interview is not only for the trainer to meet the trainee, but also to explore aspects of the trainee's personality, educational background, possibly dropping out of college and reasons thereof, purpose for taking the class, previous experience with the technical part (e.g. father's business), level of English/linguistic skills, family problems or other circumstances, type of personality (introvert vs. extrovert, twice exceptional personality, etc.). All these parameters will help the trainer fine-tune the style and customize as much as possible the course to individual trainee background (https://www.cmu.edu/teaching/designteach/design/yourstudents.html).

THE FOREST WORKER'S ONLINE TRAINING TOOL

Statistics

Number of Lessons

The book “Working in Harvesting Teams" consists of two volumes: Part 1-Basic Knowledge, and Part 2-Practical Production, with 13 and 9 Chapters, respectively. The Forest Workers Online Training Tool follows the same pattern.
At the beginning of the “Tools for Skills” project, it was agreed that each Lesson should include roughly 10 pages of the book, so a total of 60 Lessons were projected for the nearly 600 pages of the two volumes of the book.
Due to the pictures and content within Chapters, however, a variable number of pages were included per Lesson depending on whether the selected pages contained a complete meaning, as much as possible; therefore, a Lesson may contain from 10 to 15 pages and, as a result, 48 Lessons were developed in total.

Number of Terms by Lesson and Case Studies

The Forest Workers Glossary contains about 3000 forestry terms.
Of these, about 1500 terms originate from the textbook “Working in Harvesting Teams”, and the rest are from other sources (ELMIA International Forestry Show glossary; Paul Fotheringham, SRUC, Scotland).
Early on in the “Tools for Skills” project, the project Steering Committee distributed the 1500 terms from the textbook among the lessons, so that an equal number of terms was assigned per lesson. Due to the variation in the number of pages per Chapter, and Chapter breakdown to Lessons, significant differences resulted in the number of terms per lesson (average: 25; range: 5-108). The number of terms per lesson is an indicator of the wealth of lexical information, and thus difficulty, of the corresponding Lesson, and was used as a means to assess individual lesson difficulty.
Except Lessons 1.1.1-1.1.5, Case Studies were not designed to provide a second instance of the use of technical terms to supplement the use of the terms in the textbook; therefore, the majority of the Case Studies contain very few of the assigned terms in each lesson, and thus can be considered relatively easy to study; however, the Internal Evaluation process is currently under development.

Authoring workload distribution

Authoring workload was distributed equally among project partners, i.e. each partner was allocated a number of Chapters, so that the total number of pages per partner would be comparable among partners. In this distribution, small Chapters were supplemented with other ones, whereas multi-page Chapters (e.g. Chapter 2, Part 2) were treated as standalone, autonomous units. Since the original “Tools for Skills” project Consortium consisted of 6 partners (vocational training institutions from Sweden, Germany, Slovakia, Bulgaria, Greece, and the UK), each partner was responsible for preparing the teaching material for 10 lessons (range: 7-12).
Authors were free to make their own multiple-choice questions, but they were required to develop no less that 10 questions of each closed type test (True or False, fill in the blanks, match-type questions, mix-up sentences, listening comprehension, etc.).
In addition to the main material, which was based on the textbook “Working in Harvesting Teams” and included the Exercises section, each Lesson included a Case Study and a Glossary Practice sections.

Numbering Conventions

Each Lesson is numbered by a series of three numbers, representing the Part of the book “Working in Harvesting Teams”, the Chapter within Part, and the

Lesson within Chapter, respectively; therefore, Lesson 1.13.2 refers to Part 1, Chapter 13, Lesson 2.

Chapter And Lesson Layout

For consistency purposes, the educational material was developed with a nested design of Lessons within Chapters, and Chapters within Parts, as follows:

Part X (where X = 1 or 2, depending on the Part of the WiHT)
- Chapter X.Y
  - Lesson X.Y.Z (where Y = 1 to 13 for Part 1, Y = 1 to 9 for Part 2, and Z = 1 to 4 depending on how many Lessons were developed per Chapter)
    - Introductory Material
      - Pages (“pp.”)
      - Can Do
      - Warm Up
      - Learning Tasks
      - Exercises
    - Extra Material
      - Case Study
      - Glossary Practice
  - Vocabulary Review
  - Test Yourself
  - References

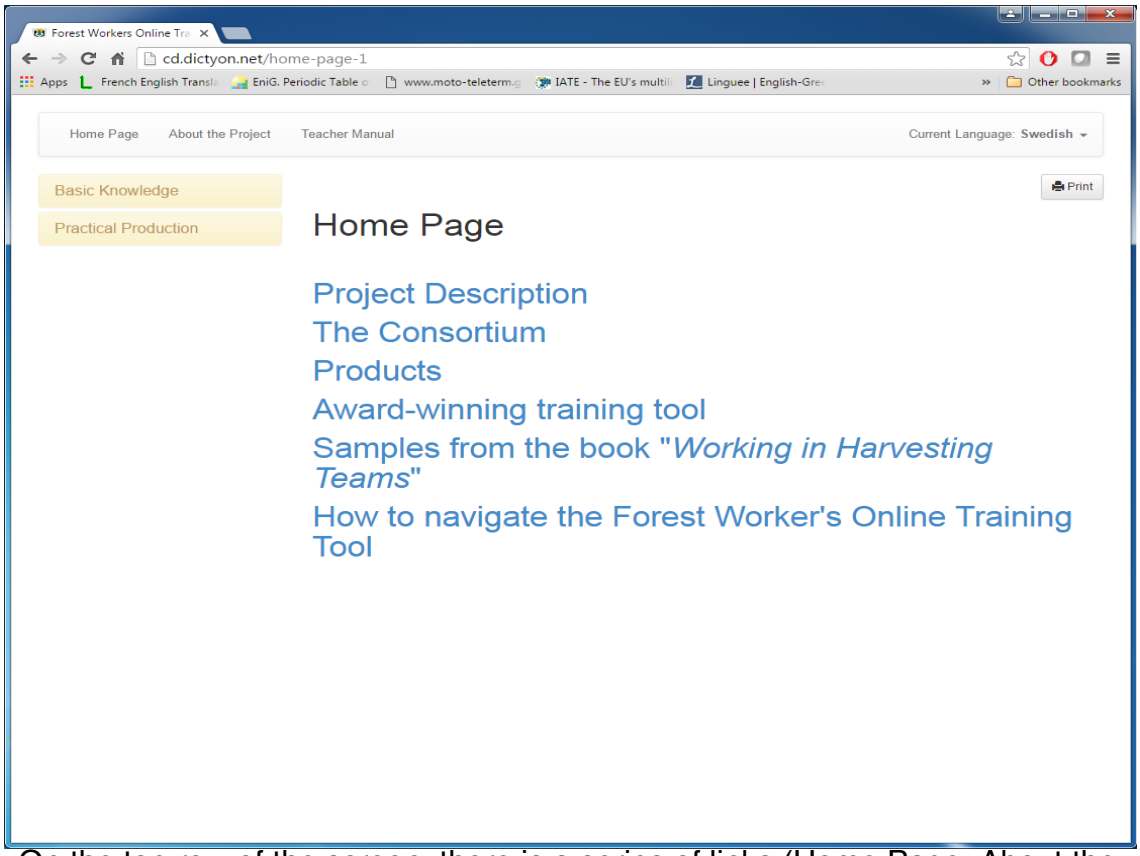
The last three sections (Vocabulary Review, Test Yourself and References) are Chapter-specific and do not refer to individual Lessons.

Non-linear Lesson Teaching Order

Although lessons in the FWOTT follow the order of the book "Working in Harvesting Teams", trainers are free to decide the lesson teaching order to be followed in class. To facilitate non-linear teaching and learning, lessons have been designed as independent modules, i.e. each lesson contains the complete educational material for that lesson. Lessons within a Chapter revolve around the central meaning of the Chapter as presented in WiHT. Based on their judgment and training requirements, however, trainers may opt to teach a single lesson from a Chapter, and then go on to a different Chapter, skipping the rest of the lessons in the initial Chapter. The only problem generated by this course of action is that the Review part and the corresponding terms of the Chapter will be skipped too, but this is not expected to cause major learning problems. Returning to the initial Chapter later on in the semester would be awkward although not impossible.

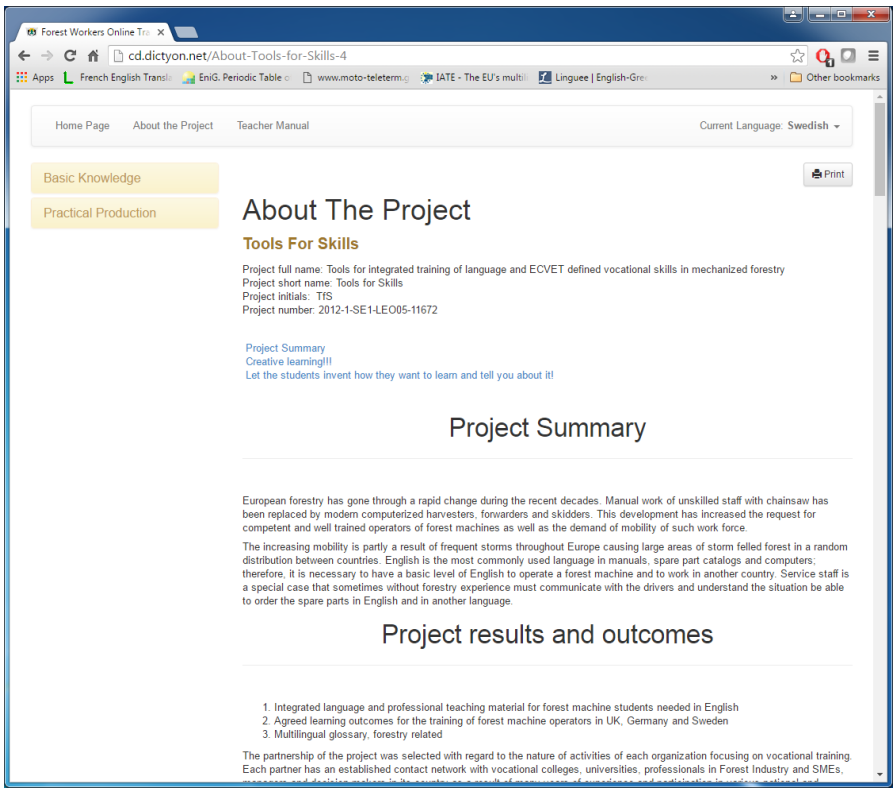
NAVIGATING THE FOREST WORKERS ONLINE TRAINING TOOL

From the main page of the Forest Worker’s Online Training Tool (http://cd.dictyon.net/), click on the FWOTT link; this opens the Home Page containing on the right a list of links leading to ancillary topics of the project, such as Project Description, The Consortium, etc.

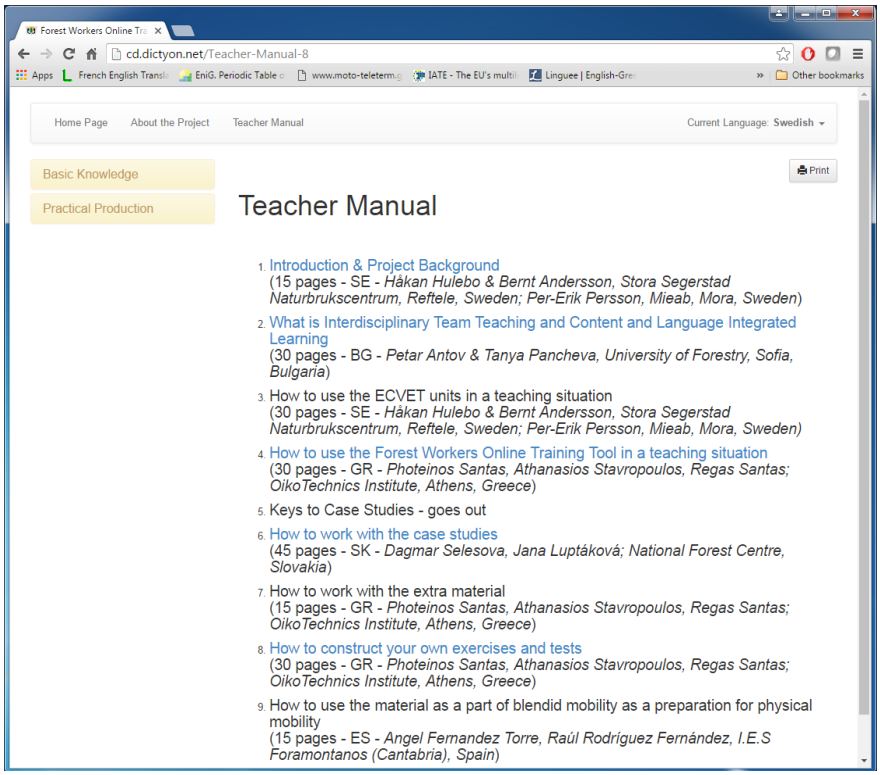


On the top row of the screen, there is a series of links (Home Page, About the Project, Teacher Manual). The About the Project link opens a screen containing information about the “Tools for Skills” project including a Project Summary, and the Project results and outcomes.

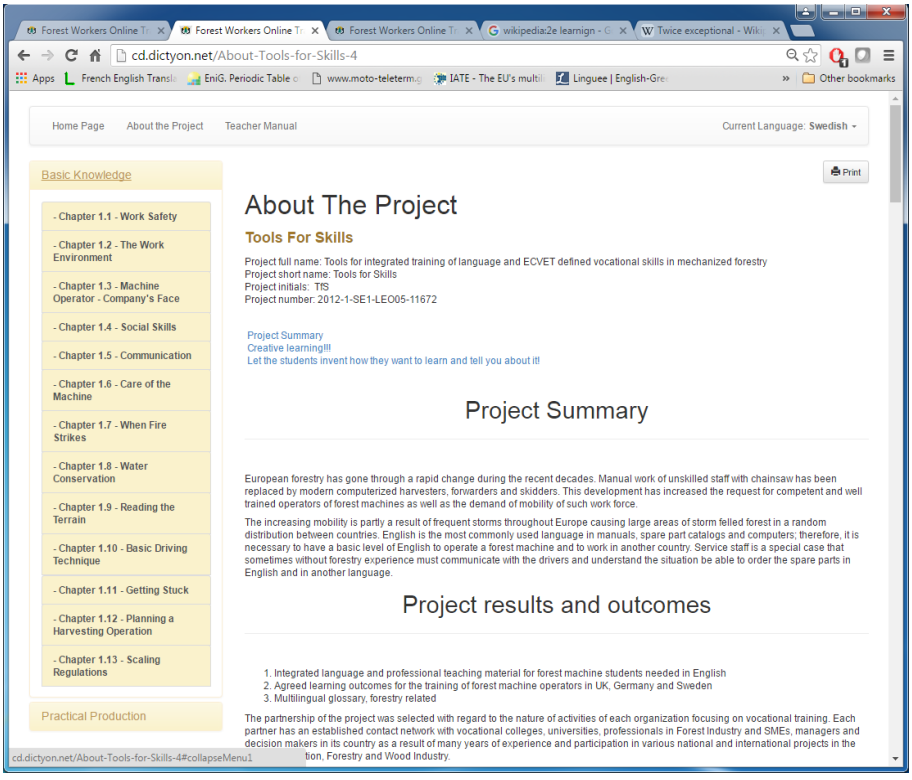
Further down the same screen, there are sections on Creative learning, Coping with Information Overload and how to deal with it, a few points about College Drop-outs, some key information about the challenges on the “Tools for Skills” project, and various Learning tips & tricks, all of which may be useful to both trainers and trainees.



Towards the bottom of the page there are some links to external URLs sorted by broad subject category.

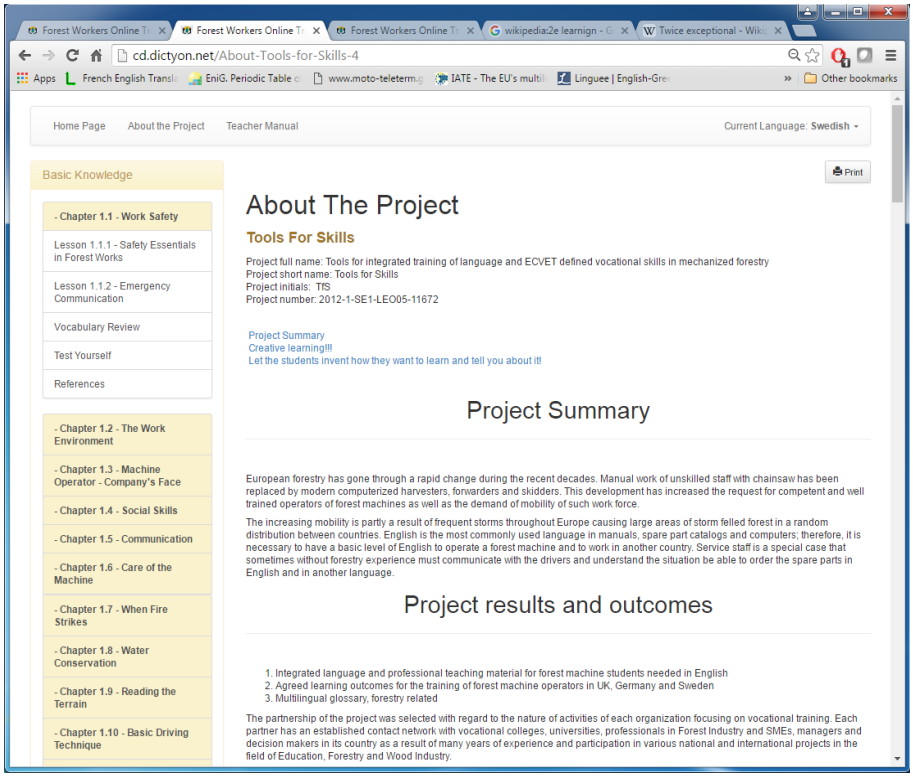


Click on the Top button at the lower right corner to return to the top of the page. The Teacher Manual link on the top row opens a new page with a list of topics addressed mainly to the trainer, which can also be used by trainees.



Click on any link to open a new tab with the relevant topic discussed. Close the tab to return to the previous page. Click on the Basic Knowledge or the Practical Production button on the left to access the list of Chapters of Part 1 or Part 2 of the book “Working in Harvesting Teams", respectively.

Click on any of the chapter links on the left to open the relevant Chapter and to unfold a drop down list with the Lesson(s) of the Chapter, and select the Lesson you want to work on.



LEARNING OBJECTIVES

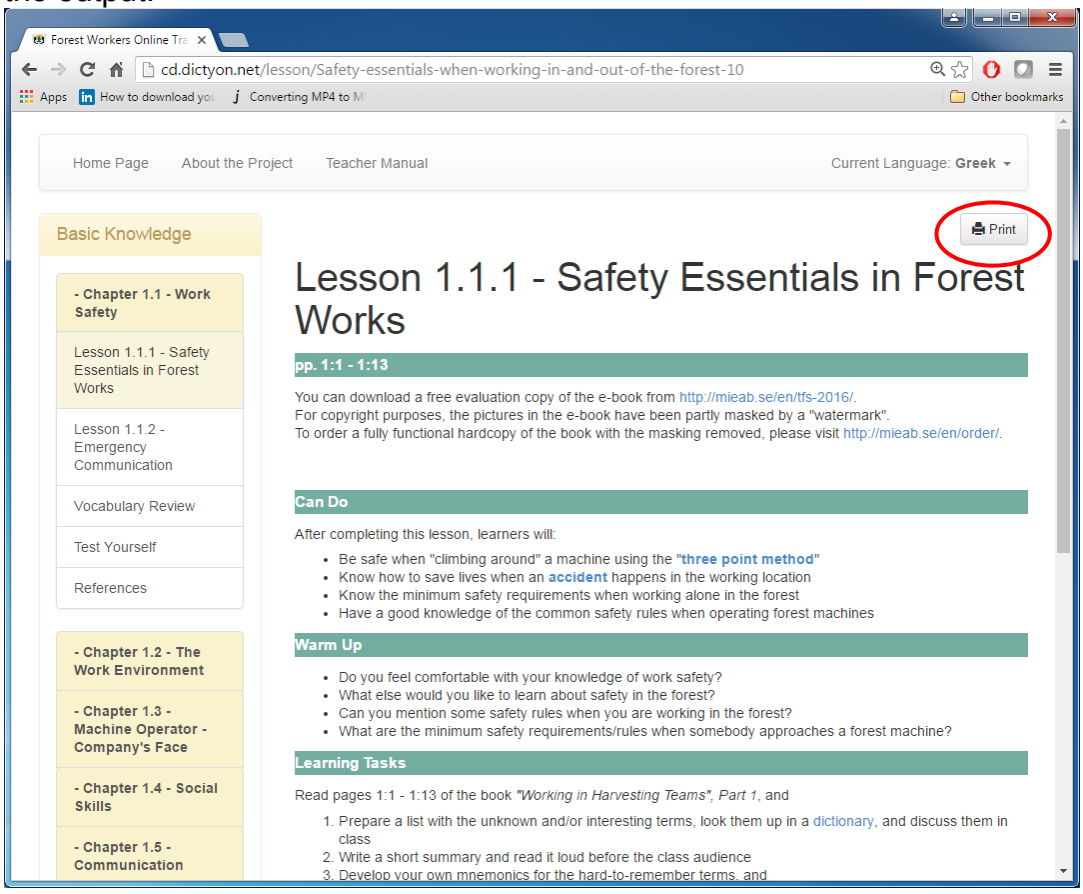
Today, it is common knowledge that language learning involves 4 components: Reading, Listening, Writing and Speaking. Furthermore, the Common European Framework (https://en.wikipedia.org/wiki/Common_European_Framework_of_Reference_for_Languages) describes what language learners at different proficiency levels can do in each of the 4 components.
It was assumed that trainees have some basic knowledge of English, and thus they have an acceptable level of each of these 4 components. Here we will limit ourselves to how each of these 4 components is covered in the FWOTT.

Reading

The FWOTT provides the opportunity to test and improve reading skills, if required, so that trainees become fluent in reading, i.e. they can read accurately, fast, with correct pronunciation, and good understanding.
In the Learning Tasks section of every FWOTT Lesson, trainees are asked to prepare for a Lesson by reading at home a number of pages from the book "*Working in Harvesting Teams*". The transition from private reading to in-class reading presents some challenges, such as class exposure and thus repercussions on individual trainee self-confidence, and benefits, such as trainer feedback. Traditionally, foreign language trainees read in unison (choral reading) some trainer-selected passages in class. In this way, the burden of class exposure, especially for introvert trainees, is eliminated, the less skilled trainees have a chance to practice reading and speaking, all trainees improve their pronunciation, and thus all become more or less fluent in reading. Choral reading should gradually be replaced by individual reading, where each trainee continues from where the previous reader left off.

Listening

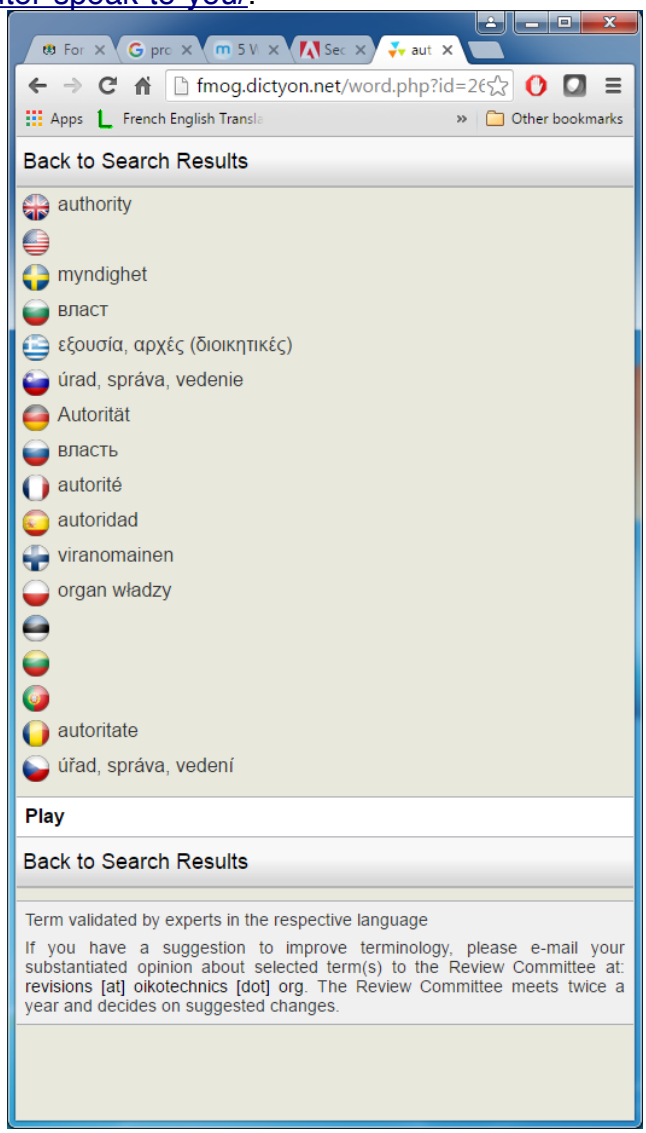
Trainees will have the opportunity to practice their listening comprehension skills by being in the classroom and listening to the trainer present the educational material.
There have been some concerns about trainees listening constantly to the same one or two people, getting used to their individual pronunciation and intonation, and therefore not being able to comprehend other people's accents. Whereas there might be some value in this argument, the FWOTT has some safety mechanisms installed; for example, many Lessons include References and links to videos and other audiovisual material available on the Internet. Trainees are asked to watch the videos, listen to the audio track, and transcribe the video or write a short summary in their mother tongue. In so doing, trainees are exposed to many speakers, voices, accents, etc. and thus are provided with opportunities for practicing their listening skills. Additional benefits of the method is that trainees can work at their own pace at home, replay the material as many times as necessary, and improve their transcript with each replay, while at the same time catching details they were not able to discern in the previous replay.
Another approach to the problem is to use Text-to-Speech computer tools, and listen to the computerized reading of the material. A free evaluation copy of the book "*Working in Harvesting Teams*" can be downloaded in .pdf form from the Mora website (http://mieab.se/en/tfs-2016/); alternatively, the introductory material of each FWOTT Lesson can be converted to .pdf form by clicking the "Print" button on the upper right corner of the screen and saving the output.



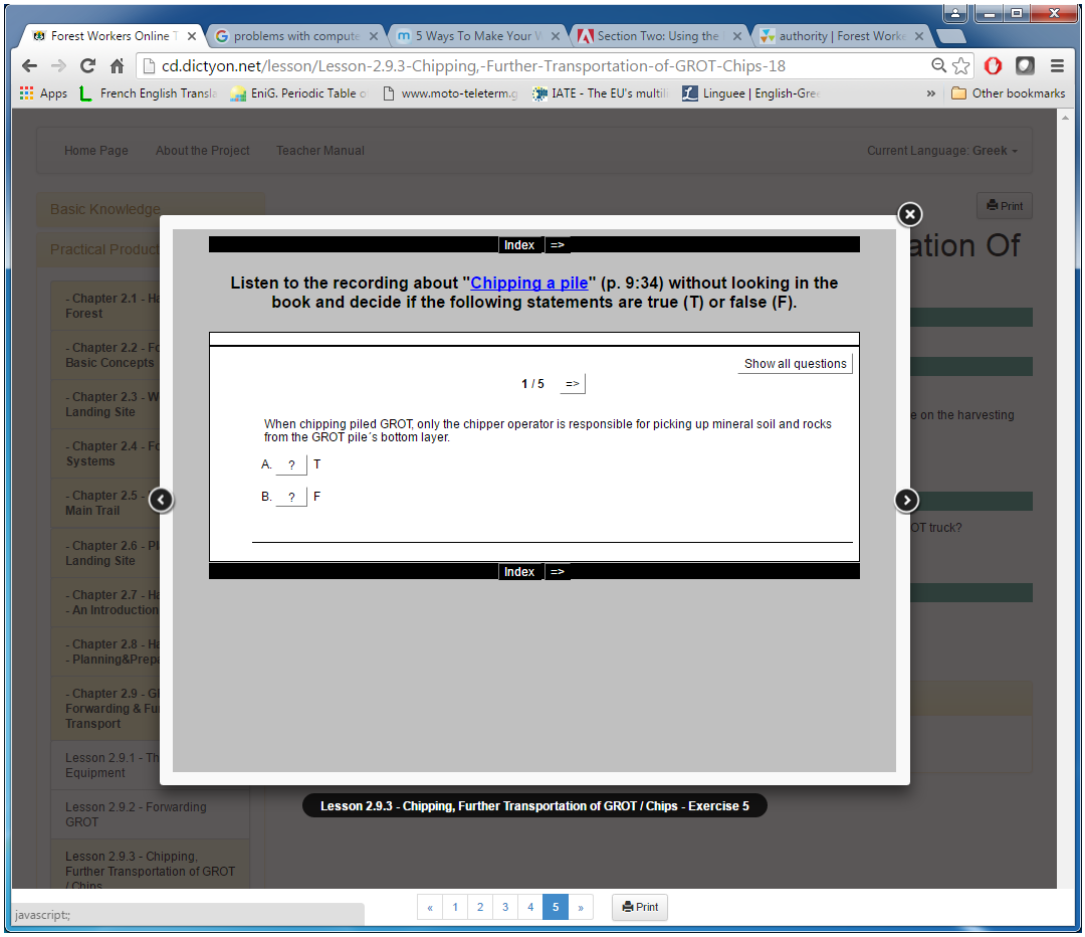
Then, if you are using the free Adobe Acrobat Reader DC software on a PC platform, activate the Read Out Loud option (View>Read Out Loud>Activate Read Out Loud), and click on View>Read Out Loud>Read This Page Only.

Warning: A computerized voice system does not sound like a natural human voice, so users may find the sound quality not acceptable; however, this may be a good and inexpensive starting way for listening comprehension practice. For more text-to-speech options, visit http://www.makeuseof.com/tag/5-ways-to-make-your-windows-computer-speak-to-you/.

The Forest Workers Glossary (fmog.dictyon.net) provides the English pronunciation of each word using a natural human voice (Press the Play button on the tool).



The FWOTT provides many Listening Comprehension exercises (Lessons 1.1.1 – 1.7.1 and 2.6.1 - 2.9.3). A short text from the respective lesson has been read by a human and recorded, and trainees must listen to the recording and answer some relevant questions.



Writing

Forestry machine operators are not expected to be proficient in writing; therefore, the writing assignments per Lesson have been limited to writing a short summary (abstract) after reading the corresponding assignment. Writing a summary, however, requires critical thinking to leave out unnecessary information and include only the important information.

Speaking

This is a course about learning English, so it is absolutely necessary that trainees are given the opportunity to exercise their spoken English in the classroom to some extent.
It is estimated that trainees will have difficulties in formulating their questions, answers or statements in English in the early sessions of the course; however, trainers must be very careful to avoid unpleasant situations for the trainees (e.g. asking personally addressed questions or unanticipated questions). On the contrary, trainers must encourage class participation in English on a rotation basis. Equal time must be allocated to each trainee for asking or answering questions or speaking in class. A ramp-up schedule must be implemented so that trainees progressively switch from speaking in their native language to speaking in English.
Trainers, and especially the linguistic experts, will need to speak English in the classroom throughout the course. Only if all other efforts of explaining a concept and all clues provided to trainees fail, the trainer should switch to the native language.

The Learning Tasks of every Lesson require that students read some pages from the textbook “Working in Harvesting Teams”, write a short abstract, and present the abstract orally in class. Whereas this is an opportunity of speaking, it is structured speaking, i.e. trainees will have a fixed (written) text to read from. A more demanding situation would be that trainees speak impromptu without the aid of a written text, for example by answering questions or offering their comments on various conversation topics. Depending on the baseline English level of each class, trainers will judge how much time can be devoted to in-class conversations in English based on the educational material of the textbook. For example, whether trainees can give a 1-2 minute talk introducing themselves to the class early on in the course. The conversations that are expected to take place as part of the Case Studies section provide another opportunity to speak English in the classroom, and are discussed in the Chapter “How to use the extra material”.
To these, “Tools for Skills” has added another two levels:

Vocabulary

In technical learning environments, vocabulary is the most important application, as it opens a whole world of information and opportunities for the learner, and essentially removes the language barrier. It is envisioned that in every lesson trainees will learn/practice a number of new terms, will review previous terms, etc. The ultimate objective of this activity is that students obtain a solid vocabulary in English, which they will use to read and understand manuals, search the Internet for international literature, seek employment opportunities in other non-English speaking countries, and perhaps communicate with potential workers in their own country.
The Vocabulary teaching methodology is described with more detail in "How to use the extra material".

THE COURSE

Prerequisites

No prerequisites for the linguistic part.
For the ECVET par, prerequisite are described in the Prerequisites section of the Forest Worker’s Online Training Tool for each ECVET unit (http://cd.dictyon.net/ECVET-7).

Resources

Internet access, projection equipment and software, recording and video editing equipment (for flipped classroom), student smartphones, tablets or laptop computers.
Interested parties can download a free evaluation copy of the e-book “Working in Harvesting Teams” from http://mieab.se/en/tfs-2016/. For copyright purposes, the pictures in the e-book have been partly masked by a "watermark". To order a fully functional hardcopy of the book with the masking removed, please visit http://mieab.se/en/order/.
The FWOTT material is available online, so trainees can access it anywhere anytime from their desktop, laptop, tablet or smartphone. Thus, it is essential that the classroom be equipped with a projector, a projector screen, an audio system and Internet access for streaming video and audio and displaying the information available online (e.g. YouTube, etc.). Most of the FWOTT material

are browser-accessible, whereas a standard Office suite including presentation software is highly desirable.
Many schools provide limited Internet access or no YouTube access due to concerns about student use of Internet or copyright issues.
The FWOTT and Forest Workers Glossary (FWG) were developed using open source software; supplementary software is available online for free downloading from the respective websites.

Syllabus

A course syllabus describing the objectives, the subjects by session and day of the week, the schedule of exams and tests, and/or any other requirements, such as vocabulary terms per lesson, assignments, workshops, homework, in class projects and activities for the course must be prepared and handed out to the learners on Day 1 of classes.
To avoid unpleasant surprises and to dispel anxiety, trainers should spend sufficient time on the first day of classes explaining to trainees that the course was designed mostly as a self-paced course. Trainers should also elaborate in the classroom on the learning tools (how to keep notes, how to prepare for exams, how to take tests, study frequency and schedule, etc.), the vocabulary practice drills (rote repetition, spaced repetition, mnemonics tools, efficient learning), and the grading rubric or algorithm of the course.
The syllabus must provide for cases in which lectures are behind schedule or for additional question and answer sessions outside the class schedule.
All learning steps and goals must be easily and accurately defined and quantifiable; for example, how many terms learners are expected to learn per week or per Chapter or Lesson, how to prepare for class, how to test themselves at home, etc. One particularly important aspect is the content of tests, quizzes, exams, etc., how it is presented to the trainees, and the degree of difficulty for each Lesson. Trainers should strive to prepare tests that are within the skills of trainees. Too often, trainers are being carried away by their experience and knowledge, and take it for granted that trainees will be or should be able to answer correctly.

Class duration

Each class session lasts 45-50 minutes. It is possible to have two or three sessions back-to-back, with an intervening 10-15 minute break between sessions. Cases where trainers forgot to take a break or made a deal with trainees to skip breaks so that learners would leave earlier have been total disasters and are not recommended. No breaks should be shorter than 10 minutes.

Semester length

15-week teaching semesters divided into two parts with a week-long study break before mid-term exams, and another study week before final exams. Assuming one Lesson, including the Linguistic and the ECVET parts, will be completed per week, it is expected that a total of about 13 Lessons will be covered per semester. Therefore, the 48 Lessons of the course are sufficient to cover a minimum of 3, and possibly 4, semesters. In other words, at the rate of one Lesson per week, the FWOTT can cover a full two-year program of vocational training in forestry.

Semester-long course

4 hours lecture and 3-4 hours practice workshop session per week, for 15-week long semesters (See Semester length, above). The 4 one-hour long lecture sessions per week should be devoted to the linguistic part including the Case Studies, whereas the 3-4 hour long workshop session per week to the Learning Outcomes of the ECVET section (http://cd.dictyon.net/ECVET-7) discussed elsewhere in this tool (See, How to use the ECVET units in a teaching situation). Workshop/discussion sessions are considered the follow-up on the material presented in the lecture and may include either practical training, for example on the parts of the engine, or linguistic exercises, drills, contests, trainee educational interactions, simulations, field trips and work, workshop work, etc.

One-month long crash course

8 teaching hours per day, 5 days a week, for 30 calendar days, with one weekend midterm study break and one weekend final exam study break. Distribution of hours between lecture and workshop sessions and between the linguistic and ECVET parts as in the semester-long course above.

Teaching credits

4 credits
According to the European Credit Transfer System (http://ec.europa.eu/education/ects/ects_en.htm), 1 credit is awarded for every 25-30 work hours (http://ec.europa.eu/education/ects/users-guide/glossary_en.htm#workload) trainees spend on educational activities including lectures, seminars, projects, practical work, work placements and individual study required to achieve the defined Learning Outcomes.
The European Credit Transfer System has been criticized as vague due to inter-country differences in the amount of workload required per credit (http://www.mastersportal.eu/articles/388/all-you-need-to-know-about-the-european-credit-system-ects.html), uncertainty from subjective determination of the amount of work, and individual trainee differences in the amount of effort invested to complete the work. Practically, the number of credits for each course in a curriculum is determined by dividing the total amount of credit hours required for graduation (usually 120-150 for four–year colleges) by the number of courses available in the curriculum. Thus it is possible that a course will be awarded 12-14 credit hours, depending on the number of available courses, number of semesters for graduation, etc.
In the United States, a college or university credit is awarded for every contact hour per week in class. A contact hour includes any trainer-trainee interaction, such as lecture or lab or workshop time when the trainer is teaching the course information to trainees or coaching trainees how to apply the course information to an activity (https://en.wikipedia.org/wiki/Course_credit). Usually, a semester-long course with three lecture hours and a 3-4 hour lab session per week is worth 4 credit hours.
The problem with this system is that it does not take into consideration the amount of work required for homework and other off-classroom student assignments. The benefit of the system is that it is applied to all schools and therefore is a consistent way of assessing the amount of information transfer to students.

TEACHING APPROACH

Give learning tools and methods

Demonstrate

Apply, play & learn

TEACHING METHODS

Synchronous Bilingual Teaching

The book “Working in Harvesting Teams” offers a mixture of linguistic and technical information, whereas the ECVET part contains the Learning Outcomes agreed by vocational forestry schools in Germany, Sweden, Bulgaria, etc. Therefore, in its simplest form, the course should be taught by a linguistic and a technical trainer either synchronously (simultaneous presence of both trainers in the classroom) or asynchronously (trainers alternate in teaching the material in the classroom).
Synchronous bilingual teaching by separate instructors is the preferred choice for teaching “Tools for Skills”, as trainees can make more immediate associations between the linguistic and the technical counterparts of each lesson. The linguistic and technical trainers must cooperate in advance to organize the course, figure out time partitioning details, find the most effective method of presenting the material, prepare and lead class discussions, split the class in groups for performing individual tasks, such as brainstorming or improvising on the learning methodology, etc. Trainers may take turns in introducing the Lesson before the class: the technical trainer leads by providing the Warm Up questions, and the linguist follows by providing an overview or perhaps a close translation of the technical part. The amount of time allocated to each task can vary (see Classroom Delivery, below) and is subject to careful planning and fine-tuning to meet target group requirements. In the next package of the same Lesson, the order is reversed and the linguist leads while the technical trainer follows.
Another possibility for bilingual teaching of the Tools for Skills is partitioning the material between an English teacher and a technical teacher. The teaching of the Forest Workers Training Tool will be assigned to the English trainer, whereas the teaching of the ECVET part can be the responsibility of the technical trainer. Both lectures should be in English, and the linguistic part should precede the technical one.
Either one of the above teaching plans works well provided linguistic and technical trainers are available. In many cases, however, budget restrictions may prevent the teaching of the course by separate instructors, and a single person must carry out both tasks of English and technical teaching. This arrangement may reduce costs by up to 50%, but generates the need for recruiting a trainer that has adequate knowledge of both linguistic and technical subjects; for example, a native English-speaking forwarder driver living in the country where the FWOTT is taught, or a native-language speaking harvester driver that has worked many years in an English speaking country, familiar with the terminology and capable of teaching. Such specialized trainers may not be too hard to find in some European countries,

and especially those ones with a strong forest harvesting industry, but may prove exceedingly difficult to find in countries under tight budget controls, or where English is not formally introduced into the vocational training system.

Flipped Classroom

The FWOTT provides a self-paced learning environment and can be taught either in the conventional/trainer-centered way or in a blended learning environment, including the flipped classroom approach.
In the conventional way, the trainer presents the material in the classroom, followed by a questions and answers session, and trainees do the assigned homework which is evaluated by the trainer.
In the flipped classroom approach, trainees have to be prepared, study the assigned material for the respective lesson, view the provided audiovisual material, and do the required homework. In the classroom, trainees will have an opportunity to study in-depth, ask questions and receive clarifications, generate and participate in the discussion, engage in further learning activities, take in-class assessment tests, etc. under the supervision of the trainer. The flipped classroom model provides a more efficient use of trainer-trainee contact time than the traditional model of trainer-centered teaching and learning.
An interesting version of flipping the classroom is the videotaping of lectures, and posting them online. Some Universities adopted this system so that students who missed the actual lecture could study the material at a later time. This may be an important factor in vocational training schools, where students are on work-study programs most of the time. In addition, students can consolidate their knowledge by replaying parts of the recorded lecture that contain difficult to grasp concepts.
Spectacular improvements from the flipped classroom have been reported in academic performance, class attendance, and decreased failure rate.
Students can proceed to the next topic only if they have mastered the previous one; proof of flipped mastery comes from various forms of evaluation (quizzes, tests, essay writing, presentations, debate sessions, etc.). Feedback can be provided on points that need more work, and corrections made.
The cost of recording equipment plus lecture recording and footage editing is a one-off expense; this is offset by the huge savings in teacher time, which can be allocated to more productive educational tasks, such as student academic advising, answering questions and providing clarifications, demonstrating how to use the equipment, solving exercises, covering more topics, field trips, etc. Unexpected cost savings can come from streaming recorded lectures to large screens on campus or remote computers when teaching unusually large-size classes and appropriate classrooms are not available.
Flipped classroom has been criticized as being too dependent on the “digital divide”, i.e. student access to the Internet. Not all schools provide free Internet access to students, not all students can afford to pay for Internet-enabled smartphones, and Internet is not available everywhere. With falling prices of 4G phones and service rates, and growing network coverage in hard to reach places, the “digital divide” is rapidly contracting.
Another criticism against flipping classes is that it forces the students to spend more time in front of a computer screen or keying in data in their smartphones in a time when students spend too much time doing that already.
And lastly, critics of the flipped classroom approach dismiss the didactic value of watching “canned” versions of lectures or videos at home, claiming that it is a “high-tech” passive learning. They adopt a “constructivist” approach and propose that learning is an active process, in which knowledge is “constructed”, often by play, based on the personal experiences and creativity of the learner.

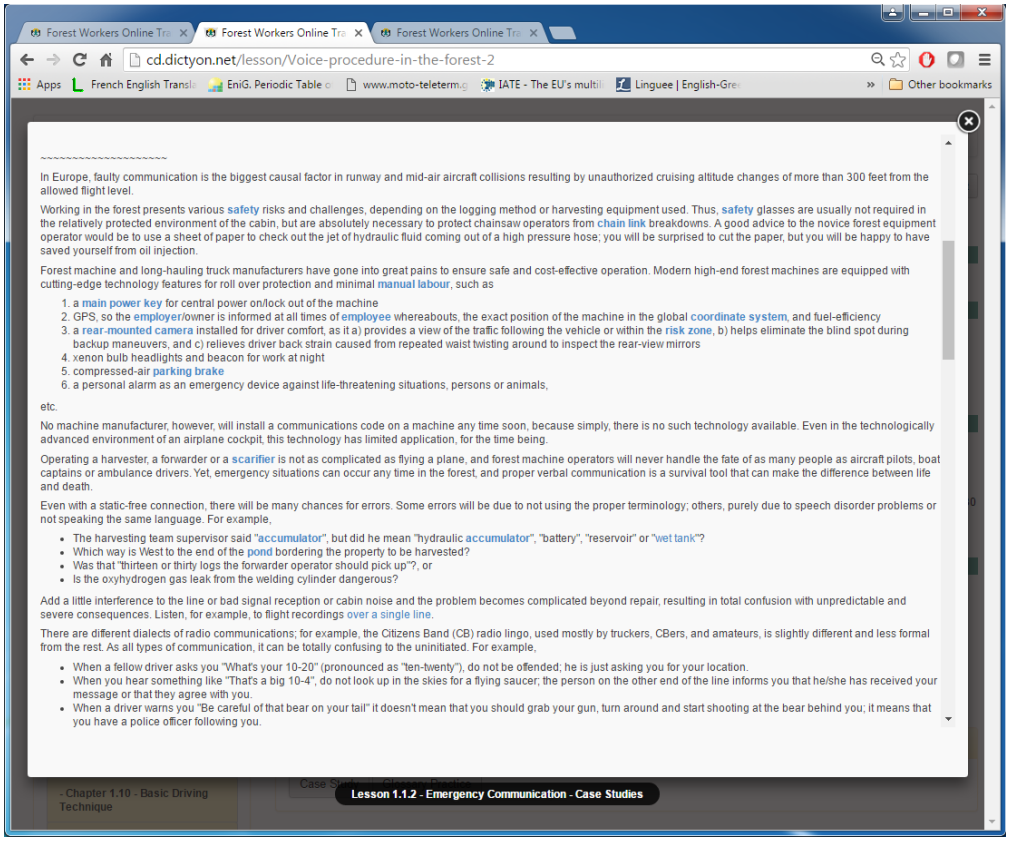
At the writing of this manual, the FWOTT does not have any recorded lectures. However, trainees are required to use the provided educational material (WiHT textbook, exercises, videos, Case Studies, etc.) to prepare at home and deepen their knowledge in the classroom.

Interdisciplinary Teaching

The theoretical aspects of Interdisciplinary Team Teaching and Content and Language Integrated Learning have been discussed in another part of this Teacher Manual (http://cd.dictyon.net/media/source/Teacher%20Training/Interdisciplinary%20Teaching/Interdisciplinary%20Team%20Teaching%20and%20CLIL.pdf). Here we will examine some of the issues that may arise from using the English language to teach vocational forestry skills to a class of non-native English speakers.
In some cases, the combination of disciplines and wealth of information provided by FWOTT, and particularly the Case Studies, exceeds the standards of vocational education training and seems more appropriate for University level students of forestry. In many cases, the Case Studies diverged from the scope of the FWOTT. This divergence, however, is welcome, as it makes the point and provides useful and instructional insights. Chapter 1.3, for example, discusses the Machine Operator acting as the interface between the harvesting company and the end client, and thus emphasizes operator needs to demonstrate proper and professional behavior before customers. Chapter 1.4 revolves around teaching Social Skills in general, and Responsibility, Social Competence and Team Spirit in particular. Social skills are considered essential in an intercultural/international work environment, and a separate ECVET module (http://cd.dictyon.net/media/source/admin_stuff/ECVET-unit%20social%20skills.html) has been designed to make trainees aware of potential differences between cultures (for more information, see How to Work with the Extra Material part of the Teacher Manual). Chapter 1.5 revolves around verbal and non-verbal Communication Skills at the workplace. Communication skills are considered critical in job-seeking situations, where applicants are given the proverbial 2 minutes to convince the prospective employer to hire them, and at the workplace to maintain good working relations with other employees, and for safe and productive working.

Invited Speakers

For a more comprehensive teaching of the vocational skills in FWOTT, it is suggested that separate workshops with invited external speakers are organized once a week throughout the semester. Invited speakers may come from the forest machinery industry, domestic forest service or from the forest service of other countries, prospective employers, wood mills, paper pulp industry, forest service provider or consumer association, national insurance organization, research institutions, etc. The subject of the invited speakers presentations may be related to the technical or linguistic part of the FWOTT. For example, the Case Study of Lesson 1.1.2 includes a lengthy discussion on how meticulous systems for error-free communications have been established in the airline business to eliminate misunderstandings and avoid deadly accidents. Similar requirements for error-free communications and succinct exchange of information are commonplace in forest harvesting emergency situations; therefore, forest harvesting trainees have a lot to learn from a seemingly irrelevant subject, such as airline communications, which can make the difference in life-threatening situations.



The scope of this Case Study is clearly beyond the expertise of a forest harvesting vocational trainer. An invited Air Traffic Controller from the local airport, a Police trooper, an Army officer, a Fire Brigade/Rescue Team officer, or a Coast-Guard officer would be ideal speakers for the Case Study, and for instructing trainees to adopt precise, military-style good communication practices for their own safety in the field. Alternatively, a field trip to the local airport or the headquarters of other security forces could be arranged and have a representative speak to the trainees about the subject.
For more examples of interdisciplinary teaching in Case Studies, see “How to use the extra material”.
For a relaxed atmosphere and perhaps a more direct transfer of knowledge, the school's technical instructors or other forestry professionals may be asked occasionally to share their experiences by reciting the most vivid memories from their work days.

Intelligent Adaptive Learning

“Learning the learner as the learner learns”
Learning Technology https://www.youtube.com/watch?v=o0TbaHimigw. With the advent of modern, powerful and affordable computers, it is expected that about 50,000 data points per minute will be collected for each learner, thus identifying where he/she has problems.

Chunking

Chunking is the process of breaking up the educational material in smaller pieces easier to understand and remember.
There are serious limitations in human memory. Recent research reveals some interesting facts about the trends in human memory within the last 15-20 years:

- 25% of teenagers report forgetting important details about their friends and family
- 7% of people forget their own birthdays from time to time
- According to the National Center of Biotechnology Information at the US National Library of Medicine, the average attention span of humans has dropped from 12 seconds in 2000 to 8 seconds in 2013. This puts the attention span of humans below the attention span of goldfish (https://marketinginsidergroup.com/content-marketing/thanks-social-media-average-attention-span-now-shorter-goldfish/)

In addition, it is a common belief that students nowadays learn too much and usually at the expense of creativity, innovation and originality.
The increasing rates and numbers of college dropouts even from the Top 10 Universities of the US, and the subsequent success of these students in life are evidence that the educational system is a failure (https://youtu.be/jZzckOX06N0). The wrong is that

- schools fail to follow the originality of thoughts and ideas these students may have, and
- the grading system of academic performance assessment has virtually no application in real life.

To help human memory retain more information, and thus students learn even more, information to be delivered to the brain must be appropriately processed to facilitate assimilation and permanent memory by the human brain.
One way of doing this is by breaking up the information into short, easily digestible chunks as follows:

1. Organize the material in 8-minute teaching chunks. Speak and present chunks of your material within 8 minutes. This may seem a strange requirement, but it is essential to keep learner attention focused and thus maximize learning efficiency. With constant practice, trainee attention span can improve, and the 8-minute teaching package can be extended to 25-30 minutes. (https://www.youtube.com/watch?v=HAnw168huqA)
2. Take 2-minute breaks between teaching chunks to give the brain a chance to relax and to process the material presented. Breaks do not have to be blank/empty time, but may include audience participation, short games or information exchange between trainees, small tasks trainees should complete within 2 minutes, asking no “cold questions” and non-offensive questions to help the material sink in and let the brain return to the active state, or any other activity geared toward reinforcing what was presented in the preceding 8-minute package.
3. Repeat steps 1 and 2 as many times as required in the available time slot.

Language of Lectures

Lectures should preferably be in English, but they can be in the trainee mother tongue, assuming homogeneous nationality of trainees. The venue of the lectures and/or workshops may be the classroom or the field. Trainees should be encouraged to visit domestic and international Trade Fairs and attend seminars organized therein. Each vocational school should keep track of these events and ensure special educational prices or, even better, free attendance for trainees and trainers willing to travel to the Fair. Funding for attending such events may be sought from the Erasmus+ program of the European Commission, or private sponsorships (e.g. free passes).
Obviously, interdisciplinary teaching, organized as mentioned above, acts as a knowledge multiplier, opens new realms, keeps trainees updated with the recent developments in the job market, and gives trainees an opportunity to

practice their technical English, and improve their employability and standard of living, in line with the objectives of the Erasmus+ program of the European Commission. Therefore, trainee attendance to the interdisciplinary workshops is mandatory, even if it has to be outside their regular weekly workload.

LEARNING TOOLS (HACKS)

Learning how to learn

See Appendix 1

Game-Based Learning

The Tools for Skills program recommends a teaching/learning approach based on observations from nature. In nature, learning can result very fast and can be permanent, i.e. can last a lifetime. For example, by a one-time exposure to a very unpleasant stimulus, such as the stinging of a nettle, thorny bushes, a jellyfish or a bee or a distasteful food. Once individuals experience the burning sensation of the sting or the ugly taste of the food, they will stay away from the cause of the sensation for life. Knowledge acquired as mentioned above may be transferred from one generation to the next by elicited behavior to avoid the noxious agent; for example, most people grow a fear for snakes by observing and imitating the snake-avoiding behavior of their parents.

Alternatively, learning can result gradually from a relatively harmless and/or pleasant interaction occurring repeatedly, early on in the lifetime of the individual. This interaction usually occurs during ***play*** which is abundant in living systems. The instructional content of play can be quite variable, complicated and abstract and may not always be verbalized. This is how cubs, puppies, kitten, chicken, etc. learn vital survival values and skills, such as hierarchy patterns, pecking orders, avoidance of confrontation with larger size competitors, cooperation, hunting, searching for resources, the fight-or-flight response, etc.

In the case of humans, observations show that the need for more schooling for children makes them play less, and severely diminishes their creativity, cooperation and social values. Children that play most are the happiest, brightest, most cooperative and resilient children because play is Nature's way of ensuring that young mammals, including young human beings, acquire the skills required for a successful development into adulthood. (https://www.youtube.com/watch?v=Bg-GEzM7iTk).

Game-based learning has received severe criticism mainly as distracting; i.e. learners tend to focus more on the action, rather than the learning concepts the game is trying to teach. Although this is a reasonable argument, recent evidence shows that perseverance, innovation, familiarization with failure, learning, multitasking and other skills acquired through computer video games can be applied unexpectedly with life-saving results (https://www.youtube.com/watch?v=ZZvRw71Slew).

Advanced forms of games, such as Virtual Reality and simulators, have been used in extremely high demanding situations, such as airline pilot training systems, airspace missions, military simulations, industry, government agencies and other individuals. In forestry, harvester and forwarder simulators are used in vocational training to prepare operators in the use of expensive machinery.

A meta-analysis of 65 studies has found that simulation/games are 17% more effective than lecture and 5% more effective than discussion (Sitzman, T., 2011. A meta-analytic examination of the instructional effectiveness of computer-based simulation games. *Personnel Psychology.* Chapter 4 "The Gamification of Learning and Instruction").
The US President's Council of Advisors on Science and Technology has called for a 33% increase in the number of science, technology, engineering, and mathematics (STEM) bachelor's degrees completed per year and recommended adoption of empirically validated teaching practices as critical to achieving that goal. A meta-analysis of 225 studies has shown that active learning increases average student performance in Science & Technology, Engineering and Mathematics exams by 6%, whereas students in traditional learning classes were 1.5 times more likely to fail compared to students in active learning.[1] Therefore, it is concluded that the call to increase the number of students receiving STEM degrees can be answered by abandoning traditional lecturing in favor of active learning.
In response to the criticism of providing student distraction, the new view is to use gamification as a teaching tool. Gamification differs from games as the former employs certain elements of games, not the whole game, which has an underlying story, a plot, etc. Moreover, knowledge is delivered in everyday "pulses" while playing; for example, learners login to the learning platform, play for a few minutes, and then the play is interrupted, and a question pops up on the screen. Learners answer the question, and the play restarts. In this way, the learner/player is not preoccupied with what happens next in the game, but tries to master the information in the educational material to play some more.
Game-based learning platforms were compared to non-game based platforms, and the results show that learners in the former platforms volunteered to do significantly more learning material that in the latter platforms. When asked why they were willing to take more training material, learners answered that they felt their minds, being massaged by the game, were more receptive and open to take in more information. (For an interesting presentation about gamification by Kapp, K., see https://elearningguild.adobeconnect.com/_a62486834/p35thnkr6p9/?launcher=false&fcsContent=true&pbMode=normal.)

A popular scholastic in-class game/competition of knowledge, learning and recall is the Quiz Bowl (https://en.wikipedia.org/wiki/Quiz_bowl), a game which has been going strong in the US for over 60 years. The game is played by 2-10 teams in 30-minute rounds with questions from a variety of academic subjects. Each team consists of 3-5 players from the same educational institution. Required material for playing the game is a Lockout buzzer system, and the actual questions. International competitions may include students from English speaking countries, and mainly from the US, UK and Canada.
Questions are read before the teams who try to score points for their team by buzzing first and responding with the correct answer. Depending on how it is organized, the contest may include educational material from one or more classes, in which case members of the team come from different classes of the same school.

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[1] Scott Freeman, Sarah L. Eddy, Miles McDonough, Michelle K. Smith, Nnadozie Okoroafor, Hannah Jordt, and Mary Pat Wenderoth, 2014. Active learning increases student performance in science, engineering, and mathematics. Proceedings of the National Academy of Sciences. Early Edition. 111 (23) 8410-8415. Full text available at http://www.pnas.org/content/111/23/8410.full.pdf?sid=7ca5f785-75eb-4c67-982e-aef36fc5f0be.

This can easily be transferred to a vocabulary contest in class. Trainees participate in rotating teams, whereas fixed teams may be acceptable if agreed before the contest.
To teach abstract competences, such as cooperation, social, verbal and non-verbal communication skills, the Tools for Skills Consortium has organized with great success trainee games, contests and competitions (see Case Study of Lesson 1.4.1, http://cd.dictyon.net/lesson/Lesson-1-Responsibility,-Social-Competence-and-Team-Spirit-20).
Some Crossword Puzzles have been included in the Exercises of some FWOTT lessons (1.1.1-1.6.1, 16.3, 171, 2.1.2-2.2.2, 2.3.1, 2.4.1, 2.5.1, 2.6.1, 2.7.1-2, 2.8.3 and 2.9.3). In addition, FWOTT provides game-like activities like:

1. jumbled/mixed up sentences and/or words asking learners to put the words or letters in the correct order to form a sentence or a word, respectively, and
2. match type questions, asking learners to drag words or parts of sentences next to their corresponding ones, based on the material of the respective Lesson in the book “Working in Harvesting Teams”.

A host of question repositories (Quizlet), quiz generation websites (http://www.proprofs.com/quiz-school/) and games (Scrabble, Hangman, etc.) are available or can be created online, whereas language-learning applications (e.g. Quizdom, Duolingo, etc.) can be downloaded for free for endless hours of fun practicing and learning.
Trainers are expected to build on and expand those activities and incorporate more games in the learning process, based on their experience, expertise and identified learning requirements of the class.

Project-based Learning & Learn by doing (apprenticeships)

Engineering schools across the US welcome freshmen with the egg drop contest: Students have to construct a device to protect an egg dropped from the highest floor of the Engineering Department from breaking using freely available material. The rules of the contest regarding the cushioning material, the use of chutes, size and weight of contraption, shortest or longest airborne time, most accurate landing, least expensive device, etc. may vary, but the objective is always the same: don’t break the egg. This is an exercise in creativity pitting students against each other, but with great fun and enthusiasm (https://www.youtube.com/watch?v=nsnyl8llfH4) so much so that it has been adopted by many senior high schools in the US. Contest participants usually work in groups and devote many sleepless nights to come up with an original, winning idea, despite the fact that this assignment is not included in their regular coursework and they do not receive credit for this. For those refusing to see the educational value and application of the egg drop contest to the real world, let them be reminded that the hilarious egg drop situations are actually creativity-promoting exercises that culminated in some of the feats of modern technology, such as the first landing of man on the moon, and the famous CO2 scrubber hack that saved the astronauts of the Apollo XIII mission.
Challenging forestry vocational trainees with project-based learning might not be so difficult in hands-on teaching situations, such as machine shops, field work, forwarder/loader/harvester simulators, timber sports events (https://www.flickr.com/photos/osuforestryclub/), chainsaw contests, regional forwarder/loader competitions, etc. In the case of language teaching, however, project-based learning may put the trainer’s creativity to the test. The best examples might be student exchange programs, such as the Erasmus+ program of the European Commission, internship or work-study programs in English-speaking countries, students developing their own teaching methods/strategies applied to their fellow classmates, or organized

vocabulary contests outside the class and texting the answers to each other for checking.
Another option for project-based learning is an entire field exercise or practical task communicated in English. For example, the Niedersächsisches Forstliches Bildungszentrum (NFBz) in Münchehof, Germany has implemented a field setup to measure the volume of a tree log using the water displacement method. The purpose for the experiment was to compare the volume of logs calculated based on standard geometric formulas with the volume measured using the much more accurate water displacement method.

In this method, when a log is submerged in water, the volume of the displaced water equals the volume of the submerged log.
Using the crane on the right, a tree log is submerged in a tank full of water

the rise of the water level is measured and converted to volume of water displaced. The results obtained by the displacement method are then compared to the results of using standard geometric formulas for calculating tree volume. By plotting the volume of displaced water against the volume calculated on the basis of standard geometric formulas, a regression equation can be constructed converting the geometric volume to the much more accurate volumetric equivalent. The discussion to follow the measurement may be in English, whereas students participating in the experiment might be asked to describe the method in their own words, compare the two methods, and have their understanding tested in English to improve their speaking and listening comprehension skills.
For additional information on project-based learning, see
http://www.edutopia.org/project-based-learning

Brainstorming

To avoid embarrassing moments for individual trainees having problems with the terminology and to encourage wider class participation in this activity, the trainer announces that this is not an evaluation procedure, and it is organized like a “voting” process, i.e. neither the trainer nor trainees have a clue about the identity of the person with the problem. Trainees write one or more terms anonymously on a piece of paper, the papers are collected in a “ballot” and opened by the appointed collection committee.
The committee writes on the blackboard the terms suggested by trainees and a brainstorming session is organized to resolve the issues. The class is split in brainstorming teams of 2-3 trainees each. Teams are given 2-3 minutes to select the terms each team wants to work on and the selected terms are deleted from the board. If any terms remain on the board, the trainer may distribute them randomly among teams. If two or more teams select the same

term, they each get to work on it, and each will present their results at the end.
After the workload is distributed, teams are dispersed in the classroom and work independently, keeping the conversation low so as not to disturb the other teams.
The purpose of the brainstorming session/mnemonics party is for each team to be creative and develop suggestions, ideas, tips and tricks to memorize the difficult terms (See “Mnemonics” below).
To help the free flow of ideas, the trainer must see that the composition of teams varies between sessions, i.e. not always the same trainees participate in the same team, and also that each team includes at least one of the most successful and one not so successful learners.
The idea behind the brainstorming session is that the most successful learners will share their secrets of success and way of thinking with the rest of the team, and thus will pull the rest of the team and the class forward.
Each brainstorming session lasts 10 minutes, after which the trainer calls each group to present their results and explain how they arrived to them.
If there are any terms left over for which no mnemonics could be developed, these are saved by the trainer and are assigned to Spaced Repetition drills (see “How to work with the extra material”).
To add some more interest, the class may vote for the best mnemonics rule based on some predetermined criteria, such as ease of use, effectiveness, number of assigned terms included in the device, etc. the team with the best or most rules is awarded a badge or a certificate or voted MVBs (Most Valuable Buddies) of the week, and their names are written on a poster on the wall.
Towards the end of the semester, split the class in teams and ask teams of trainees to prepare and give a 10 minute shared English presentation in the classroom. Make sure there is enough time for Q&A after their presentation. Tell them that this will or will not count towards their final grade, define the grading rubric, if it counts, (pronunciation, fluidity, content richness, slide arrangement, artwork, reading from the slides, punctuality, etc.), and ask the class to grade the presentation anonymously.

Active learning

Flash cards

Flashcards as a learning tool is discussed in the “How to use the extra material”.

FWG

Mnemonics

See Memory Hacks to Enhance Vocabulary Learning, in Appendix 3 below.

Note taking

See Learning How to Learn – Things They Should Have Taught you at School But Didn't, in Appendix 1 below.

Critical thinking

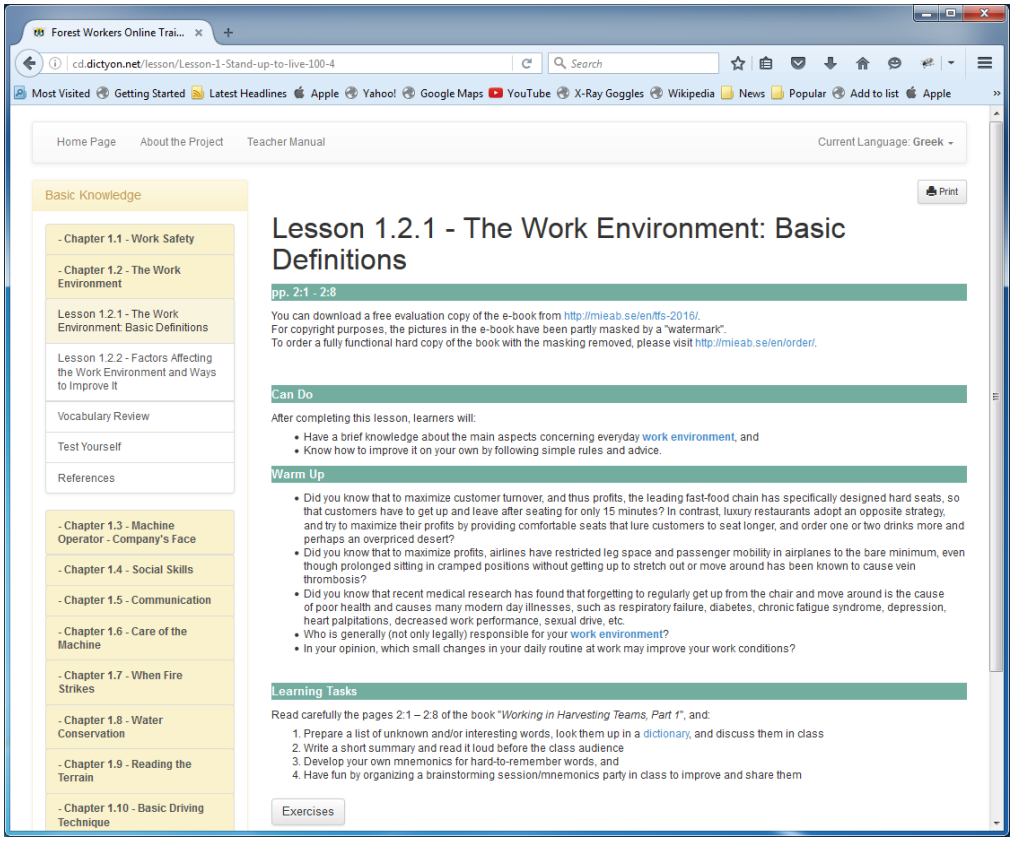
Trainees select in their opinion the most important section of the class and explain why they did so. Also, in the Learning Tasks of each Lesson, trainees

are requested to read the assigned pages of the book “Working in Harvesting Teams” and write a short summary in English (usually 10-15 lines), thus exercising their summary writing and communication skills. By writing a summary, trainees demonstrate that they have mastered the text and they can make others understand the core idea of it using the author’s point of view, if possible (do not copy author’s sentences).

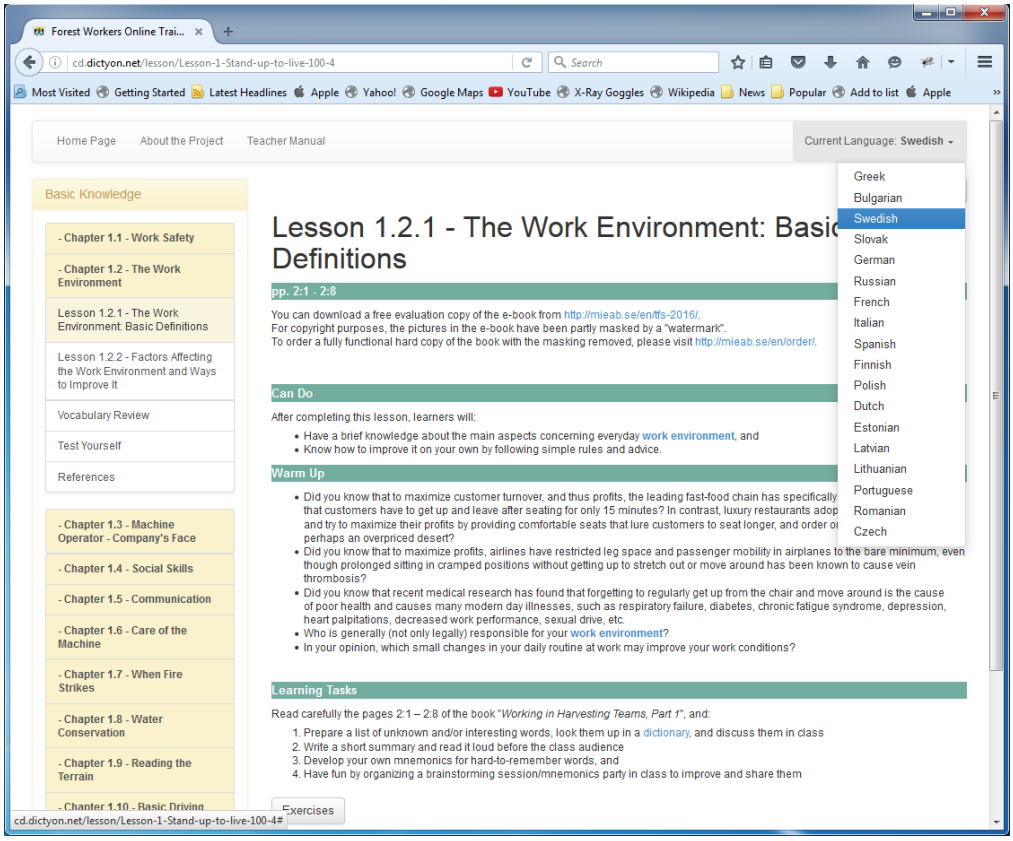
Creative thinking

HOW TO USE THE FOREST WORKER’S ONLINE TRAINING TOOL

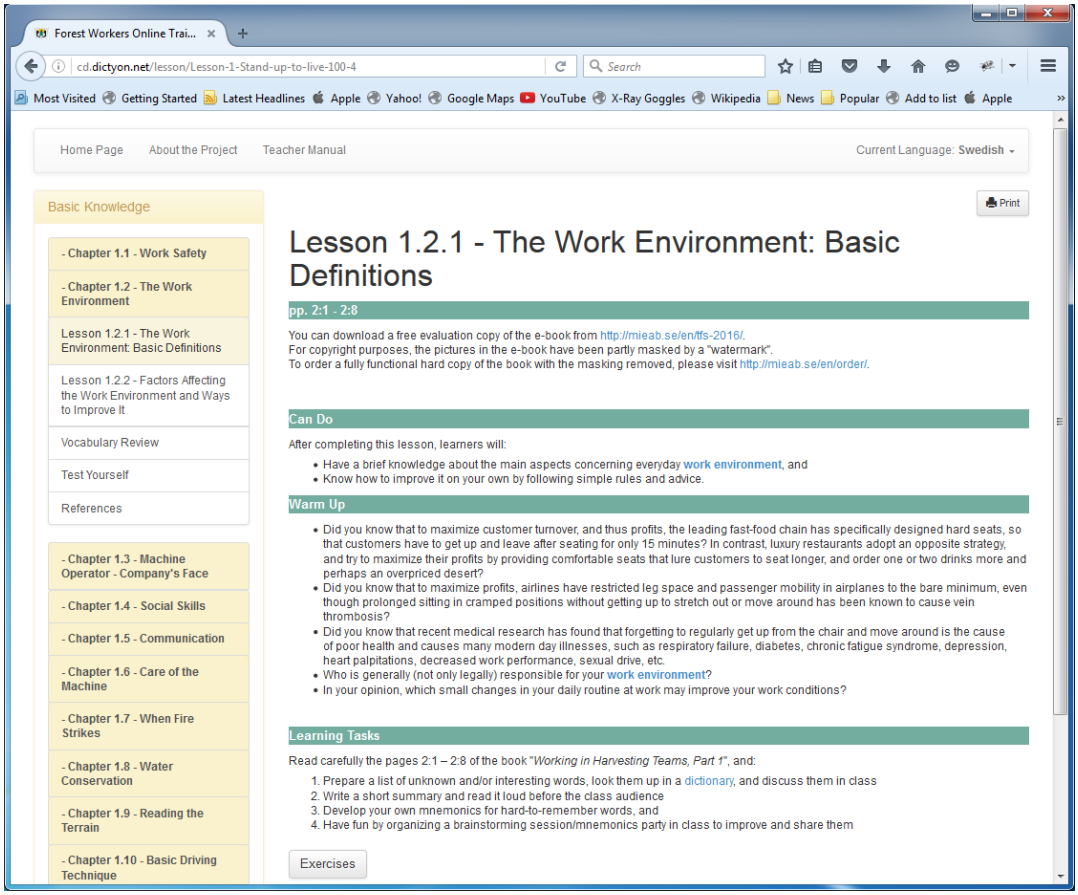
The Forest Worker’s Online Training Tool is online 24/7 for study anywhere, anytime provided an Internet connection is available; therefore, trainees can reap the full benefits of the tool, practice, review, test themselves, and become familiar with what is expected of them in the final exams.
Click on the button of the Lesson you want to open (e.g. Lesson 1.2.1).



Before starting a Lesson, users must select their respective language, for example Swedish, from the drop down menu "Current Language:" at the top right corner of the screen.



This establishes the link between the FWOTT and the Forest Workers Glossary for the selected language. FWOTT terms that have corresponding entries in the FWG are displayed in the text with bold blue letters. To obtain more information on a highlighted term (e.g. “work environment”), just click on it.



The term profile pane opens and displays a list of fields with the following information:

- **Term:** the term on which you clicked (in English)
- **in XX:** the translation of the term in XX, where XX is the selected language (in our example, Swedish)
- **Definition:** with one or more appropriate definitions (in English)
- **Example of *term* usage in WiHT:** a sentence in the book "Working in Harvesting Teams" containing the term under examination
- **WiHT:** Part and Page reference of the most representative occurrence of the selected term in the book "Working in Harvesting Teams"
- **Pronunciation:** click on the "headset" icon to listen to the pronunciation of the term in English, and
- **Read More:** click on the "eye" icon to open a FWG window and see further information or pictures, if any.

Click on the X symbol enclosed in a circle in the upper right corner of the Term Profile pane to close the pane.
Terms highlighted in the text with regular Roman blue letters (e.g. "dictionary") provide links to external URLs.
Lessons were designed using a common layout with the following sections:

pp. (Pages)
The pages from the book "Working in Harvesting Teams" on the basis of which the exercises of the Lesson were developed.

Can Do
This section includes the objectives of the Lesson, and more specifically what trainees will be able to do and/or will have understood after completing the Lesson. This helps trainees put the Lesson into perspective and organize their study towards the core subject.

Warm Up
These questions form the Inquiry-Based Learning part of the FWOTT (http://www.edutopia.org/topic/inquiry-based-learning). They are intended to awaken trainee minds, to stimulate trainee curiosity, and to facilitate learning by introducing the core subject of the Lesson. The 3-4 questions in the beginning of each Lesson are intended as examples, and are by no means limiting. The task of trainee generated questions shouldn't be that hard, as young people are inherently curious and tend to create tons of questions. Trainees must be encouraged to write down their own questions in the form of a diary, and discuss them in class. Questions may be replaced by statements or other trivia related to the core subject of the Lesson. Any question or statement may be written down, even if they are not immediately relevant to the subject. Shifting through the questions and deciding which ones to answer in the limited time in class might be a challenge. The trainer must make sure to organize a special session or activity not too long after the class in which they were raised to answer these questions (http://www.edutopia.org/article/inquiry-based-learning-resources-downloads).

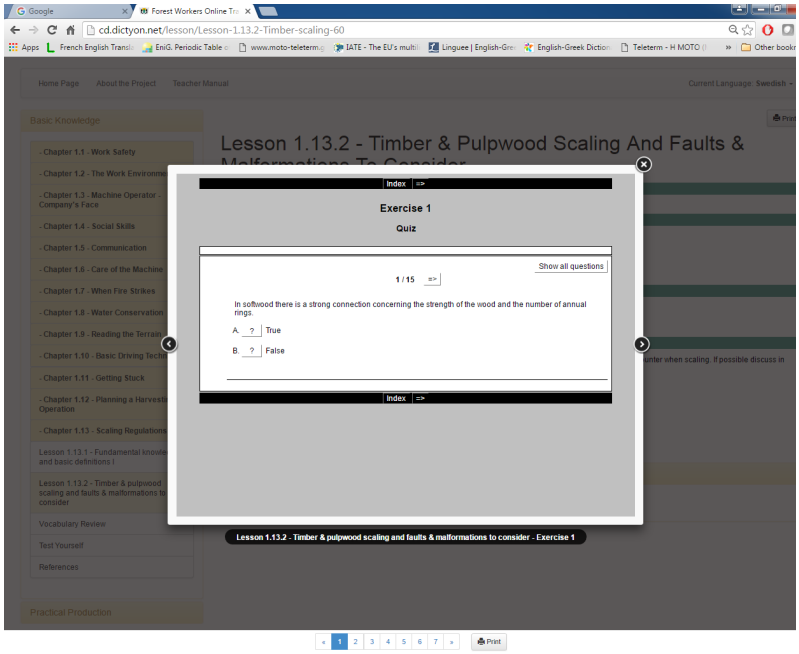
Learning Tasks
This is a list of one or more tasks for trainees to work on within each Lesson. Learning Tasks require preparation before attending the class (see Flipped Classroom, above). Trainees must read the assigned pages from the book "Working in Harvesting Teams" and write a 10-15 line summary/abstract. This requirement aims to improve trainee reading comprehension, writing and speaking skills, and thus promotes communication skills and critical thinking.

Interesting/Difficult terms

Some Lessons (e.g. 1.1.1 – 1.5.2) include a series of extended Learning Tasks: during their home study, trainees are required to prepare a list of interesting or hard to remember words, look them up in the Forest Worker's Glossary (a step implicit in all Lessons), and discuss them in class, by mentioning why they found them interesting or difficult. The purpose of this part is to make the trainer aware of individual trainee learning habits and difficulties with the technical terminology, and thus to find ways for offering effective help to trainees who need it.

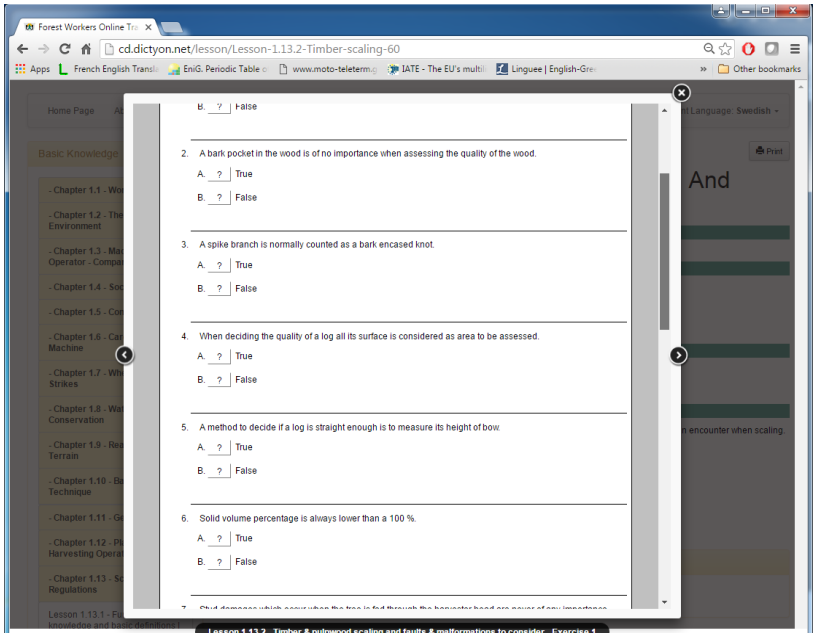
Exercises

To give trainees a heads up on the final exams, but also to stimulate studying and practicing in each Lesson, the Exercises section of the Forest Workers Online Training Tool provides closed-type questions, such as True or False questions, Fill-in the blanks, etc. There is no time limit for each Exercise, and since the Exercises are intended for self-study and not for evaluation purposes, trainees can use a trial-and-error method to study, although this is not a very practical strategy. It is highly recommended that trainees try to understand first and memorize later, although the more complete the understanding, the less need for memorization. If trainees need even further assistance, they can consult their peers, student-coaches (see Student Coaches, below), and/or the trainers.
By default, one question is displayed per screen, but this can be adjusted so that all questions appear on one page, if required by trainees.



Trainees can move to the next or previous question of the Exercise by clicking on the “=>” or “<=” symbol, respectively, next to the question counter (in the above example, 1/15).

Alternatively, trainees can click on the “Show all questions” button on the upper right corner of the question pane to preview the list of questions and move up and down the questions using the scroll bar to the right of the screen.



To move to the next or previous Exercise of the Lesson, trainees can click on the “>” or “<" symbol in the black circle on the right or left margin of the Exercise viewing pane, respectively, or they can jump to any Exercise of the Lesson by clicking any of the number buttons displayed at the bottom of screen, below the Exercise legend (“Lesson 1.13.2 – Timber & pulpwood scaling and faults & malformations to consider – Exercise 1")

Closed-Type Questions

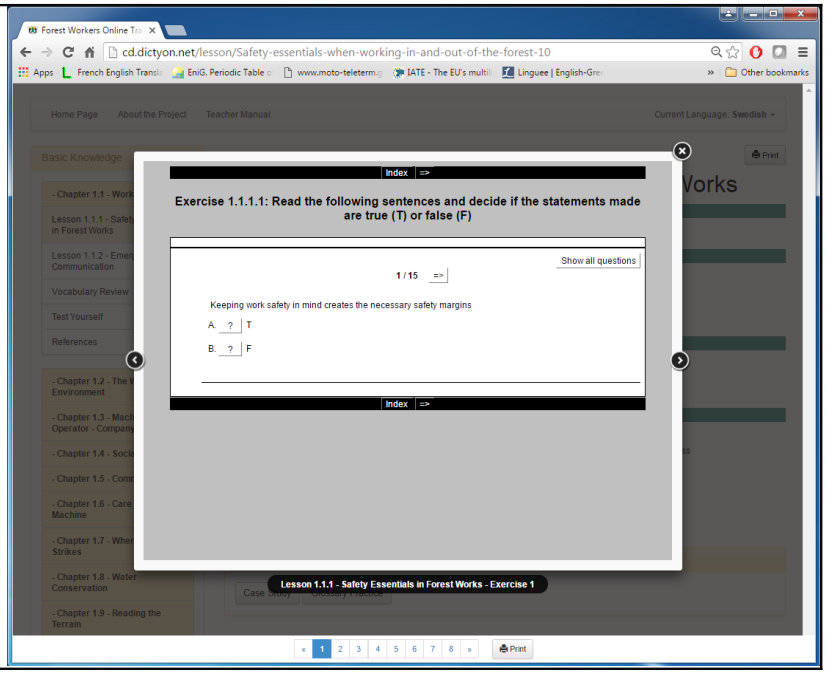
Virtually every body of knowledge can be converted to closed-type questions. Closed type questions are objective and easier to grade because they remove guesswork and obscure answers by trainees, and thus the benefit of the doubt by the trainer. However, close type questions require a lot more thinking by the trainer during the preparation stage to remove ambiguity.

Language learning is offered for closed-type questions because in most cases unique answers can be given, or questions can be formulated having one or

more uniquely-defined answers that can be entered to appropriate computer software for studying.

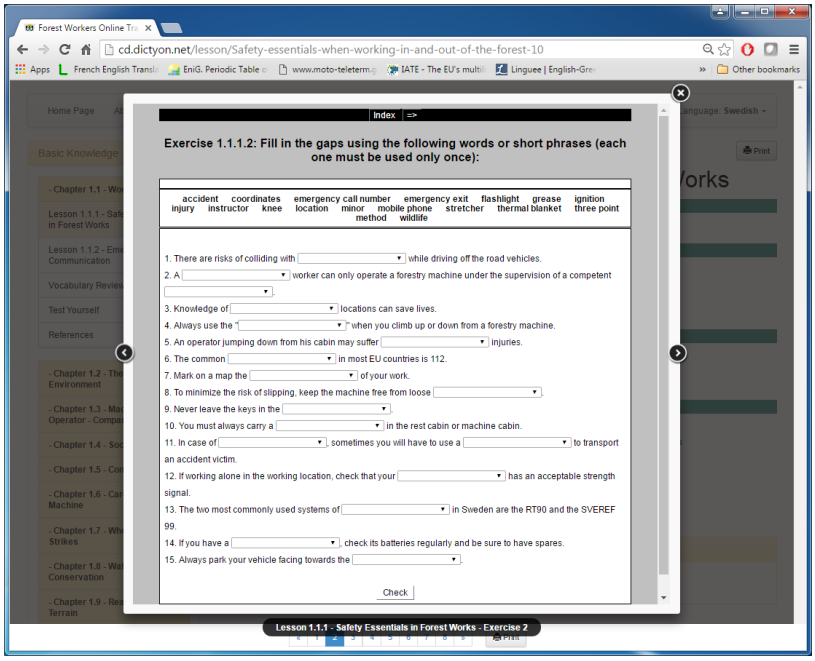
True or False

Many of the True or False type exercises provide feedback if the trainee clicks on an incorrect answer by referring trainees to the specific page(s) on the book "Working in Harvesting Teams" from where the question was created.



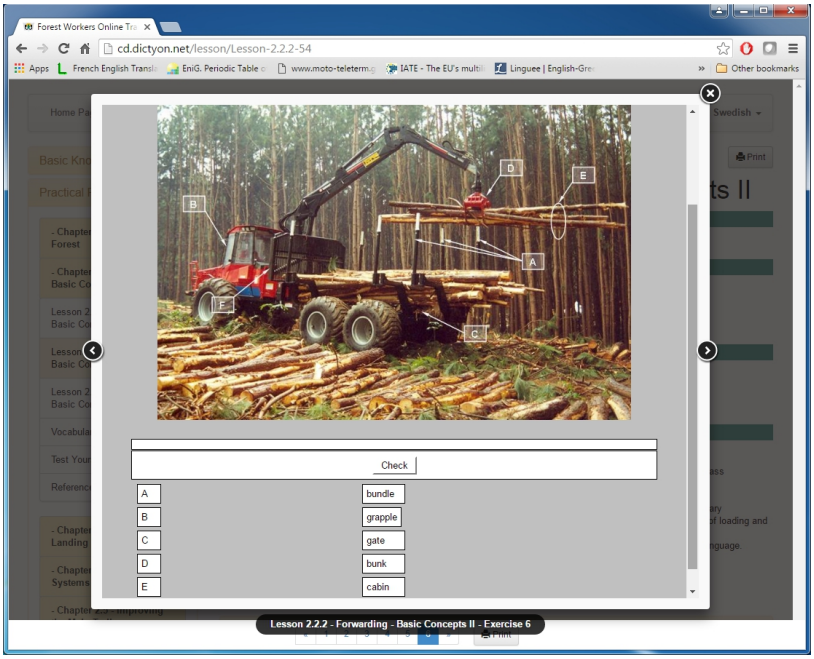
Fill-in The Blanks

The missing words may be listed at the top row, as in the example on the right, and also found in the drop-down menu next to each blank. Trainees click on the down arrow to unfold the drop-down menu, and select the appropriate term. Missing terms may be compound ones, i.e. comprised of more than one word, such as "thermal blanket" or "three-point method" in the example on the left. In some Exercises, each component of a compound term is considered independent and displayed as a separate blank, whereas in other Exercises, compound terms are considered single terms and are displayed with a single blank.



In a more difficult alternative of the test, the missing terms would not be listed on the screen, and trainees would have to type each term in the provided blank. This type of test, however, is beyond the scope of the FWOTT training material, because in addition to reading comprehension, it evaluates trainee spelling skills.

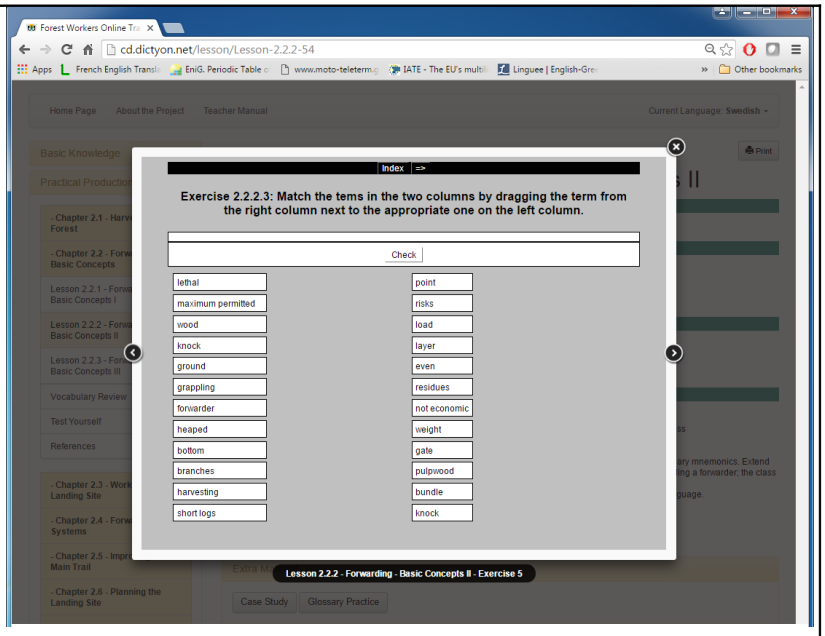
Identify Items on The Picture



Trainees have to look at the provided picture, identify the items to which the arrows are pointing and then drag and drop each box from the right column next to the appropriate choice on the left column, below the picture.
Alternatively, instead of a match-type layout, the test may be in fill-in the blanks format (e.g. Exercise 1.1.2.3, 2.2.3.2, etc.) In this format, trainees can press the “Hint" button to receive a hint in the form of a letter of the word, where the cursor has been placed. Their score is reduced proportionately to the number of hints they request.
When trainees are through with the Exercise, they can press the “Check” button to see the results and get their score.

Match-Type Questions

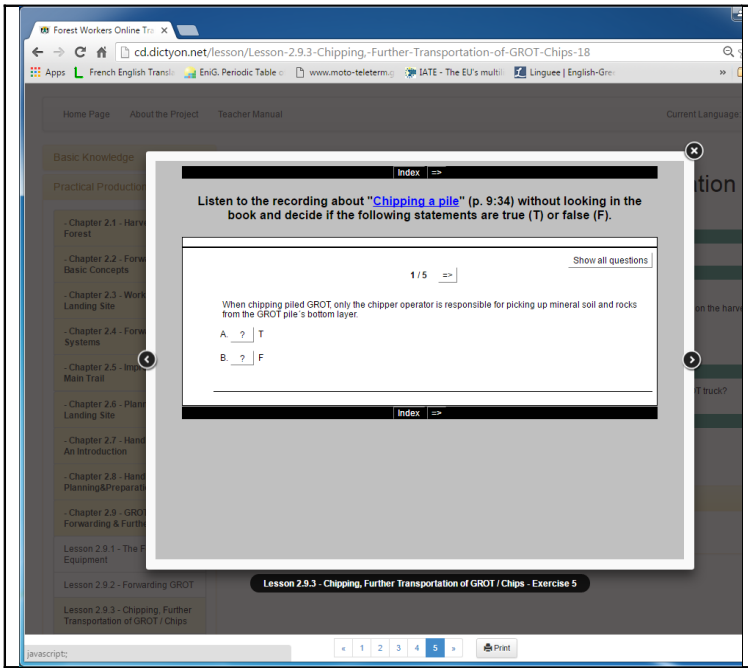
Term or sentence matching exercise, containing 10-12 pairs of terms or sentences split between two columns. Trainees must combine the fragments by dragging each term from the right column to the corresponding term on the left column to make complete pairs.
In an alternative format of the test, the terms on the right column appear as a drop-down menu from which trainees have to select the appropriate entry.



Hit the “Check” button below the Exercise heading to verify correct answers and see the score. Repeat as many times as necessary to have all correct answers. The score is calculated on the basis of the number of correct answers provided and the number of trials. For example, if 6 correct answers have been provided in the first attempt of a test including 12 split pairs, the score is 50%. However, if the “Check" button is pressed one more time, even without changing any of the

answers, the score changes to 41%, and so on.

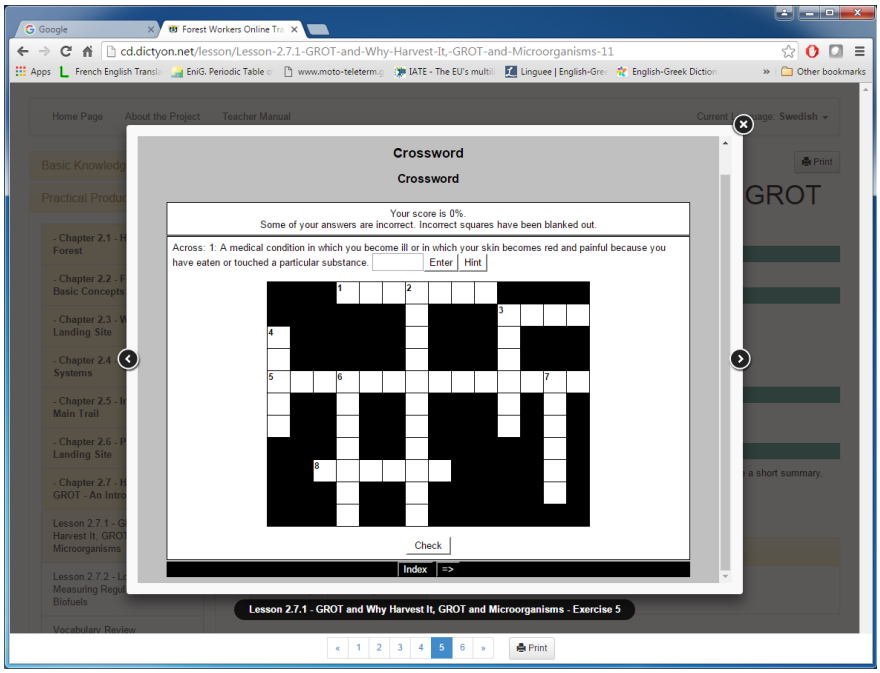
Listening Comprehension



This type of question includes a recording of a short passage from the book “Working in Harvesting Teams” and a few True or False questions based on the selected passage. The page reference to the book is provided for verification purposes, but trainees are instructed not to look in the book before completing the test.
Trainees click on the provided link to play the recording and have to answer the questions.

Crossword Puzzles

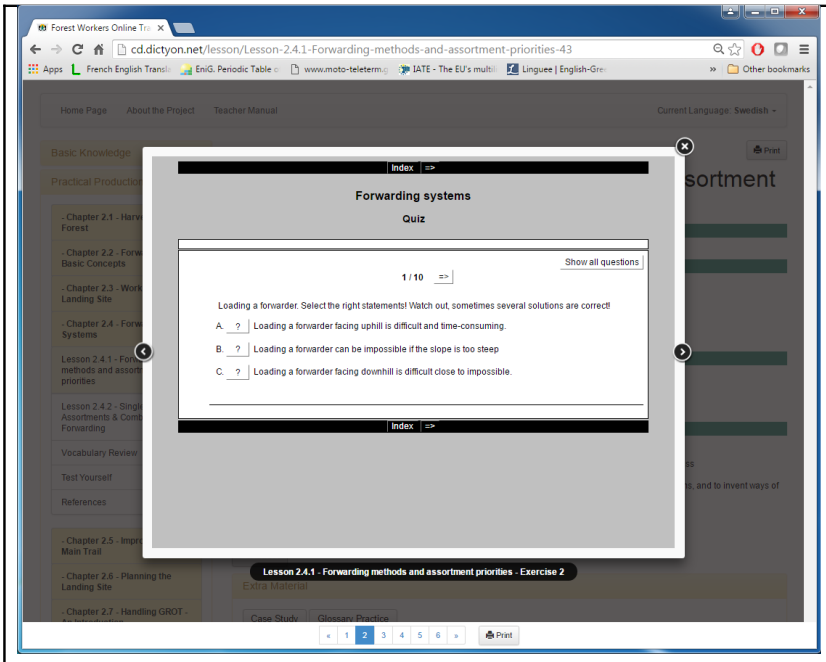
Crossword puzzles are essentially a way of reinforcing the association between a term and its definition or a clue thereof; thus, they are an exercise in reading comprehension and active recall. The fact that they do not conform to the typical format of tests gives them a play-like character and makes them more appealing to learners.



To solve a crossword puzzle in FWOTT, click on a number of the puzzle, and type the term in the blank that opens next to the clue (case insensitive), and press the “Enter” button.
Like in all crosswords, solvers of online crossword puzzles are provided direct and indirect clues: the direct clue is the definition of the term; the indirect clues are that a) the answer must have the identical number of characters as the provided number of spaces, and b) the answer must interface correctly with the rest of the answers, otherwise the crossword puzzle will break down at some of the intersections, even if the proposed answer has the correct number of characters.

The strategy for success in solving the FWOTT crossword puzzles is that trainees must be well prepared for the puzzles by memorizing the association of each term with the respective definition; the FWOTT terminology is not common every day English language, but it is comprised of a relatively small set of specific words. Therefore, it is expected that not even the most skilled solvers will be able solve the puzzles, unless they have studied the material of the Forest Worker's Glossary first.

Multiple Choice Questions



Multiple choice tests present a higher level of difficulty than True or False type questions, and a lower level of difficulty than Match-type questions. There are several variations of multiple-choice tests, such as more than two options provided from which trainees have to select, or more than one of the options might be correct and trainees have to select all the correct ones, etc.

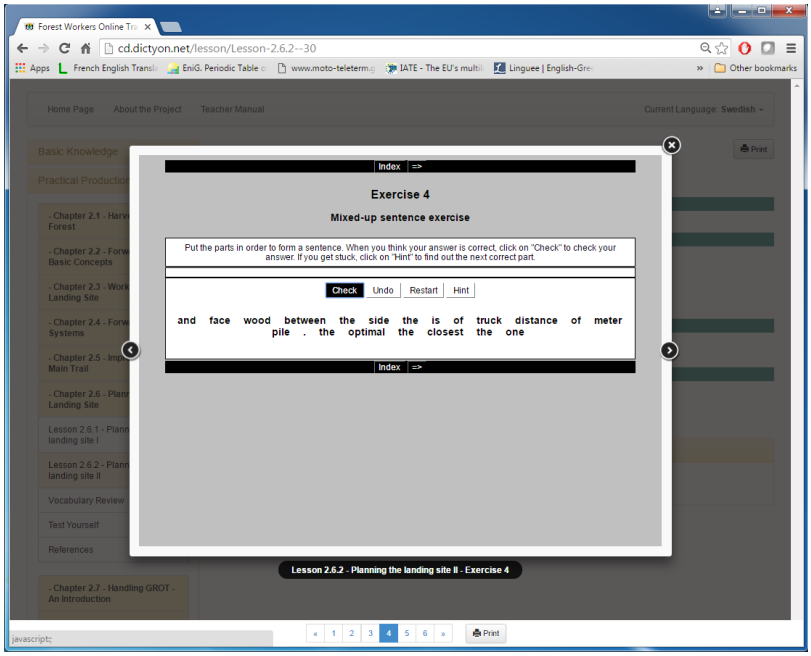
The multiple-choice tests in FWOTT are of the multiple-select type, i.e. trainees are required to select all the correct items.

The typical wording of the heading or subtitle of FWOTT multiple choice questions contains the phrases "select all that apply" or "sometimes more than one answer might be correct" and serves as a warning to trainees to look for and select more than one correct answer.

Mixed-Up Sentences

The mixed up sentences provide a series of words in random order; trainees have to drag and drop each word in the proper place to make a complete sentence.

Helping clues may be provided, such as a word ending in a period (.) is probably the last word of the sentence, or a word starting with an uppercase letter will be the first word in the sentence, provided is not a proper noun.



Alternatively, instead of full sentences, a word may be split to separate letters, which need to be placed in the right order to make the word.
FWOTT mixed up exercises have only one correct answer per question.

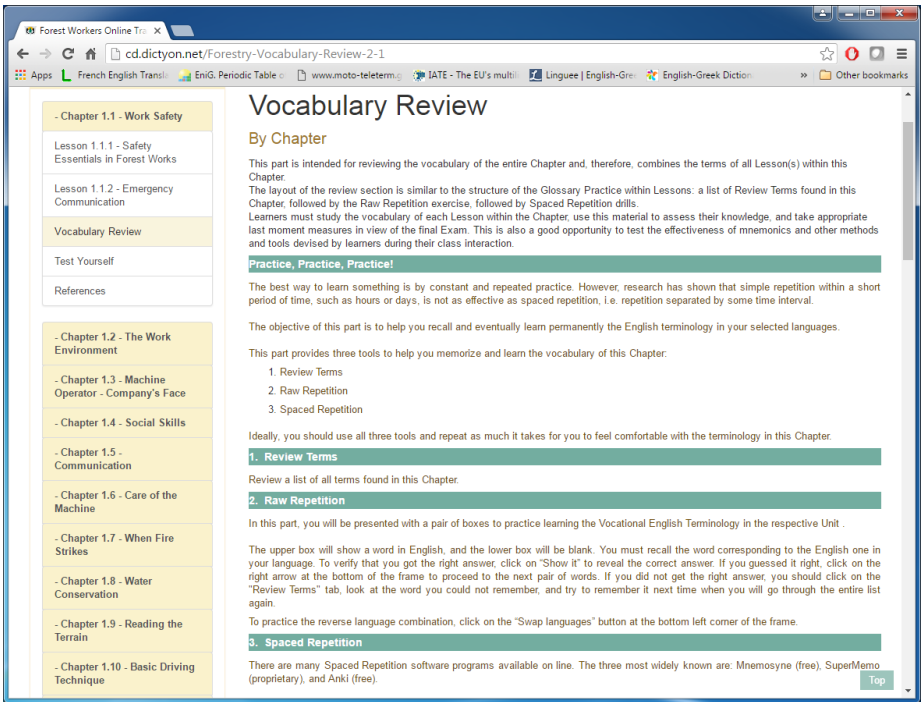
CHAPTER REVIEW

After completing the Glossary Practice section of the last Lesson in a Chapter (see How to work with the extra material), and in preparation for an Exam, trainees should proceed to the Review Questions for the Chapter.

The Chapter Review Questions include Vocabulary Review and Test Yourself sections.

Vocabulary Review

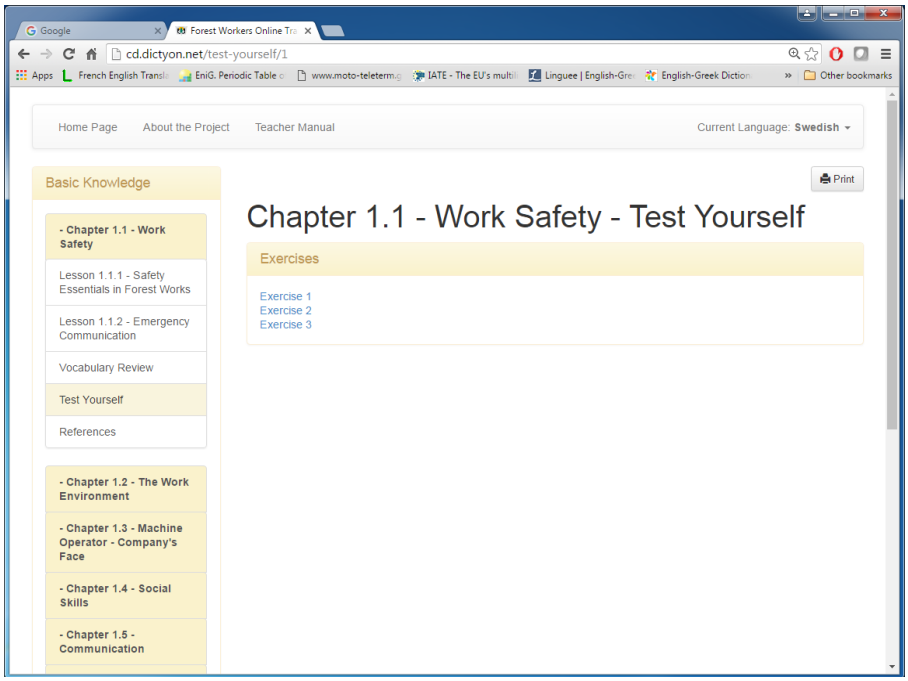
To open the Vocabulary Review section for a Chapter, click on the "Chapter…" button on the left pane of the screen to unfold the drop-down menu, and click on the



"Vocabulary Review" button. The Vocabulary Review screen opens on the right pane.
The Vocabulary Review starts with an introduction for each Chapter, presenting an outline of the methods available for reviewing the terminology of

the entire Chapter.
The overall layout and teaching/learning methodology of the Vocabulary Review is similar to the Glossary Practice section. Therefore, for more detailed information, users are referred to the respective section of the “How to use the Extra Material”.

Test Yourself



The Test Yourself section in each Chapter is a review session and it includes selected questions from the Lessons of the Chapter with an added time component. Trainees should answer Chapter-related, closed-type questions within a certain time limit.
The Test Yourself sections includes 3 Exercises one each of: True/False, Match type and Fill-in the blanks. The time allocated per question ranges between 1-1.5 minute, and the number of questions per Exercise range from 10-20. This should not be too difficult, assuming trainees have studied intensively the exercises in each Lesson. For trainees that failed to do so during the regular semester, access to the exercises remains open for a last minute brush up.

LEARNING ENHANCERS

Motivation

Technology

Classroom Technology (http://www.edutopia.org/blogs/tag/classroom-technology)
(Internet, Skype, podcasts, online courses, simulators, TEDx lectures, etc.). On the other hand, technology tends to substitute memory in everyday tasks (e.g. remembering phone numbers) and thus weaken human memory (the “use it or lose it” syndrome). The abundance of audiovisual and educational material available on the Internet (YouTube, Google image, slideshare.net, etc.) provides plenty of opportunity for honing listening comprehension (e.g. free podcasts), information exchange with peers and communication skills (e.g. Skype) of trainees.

Student Coaches & Peer Instruction (Knowledge Sharing)

The trainer-trainee divide maybe harder to bridge than originally thought. Trainees may feel shy to ask questions in or out of class, and therefore disclose their difficulties to trainers. Or they may respect the trainer's time, or they may feel intimidated, and consent to e-mail the trainer, but few would come to the trainer's office to discuss their problem or questions, although the trainer may encourage and welcome such visits from trainees.
Whereas there may be a positive aspect to this, as trainees will be forced to study harder to answer their own questions, it is possible that trainees will become discouraged and quit prematurely or even drop the course.
At the tertiary education level, this stalemate has been traditionally addressed by Graduate or Undergraduate Teaching Assistants employed to deliver instruction. The underlining philosophy of this model of instruction is that better rapport and a cordial atmosphere conducive to learning can be established between individuals of similar age, interests, origin, backgrounds, mental development, emotional experiences, etc.
Peer instruction comes in all types of names, titles and designations (Learning Facilitators, Peer Instructors, Tutors, Mentors, Laboratory Assistants, etc.) and has been shown to remarkably improve learning performance of all students attending the group sessions.
However, peer instruction may not be so well spread in vocational training situations due to a number of factors, such as vocational training is much shorter than University training, lack of students to act as peer instructors, lack of funding, safety concerns about technical matters, etc. Language learning is free of some of these concerns and thus can serve as the scope for such methods.
An interesting example of peer instruction in Biology is provided by Hufford[2].
The essential points of that trial were

a) small-enrollment class (22 students) divided into smaller groups of 3 students each,
b) each group meeting at least once a week with the Learning Facilitator to ask questions and get guidance; participation in the weekly group meetings was encouraged with bonus points,
c) Learning Facilitator informing the Instructor once week about the progress of the class as a whole and to receive guidance on how to cope with the issues raised,
d) Instructor available for individual meetings and group sessions just before the mid-term and final exams, in which students would ask questions,
e) essentially problem-based class, with short lectures, short papers due every week, and Major papers due at mid-term and at the final exam, and
f) Learning Facilitator contribution was recognized as a 3-credit Independent Study course counting towards the overall academic requirements of her degree.

The final grades for the course were the highest on record for the course, and students said that they liked the course, they had good communication and trust with the Learning Facilitator, and learned quite a lot.
The above pattern can serve as an example, adapted to the requirements of the course and combined with the FWOTT for improved learning.

LEARNING DISTRACTORS

Upon entering the class for the opening lecture or any lecture thereafter, trainers should look around to identify possible Learning distractors and

[2] Hufford, T.L., 2011: The Role of Undergraduate Student in Teaching and Learning Biology; Atlas of Journal of Science Education (2011) 1 (2): 38-42; www.atlas-publishing.org

Learning enhancers. These are items or situations that can erode or amplify learner focusing and thus can worsen or augment learning, respectively. The following provides a list of distractors that have been known to adversely affect trainee learning.

Pressure

Perhaps the ugliest experience in trainee mind is a pressure-laden learning environment or moments, such as exam time or tests. In some educational models, trainers would give out a baseline quiz or start asking direct questions on the first day of classes as a benchmark of trainee progress. Although the benefits of this approach are obvious (a straightforward before-after comparison), a test on the first day is a distasteful situation for trainees that will probably result in dropping the course on the spot. Even worse, some trainers maintain the pressure throughout the semester hoping to jump start trainees by giving them a good dose of reality and take them away from the ivory tower of the academic environment. There are accounts according to which engineering students had to sleep on the floor next to the lab workbench several nights in a row in order to complete their assignment by the set deadline. Although we agree in principle and can see the benefits of this reality-check, we keep in mind that this strategy can backfire because it elicits a fight-or-flight response from the human brain, and thus the learning process is inhibited. Under severe exam pressure, students experience depression which combined with fear of failure often leads to suicide (http://www.telegraph.co.uk/education/educationnews/8720513/GCSEs-Pressure-of-exams-leaves-teens-suffering-from-mental-illness.html, http://www.theguardian.com/education/2015/may/14/calls-to-childline-over-exam-stress-break-records, https://www.causes.com/causes/141904-end-exams-forever/updates/55619-student-suicides-increase-as-exam-pressure-builds-in-india, http://www.hindustantimes.com/india/exam-pressure-leads-to-wave-of-student-suicides/story-w1M4nTqyWBPXYasdq32Z8I.html, https://www.wsws.org/en/articles/2004/06/dep-j25.html, http://news.bbc.co.uk/2/hi/health/3758359.stm, etc.). Similarly, the term *choking under pressure* refers to pressure-induced failure not anticipated on the basis of someone's skill level (https://hpl.uchicago.edu/sites/hpl.uchicago.edu/files/uploads/Choking%20Under%20Pressure%20Multiple%20Routes%20to%20Skill%20Failure.pdf). Choking under pressure is a much more common phenomenon and symptoms include stomach cramps, butterflies in the stomach, headaches, diarrhea, increased heart rate, shortness of breath or hyperventilation, etc. In rare occasions, these symptoms may disappear by positive thinking (http://www.rncentral.com/nursing-library/careplans/100_positive_thinking_exercises_to_incorporate_into_your_life/) or other mind empowerment techniques (http://www.vitalitylink.com/article-hypnotherapy-1987-essential-empowerment-techniques-life-mind-emotions).
Many body and mind relaxation techniques have been proposed for stress relief, including meditation, yoga, massage, tai chi, etc. (http://www.helpguide.org/articles/stress/relaxation-techniques-for-stress-relief.htm)

Texting & Cell phones

- 77% of people aged 18-24 responded "yes" when asked "When nothing is occupying my attention, the first thing I do is reach for my phone", compared to only 10% of those over 65 years old (http://time.com/3858309/attention-spans-goldfish/)
- The average office worker checks their email 30 times per hour

- Typical mobile users check their phones more than 150 times per day
- Social media sharing has doubled from 2011 to 2013

According to scientists, the age of smartphones has left humans with such a short attention span even a goldfish can hold a thought for longer.(http://www.telegraph.co.uk/science/2016/03/12/humans-have-shorter-attention-span-than-goldfish-thanks-to-smart/)

New York driver using two hand held mobile phones at once, in a traffic jam.
By Ed Poor at the English language Wikipedia, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=2913815

Many examples of teachers warning students of strict texting policy and smashing phones in class (https://www.youtube.com/watch?v=8dq_a4Fi60M, https://www.youtube.com/watch?v=9UtRsGU6pVs, https://www.youtube.com/watch?v=moWmdsjlaU8, https://www.youtube.com/watch?v=TEbPLWB3iZE).
The problem becomes more severe in exam time, where cell phones can be used to cheating.
The problem was unknown in the previous generation of students, and current teachers, because the technology was not available in those days.
One way of having trainees do something useful with their smartphones is to use these devices for learning, known as “mobile-” or “m-learning”. In this way, trainees may study anywhere, anytime (e.g. while commuting from and to school, practice for upcoming tests, etc.), and thus make better use of their time.

Procrastination

Inside the mind of a master procrastinator | Tim Urban
Procrastination is a killer of productivity, but is a nurture of creativity.
Procrastination exerts pressure and thus makes individuals work more efficiently.

To dismiss procrastination, give yourself 1/3 of the regular time to compete the task. Then, you will need to work 3 times as fast, and your creativity, insightfulness and concentration will triple. But you have to put the early deadline well into your head in advance and be determined to meet it.
For possible ways of conquering procrastination, see https://www.youtube.com/watch?v=bLp9EimaEQI.

Boredom vs. Engagement

Trainers need to keep trainees engaged, awake and alert at all times, with short breaks in between (http://www.edutopia.org/blog/practices-for-increasing-student-engagement-nicholas-provenzano). Student engagement, however, starts with trainer excitement and enthusiasm. Trainers who are not enthusiastic about their subject cannot give a compelling, breath-taking, eye-opening, mouth-dropping lecture. Trainers without excitement about the subject they are teaching cannot transfer the excitement to students, and thus cannot inspire or motivate them to learn.
A monotonous voice is the safest and fastest way to put the audience to sleep. Stephen Hawking, for example, may be one of the greatest physicists/cosmologists ever, with his lectures drawing record-breaking crowds. His amyotrophic lateral sclerosis and the resulting paralysis forced him to communicate and deliver his lectures through a speech generating device, which is still prone to the artificial/monotonous hue of a machine voice.
To make delivery more effective, intensity must be interspersed with breaks and relaxation moments: A powerful, content-loaded lecture at a neck-breaking pace, will certainly not be remembered past the classroom door. A common way of giving constructive breaks in class is by asking the audience to form spontaneous groups of two people, take 2-3 minutes to interact in order to answer a question, and then provide the consensus answer. Ultimately, rainers will have to discover how to keep trainee engagement and peak learning efficiency.

Death by PowerPoint

PowerPoint can be a very productive presentation software. Like all technology, however, PowerPoint is a double-edged sword: used wisely, it can work miracles; in careless hands, it causes more harm than good. Many speakers, lecturers, teachers, professors and instructors — probably due to limited time for preparation of the educational material — use PowerPoint to write the details of their lecture on slides, and read from the slides within the classroom. Students have become used to this practice, and they use the PowerPoint slides or notes handouts to prepare for exams. Nothing, however, can make a lecture more boring, and a trainer more remote and inaccessible to students than someone repeating, or worse reading, the information on some PowerPoint slides. Each slide on a PowerPoint presentation should be used as a reminder, not as a copy of the book or the trainer handouts. Conscientious trainers may prepare their lecture slides, and a different set of handouts with extensive notes of their lectures and distribute them among the trainees. At the same time, remind trainees that the notes are not meant as a replacement of the textbook, such as the book “Working in Harvesting Teams”.

Trainer/trainee resistance

This is commonly known as “you can’t teach an old dog new tricks”, and it means refusal to adopt innovative teaching/learning methods or educational material. The refusal stems mainly from the feeling of safety with the material

and/or methods used over a number of years, insecurity to venture into something unknown, unwillingness to put up the extra time and effort required to prepare for it, and denial that time-honored methods may be replaced by something new and more effective.
A point of trainer resistance may be lecture recording for the flipped classroom approach. Although many professors from leading Universities worldwide have started recording their lectures and made them available online, many trainers may object to having their lectures recorded because they are camera-shy, may feel job insecurity, or may raise copyright issues as an excuse.

THE ROLE OF THE TEACHER IN CLASS

In a world inundated with information and distractions, young people seem to be confused as to which learning method works best for them or whether learning is worth the effort and the time, let alone the investment. As a result, trainees frequently adopt and maintain a negative attitude towards learning and the school system. The knowledge they manage to acquire is volatile and does not stay with them for a significant amount of time after the final exams. It is a well-known fact that 40% of the information is erased from memory 48 hours after studying for an exam, and 60% is gone 72 hours after the exam. Therefore, teaching and/or learning in the traditional way may very well seem like a waste of time. Failing to see the benefits from learning, combined with the inherent challenges in learning and the high cost of education are the main factors driving young people away from school, and resulting in high numbers of drop-outs.
The members of the “Tools for Skill” Consortium believe that learning must be fun to be effective. Modern day trainers must teach trainees not only how to study and learn, but also encourage them to discover their own ways of mastering information and acquiring knowledge permanently.
For effective teaching, a trainer must assume the following roles in class and switch as required:

Learner

This is a role frequently overlooked by many trainers who get carried away and deliver their lectures the old-fashioned way in the form of a monolog followed by a limited time for questions and answers.
The Consortium of the Tools for Skills project firmly believes that the teacher-centric teaching/learning approach is obsolete and needs to be replaced by a student-centric approach. In this new approach, the roles are reversed: the former trainer becomes the trainee and the traditional trainees become the teachers. The former teacher will have to be educated on what the interests of the students are, and apply the most effective knowledge transfer methodology.
Trainers should perhaps use body language, for example by leaving their chair and seating among trainees, to send the message that they themselves are trainees and thus are closer and more accessible to students. Any self-respecting trainer should be attentive to trainee educational needs and constantly searching to find and open the path to trainees’ minds by adjusting the teaching styles, and using the appropriate tools and methods.

Storyteller

Steve Jobs once noticed that those who truly have power in the world are storytellers. Then, he founded Pixar.

Trainers are primarily storytellers. They read textbook(s) and then they tell students what they read about, maybe by adding a twist or two of their personal experience(s) to make the story more fascinating and drive home the message. Successful storytelling can be so effective in transferring knowledge that students don't have to study any further. Some psychologists claim that storytelling is one of the main ways of human learning (http://www.opencolleges.edu.au/informed/features/30-storytelling-tips-for-educators/). Storytelling may be a particularly appropriate teaching tool for the Tools for Skills project, because it provides the opportunity of using words that trainees have not heard before (terminology) and combining them with a story (see Case Studies of Lessons 1.1.1 – 1.5.2).
http://www.edutopia.org/blog/storytelling-in-the-classroom-matters-matthew-friday
http://www.edutopia.org/blog/why-educators-need-to-be-great-storytellers-suzie-boss

Entertainer

Many keynote speakers start their deliveries with a funny one-liner or a punch line, just to relax the audience and to close the distance between the audience and the speaker. Humorous speakers are ranked as the most effective educators, and it is a pleasure listening to them even if they have to present their views on a challenging and controversial issue, which the audience may not agree with (https://youtu.be/NwoohzjscHY).
Humor can be used in the classroom as an ice-breaker, to relieve tension, as evasive action from an otherwise unmanageable situation, to boost retention (http://www.edutopia.org/blog/laughter-learning-humor-boosts-retention-sarah-henderson).
Humor can be used as a highly effective teaching tool to drive home some very important messages that tend to be overlooked or taken for granted (https://www.youtube.com/watch?v=QOaaUHUnIz0).
Most importantly, humor opens minds to learn and retain more (http://www.brainleadersandlearners.com/humor/a-brain-on-laughter/).
Laughter stimulates brain centers that release chemical substances, such as endorphins, dopamine and serotonin, that make you “feel good” which, in turn, help the overall good health and the short-term memory (http://www.techtimes.com/articles/5898/20140423/laughter-improves-brain-work-good-for-short-term-memory.htm).
Educational psychology studies have shown that the most outrageous jokes and funny situations are maintained best in memory, whereas sad facts tend to fade off from memory. A class may break down in laughter, but the skillful trainer may take advantage of that moment when the brain is feeling good and has its defenses down to transfer successfully and assimilate permanently the wanted information (http://mentalfloss.com/article/65490/laughing-helps-you-learn-babies-and-scientists-say).
It should be remembered, however, that the sense of humor varies between cultures or languages, and thus a funny moment in one language may not be so funny in another. Therefore, trainers must assess the risk from intercultural differences before venturing into jokes. For example, the Case Study of Lesson 1.1.2 starts with a funny tale to show how wrong accent can lead to miscommunication and end up in disasters; to grasp the essence of the pun, however, people must be aware of slight differences in pronunciation or lingual defects between different languages.
In the case of FWOTT, trainees are given the freedom to use humor wisely to help themselves and their classmates remember facts, concepts, terms, etc. In the introductory material of some Lessons, trainees are required to combine their creativity and humor and invent ways to help them remember the vocabulary of the Lesson. It would be interesting to investigate how this

idea could be applied to remembering other important facts from the course, such as safety guidelines, scaling regulations, social skills, etc.

Leader

Mentor

A good teacher provides the right answers.
A mentor asks the right questions and helps students discover the right answers.

Trainers should strive to apply the Socratic method (known as *maieutic*) of teaching by asking questions followed by critical thinking and/or learning by doing. Trainees arrive to the desired endpoint through continuous interaction and rigorous exchange of questions and answers with the trainer, and presenting their arguments in a structured way. In this way, trainers can assess the trainee's understanding of the subject and provide feedback for further knowledge. Trainees are given a chance to discover knowledge and have their "Eureka", or Epiphany, or light bulb or "A-ha" moment. Ideally, this should not take much effort, provided trainers ask the right questions and let the students use their creativity to discover the correct answer. Mentoring trainers extends beyond offering the knowledge or means to master a skill or acquiring a competence. It means that the trainer will probe for potential problems that might hinder the quest of the trainee towards becoming a skilled worker and a good citizen, and will cooperate with the trainee to alleviate the problems. Sometimes, this can result from the trainer asking seemingly simple questions, such as "why are you doing this" or "what makes you say this".
The following is an example of how powerful this method can be when applied in real situations:
A PhD candidate was about to write the Chapter of Discussion for his Dissertation. The candidate prepared a first draft and gave it to his Professor. The candidate knew that it was not a good effort, but feeling at a loss of what should be included in the Discussion, he put his first thoughts on paper and decided to use the first draft to pick the professor's mind.
A few days later, the Professor came back and informed the candidate that the quality of the draft was not the expected one, and a major rewriting was required; the Professor refused, however, to make specific comments about what was wrong with the draft.
The candidate made the desperate remark:
-But, I don't know what to write.
To which the Professor replied simply:
-OK, Why did you do this?
The candidate started mumbling a trivial answer, about the Dissertation being a typical requirement for the Doctorate degree, and so on, hoping that the Professor would buy that.
But the Professor replied with emphasis:
*-Yes, I know about all this. But why did you **really** do it?*
Now the candidate was in shock!
He did not have a better answer than the lame one he already started.
He stared at the Professor for 4-5 seconds that felt like centuries, butterflies dancing in his belly and cold sweat forming on his forehead.
Suddenly, it all came to him in a flashbulb moment:
-A-ha! Yes!
I know why I did it, and I know what and how to write it.
The two of them parted without speaking a single word more. The candidate hurried home with his head spinning trying to keep his ideas in order. One

week later he came back with a new version of the Discussion which passed with flying colors.
Without going into much detail, what went on in the candidate's mind during those 2-3 silent-as-the-grave seconds was that he did his research because he wanted to have the answers to some specific questions formulated at the beginning of his Dissertation research, and now he had the data and the knowledge.
That was sufficient inspiration to have a solid Discussion that earned him the doctorate degree.

Motivator

One of the most frequent situations any trainer will have to face early on in any class is a trainee asking "Why do we need this?" This is a maker or breaker question. Asking this question may be a sign of a student not being motivated or interested, and just taking the course to accumulate the required credits and get out of school. Even trainees genuinely interested in the course can be negatively affected by a mediocre answer. A good and honest answer by the trainer can motivate he entire audience and have a smooth sailing for the rest of the semester. Motivated trainees will enjoy the class and will never spare any effort for self-improvement. It may be even better for trainers not to wait for this question to come from the trainees, but raise the question themselves in the opening lecture, and have an open discussion to convince trainees about the usefulness of the course.
A common answer to the above fundamental question of utility is that a craft mastered and skill obtained can have paybacks at any time. This is a somewhat unclear answer postponing the problem in the future, and therefore may not be very satisfactory. Fortunately, however, the late Steve Jobs in his 2005 Stanford Commencement Address (https://www.youtube.com/watch?v=Hd_ptbiPoXM&feature=share) stated clearly the secret of Apple Inc. success: the entire Macintosh computers were based on his dropping-in in a Calligraphy class, instant fascination by the beauty of hand-drawn letters and symbols, and inspiration to make a computer that could display beautiful typefaces on screen. This is a powerful statement about how knowledge obtained in or simple attendance of seemingly unrelated or classes can pay big dividends if used at the right time and the right place.
Concrete examples of better grades, personal satisfaction (doing what I like), more job opportunities, higher pay, employment security, diversification within the forestry industry, professional travel to other countries, keeping up to date with international technological and employment developments, climbing the corporate ladder, competitive edge over fellow coworkers, etc. plus a number of other indirect benefits, such as improved decision-making skills, mental health, memory, greater attention span, deeper understanding, improved communication and negotiation skills and thus power, meeting new people and making cross-cultural friends, increased self-confidence, etc. may be some additional ideas that can be discussed in class. The trainer has the option to announce all these benefits, or better yet organize a brainstorming session for the trainees to come up with the answers. Perhaps a good answer is provided by https://www.youtube.com/watch?v=qLLSnYmRVT0 (skip the introductory section to minute 9:00 – 9:30).
Additional motivation may be required in isolated cases during the course; by then, the trainer will have become better acquainted with aspects of individual student personality, and therefore will be able to provide customized motivation. Better yet, reverse the question and ask the rest of the trainees to state what they find exciting about the course.
Trainers should make teaching their passion; otherwise they are doomed to be teaching dull courses.
http://www.teachhub.com/5-ways-share-your-passion-learning

Facilitator

The trainer restores a feeling of safety, and helps trainees discover their hidden potential for (language) learning and their unlimited capacity for acquiring technical, linguistic and communication skills by using some simple learning tricks. Refrains from expressing negative thoughts and always uses positive comments and thanks students even for the not so good answers. Promotes the feeling of safety, i.e. that trainees cannot fail just by giving an incorrect answer. Instead, having in mind the motto “we learn from our mistakes", the trainer leverages incorrect answers, examines possible ways trainees could have arrived at the incorrect answer, and tries to correct those. Encourages student participation by stating before introducing the question that there can be no incorrect answers, or by formulating the question so that there can be no incorrect answers.

ASSESSMENT

Self-Assessment

The major benefit of computer-based learning is self-assessment; in other words, learners can check their answer immediately and receive feedback or search for the correct answer, if necessary (http://www.edutopia.org/blog/5-fast-formative-assessment-tools-vicki-davis). This works as an instant gratification, and thus can amplify the learning process.

In-Class Assessment

There are two types of in-class assessment: formative and summative.
In formative assessment,

- trainers can continuously monitor and assess students to detect weak spots in learning and adapt their teaching, for example by elaborating on a point, or by addressing problems immediately, and
- students can improve their learning by identifying strengths and weaknesses in their learning that need work.

Formative assessment usually carries little or no grading value and takes the form of in-class quizzes, short tests, “clickers” and https://plickers.com, etc. but it can also be in the form of the trainer asking the audience to raise their hands if they understood a specific concept.
In-class formative assessment toolbox:
www.socrative.com
www.kahoot.com
https://goformative.com
Google classroom
etc.

Summative assessment provides evaluation of student learning at the end of the instructional unit, against a set standard. Examples of summative assessment include exams, final projects, an essay or paper, etc. and they usually carry a high grading value (a significant percentage of the final grade).
In conclusion,

- formative assessment is done while students are learning (in classroom, etc.) and it is a way for trainers to have feedback on how effective their teaching methods are, and thus modify/improve their teaching method, whereas
- summative assessment is done at the end (of the chapter, course, semester, etc.) and it is a way for trainers to judge how well the

students have understood and can recall what they are supposed to have learned.

CAUTION!!!

Evaluation creates student fear of failure. Fear elicits a fight-or-flight response, decreases creativity, and limits severely the learning process (https://www.psychologytoday.com/articles/201305/the-enemies-invention). When it is not required and has consequences, as it does in school or at work, evaluation is perceived as a threat. It inhibits new learning and insights. When under pressure, the priorities switch from creativity to productivity. For example, in a forest harvesting work environment, workers are under constant pressure to use what they already know to cut more trees, be more productive and make more money for themselves and their employer. They are not concerned with finding new ways of cutting trees or loading and unloading logs to and from the forwarder.

For students, continuous testing constitutes a continued threat. Their minds are focused on fears and failure: *How do I deal with this test? How do I learn this material? How do I please this teacher? What if I fail and I don't get my license? What happens if I don't do so good in the test? Will I have to repeat the course if I fail?* These are powerful learning inhibitors.

In contrast, positive emotions broaden our perceptions and thought, allowing us to put together ideas and information in new, useful ways. Negative emotions narrow our perceptions and thought because we are focusing on the stimulus that initiated the emotion (e.g. an evaluator, or the consequences of failure).

The FWOTT provides summative assessment after the end of each Lesson and a review (summative) assessment at the end of each Chapter. To convert summative assessment to formative one, the trainer can ask trainees to answer the existing closed-type questions after the relevant point in each lesson has been introduced and discussed adequately in class; alternatively, the trainer can make new questions and project them on the board. In either case, the trainer asks trainees to use their smartphones, tablets or laptops connected to the local WiFi, to answer the questions projected on a screen; the answers are instantly connected and summarized anonymously or by student, giving the trainer the opportunity to decide on whether the class understands the relevant educational point, or the point needs further clarification. The method is based on honesty, and can give more reliable results if trainees understand that it is to their benefit to give an honest answer.

Recently, some highly regarded educational systems claim exceptional academic performance of students who have 20-minute daily homework, 20 class hours per week, lots of time to play and socialize, no standardized tests and/or multiple choice questions (https://www.youtube.com/watch?v=1ZbGlDMF7HQ). Whereas there is undoubtedly merit to such a system, language schools holding daily mockup exams had spectacular success: 80% of the students on a daily mockup exam schedule had final exam grades 30-50% higher than the set targets, whereas the rest of the students had final exam grades within the set targets.

One way of convincing trainees about the **necessity of studying and taking daily mockup tests** and conquer their fear of exams is by explaining to them in the grading rubric that each test carries little weight towards the final grade, so even if trainees do not do so well in one test, this will not affect so much their final grade, and they can do better in the next one. For trainees reluctant to take tests, or repeatedly underperforming in tests, other teaching options should be considered, such as make-up homework, group study, student

coaching (see Student Coaches), game-based learning or project-based learning.
In conclusion, it is essential that trainees become familiar with the testing and assessment procedure, and conquer their test anxiety by having daily mockup exams to improve their performance in the exams.

INTERNAL EVALUATION (in progress)

Difficulty (Readability) of:

Lessons

Exercises

Case Studies

APPENDIX 1

LEARNING HOW TO LEARN - WHAT THEY SHOULD HAVE TAUGHT YOU IN SCHOOL, BUT DIDN'T

(TO BE PRESENTED IN A CLASS WORKSHOP
PREFERABLY ON DAY 1 OF CLASSES)

In another part of this series of "How to" manuals (*How to construct your own exercises and tests*), we provided the mechanics for using *rote memorization* (=sheer repetition) to learn things. According to this concept, facts and concepts are virtually forced into the brain, sometimes with incomplete understanding. Rote memorization without a firm grasp of the concept requires an inordinate amount of time to master and to produce good results. The benefit of it is that it does not require any outside guidance, e.g. trainer-trainee interaction, it can be done by the student studying alone, and it can be done practically anywhere.

However, in a teaching situation, the trainer must provide tools, hints, tips and tricks to help students improve studying efficiency and memory retention.

The following are some general hints on how to study efficiently:

Studies have shown that efficient studying lasts only for 25-30 minutes. After that point, the brain does not cooperate, and all efforts to stay focused are a waste of time, unless there is a short break followed by a second session of study, followed by break, and so on. Learners forcing themselves to continue studying without taking a break ended up hating the material and failing the tests. In contrast, learners that followed consistently the above study-break pattern ended up with top grades in their class. While taking the small breaks, get small rewards, such as a small stroll around the room, or maybe a small cup of coffee, and a big reward at the end of the day. The small rewards give you the feeling of accomplishing your short-term goals, and make the brain wanting to go back for more study/reward, whereas the end of the day reward prepares the brain for tomorrow's cycle. With lots of practice, the study intervals can be extended to 4-5 hours.

Make your own study room. Student dorm rooms are small rooms with a bed, a desk, a bathroom, maybe a kitchen, stereo, TV, sofa, etc. or other roommates and next door neighbors. This is confusing to the brain that tends to overlook the studying corner (desk) and the purpose it serves (studying) and it gravitates towards the bed or the sofa. Studying in the bedroom, living room, kitchen, play room of your house is not a good idea either, because these rooms have been associated with other functions. So, the best approach is to go to the nearest library and setup study there. Many libraries have closed study rooms that you can reserve by the month and be by yourself. If your dorm room is your only option, make sure you turn your back to the bed, turn off your smartphone or texting software, turn off the TV (if any), put the stereo at very low volume, put a DO NOT DISTURB sign on the door, make sure the door is closed, and start studying with the study-break pattern mentioned above. Do not reward yourself with energy-rich food (e.g. ice-cream, chocolate, etc.) or refreshments, as a full stomach needs to work harder for digestion, requires more blood sent from the heart, perhaps will decrease mental alertness, and will make you fat.

Make some meaningful use. For example, make acronyms, acrostics, try to put some meaning (e.g. “ontogeny recapitulates phylogeny”). See “Memory Hacks”.

Make your own study group or become a member of a study group. As a member of a study group, you will benefit from other people’s effective studying methods, take advantage of their understanding concepts that might have evaded your comprehension, exchange ideas, possible test questions, exam mockups, etc.

Do not be fooled by recognizing vs. recollecting. Recognizing is that you have seen it before, recollecting is remembering. Obviously you want to remember things for the tests or for the rest of your life, if possible. The way to remember things while studying is to read something, go to the next thing, read it, stop, look up in the sky, and then try in your own words to say what the previous thing was all about. DO NOT THINK about it, SAY IT. Then you will remember it.

The importance of a good night sleep before the test. It has been found that “consolidation” or the transfer of information from transitory to permanent memory through the hippocampus is enhanced by a good night sleep and REM activity. It seems that if you don't get sufficient REM activity, you do not store information as efficiently. So, one simple piece of advice for improving your academic performance and learning is just get a better sleep.

Note taking. A very important tool. Learners should probably improvise their on shorthand system. A necessary component though is that the moment learners get out of class, they should sit down and expand every single note. If you wait to do this until you go home, you will have forgotten your own notes. Five minutes of “fleshing out” the notes is enough to create a permanent memory an greatly improve your memory.

If you are in doubt about some things said in class and you may have missed in your notes, look for another classmate. Ask them about the information, maybe they have it written down, or they remember better. Or, go and see the instructor and ask him your question; professors love to being asked questions, because it makes them feel important, and because professors love their students to advance.

One of the best ways to learn is by reciting (=repeating) what you have learned in class to other people. Because if the other person asks a question that you don't know, you go back and restudy. If you don't have a person to recite to, you can use an empty chair.

Using the textbooks. SQ3R (Survey-Question-Read-Recite-Review). As you browse through the pages of a chapter (Survey), you're raising Questions (e.g. what is an “apple”, what is a “forwarder”, what is a “harvesting team”, “how many members does a harvesting team have”, what are “bogey wheels”, etc.). If you don't have these questions, you might miss the answers because you don't have a search mechanism (you don't know what you are looking for).

Start your study early, and do not leave it until the last moment or the night before the test.

Your study will require memorizing two things: facts and concepts. Facts are rather simple pieces of information, such as names, words, terms, numbers,

dates, etc., whereas concepts are usually descriptions of how thing work or how they are put together.

To memorize facts more efficiently, use mnemonics (See #Memory Hacks, in Appendix 3 below).

Additional References

https://class.coursera.org/learning-001/lecture/15
http://bigthink.com/neurobonkers/learning-how-to-learn
https://www.youtube.com/watch?v=IlU-zDU6aQ0&nohtml5=False
https://www.youtube.com/watch?v=O96fE1E-rf8http://inc.ucsd.edu/2013_03_12_oakley-H.264_LAN_Streaming_Full.mp4

APPENDIX 2

A TOUCH OF MOTIVATION & A SPLASH OF INCENTIVE

Being motivated greatly facilitates everything. This is also true about language learning. If you want to learn a language, and terminology of course, you must be motivated and keep your trainees engaged. Trainers must also try to motivate those trainees that have a motivation deficit.
In Chemistry, Physics, Biology, Forestry, etc. in-class or lab demonstrations play an important role in student motivation/engagement (https://www.youtube.com/watch?v=ANdt8LuPaEg, https://www.youtube.com/watch?v=7FfKaIgArJ8, …, …) but how do you demonstrate in a language course?

http://www.teachhub.com/when-students-need-emotional-support-dos-and-donts

The subject of incentives is a thorny one and can be viewed from various angles. For example, incentives provided to the trainee or the trainer, positive or negative incentives, incentives in the form of higher or lower grades, incentive consistency or disruption, etc.
In real situations, what is the optimal commission a company has to pay its salesmen to reward them and keep them motivated for higher sales. A higher commission acknowledges the salesman's performance and thus shows company appreciation, but at the same time may generate complacency and lack of interest for higher goals/more sales.

APPENDIX 3

MEMORY HACKS TO ENHANCE VOCABULARY LEARNING

Mnemonics are systems that facilitate active recall. As such, mnemonics are regarded as untapped learning tools of high learning potential, but also as tools to remember names, addresses, phone numbers, and a host of other information.
Mnemonics include memory tricks, shortcuts, anagrams, acrostics, acronyms, interactive images, coined sayings, jokes, invented sentences, rhymes, mental pictures, etc.
It should be remembered that mnemonics do not provide unique solutions to memorization problems, and there is no rule for selecting a single successful mnemonic. Learners are encouraged to select the mnemonic that suits them best. Moreover, learners are urged to devise their own mnemonics, try different mnemonics, or adapt existing ones as they see appropriate for the particular set of circumstances to be used in (e.g. vocabulary).
Most importantly, mnemonics are free to use, fun to learn and highly effective. They require some time and effort invested in coming up with creative ways of consolidating information in memory, but this is time well spent, and the results will be permanent learning, and instant and error-free recall.
Once mastered, the method can and will be used in almost all aspects of everyday life, will provide lots of fun and mental delight, and will boost creativity, self-confidence and motivation.
If mnemonics are combined with active/efficient learning techniques, such as grouping of pieces of information, or abstract rules covering a large number of items to be remembered, they provide much faster learning throughput than rote memorization and are used often by trainers and trainees alike.
The best mnemonic is the dependable paper and pencil. Following the motto "*Verba volant, scripta manent*" (Latin proverb for "spoken words fly away, written words remain") the majority of humans write on paper what they want to remember.
A very simple and common mnemonic is to use your knuckles to remember the number of days in each month. Each knuckle represents a month with 31 days, and groves between knuckles represent months with 30 days. Start with the knuckle of the index finger, which you will call January, move on to the grove and call it February (remember, 28 days), and so on. The knuckle of the pinky is July (31 days), then move on to the next knuckle on the other hand, which is August (31 days). It works!
Another simple memory trick to remember something, such as an errand, is to put some marks or make some obvious changes in your everyday life, such as your clothes. Typically, this involves writing a note in the palm of your hand, but this may not be an acceptable trick especially in exam time.
Alternatively, you may change your watch from your left to your right wrist to remind you of an important appointment, or, for those who are married, they may change their wedding ring from the regular hand to the opposite one. Of course, there is always the risk of forgetting why you made this change, but give your memory some time, and it will come back to you.

Anagrams: http://www.wineverygame.com/
Acrostics: http://www.studygs.net/memory/memacrostic.htm
Acronyms:
Interactive images:
Coined sayings:

Invented sentences: An application where this mnemonic can be used is the memorization of the Periodic Table of Elements in Chemistry group wise and sorted by increasing atomic number. For example, the elements of group 1 (hydrogen, lithium, sodium, potassium, rubidium, cesium, francium) can be memorized by inventing a story using the symbols of the elements (H, Li, Na, K, Rb, Cs, Fr), such as:

H*oney* ***LiNa K****icking* ***Rub****ies and* ***Cas****es with* ***Fr****ancs*.

(The symbols of elements in bold to make them stand out).

The way it works is this: imagine Lina, a sweet little girl, walking in a road paved with gems, selectively kicking rubies, while on both sidewalks there are cases with treasures and golden francs.

The story is totally weird and does not make any sense, but this is exactly its learning power. The weirder the sentence, the more powerful the effect. The story, and thus the series of chemical elements of group 1 of the Periodic Table, can be recalled at any time due to its weird content. Once the sentence has been memorized, and it doesn't take long to do that, it tends to stay in memory for long time. It has been observed that the particular sentence above has remained in memory of people for well over 40 years, without any interim practice or use, and individuals were able to recall it instantly without any hesitation or fault.

The Memory Palace method: https://litemind.com/memory-palace/. It is commonly known as the method of loci, and it is based on spatial memory. Others prefer to call it the Supermarket method, because it is based on the observation that people usually go shopping to the same supermarket over and over again because they are familiar with the layout of the supermarket, i.e. they know where each item they want to buy is. To apply this method in situations where memorization of the word order is important, just imagine that you stock the shelves of your virtual supermarket by placing each word on a separate shelf walking down the aisles in the same sequence as you do when shopping. To recall each word, imagine that you walk down the aisles in the same sequence as you do when shopping and picking up the words from the shelves. Alternatives of this method include placing the words in different spots in your house (some people call their house a Palace) following a well-defined path, i.e. the doorstep, followed by the hallway, followed by the living room, the kitchen, the master bedroom, the children's bedroom, the bathroom, the basement, etc.

A very effective approach in learning compound words (two words combined with a hyphen, or combined into a single word) is the analytical method; the method examines each word separately and tries to make an association with known concepts. For example, the word "anthropophobia" is a compound word; we can easily distinguish the second one of its components ("-phobia", meaning 'the fear of'), and conclude that the first component must be "anthropo-". Suppose we don't know what this component means. We just have to search in our mind to find other words we know and they may be similar or themselves contain this compound. The first thing that pops up in our mind is perhaps the word "Anthropology", which is the study of humans. Therefore, we may reasonably suspect that "anthropo-" has to do with humans, and thus "anthropophobia" is the fear of humans. By the same token, many more English loanwords from Greek contain "anthropo-" as their prefix, such as "anthropomorphic", "anthropogenic", "anthropocentric", etc. Categorizing technical terms in families of similar or related words is a highly effective approach of learning the meaning of many words with relatively little effort. In the case of the FWOTT, there are many compound terms where the word "saw" is used as the first or second component (chainsaw, saw logs, sawmill, sawdust, band saw, etc.).

APPENDIX 4

LEARNING ABOUT LEARNING — METACOGNITIVE PROCESSES, SKILLS & STRATEGIES

Metacognition is the strategy required to successfully complete a learning task: which learning method to use based on previous experience, the necessary steps to problem solving, reflecting and evaluating the results, and modifying the approach as needed.
One question that comes up frequently is “How much should I study”? The usual answer to this is that to obtain a solid knowledge in something, you need to invest about 10,000 hours studying. Recent neurophysiology studies, however, have questioned this number and claim that some people may need more, and other people need less time than this (https://www.youtube.com/watch?v=LNHBMFCzznE).
Some students prefer to cram just before exam time. But even if they manage to enter the necessary information in their memory, 60% of that information will be lost within 48 hours after the exam. Therefore, the recommended strategy for exams is "study little and often” throughout the semester and just refresh at exam time, whereas for long-term memory “practice makes perfect” and “do not omit to recall what you have learned”.
Learners must always assess themselves against their set objectives and adjust their learning strategy if required. Many learning methods have been presented in this Chapter, but nothing is written in stone. Students must be flexible to adopt or adapt any of these methods that suits them best. The FWOTT suggests a logical order of steps for each Lesson; for example, in the Learning Tasks, students are required to read the "Working in Harvesting Teams" textbook, find the unknown technical terms, look them up in the online Forest Worker’s Glossary, and write a summary. This approach may seem inefficient for some students because the unknown words are “hidden” within the textbook, and require time to locate and look up in the dictionary. These students may prefer to click on the “Vocabulary Review” button of the respective lesson, find the list of the terms and their translation in their native language, and proceed to reading the lesson and writing the summary. Others may object to this approach, because just looking at the translation of the terms in their language is not enough, and they would like to obtain additional information from the Forest Worker’s Glossary, such as the definition of the term or an example of how the term is used in the textbook; therefore, they click on each term of the list to open the term profile window, look at the detailed information, and perhaps even listen to the pronunciation of the term in English, because this will help them improve their listening and speaking skills. Still other trainees, being visual type learners, must associate words with pictures, so they click at the “Read more” button of the Term Profile pane and they go to the Forest Worker’s Glossary to see for example what a ‘chainsaw’ looks like. All of the above learning routes are equally acceptable, and trainees will have to decide which one works best for them.
http://www.studygs.net/metacognition.htm

APPENDIX 5

DO's AND DON'Ts FOR TRAINERS & TRAINEES

TRAINERS

DOs

1. Make trainees feel comfortable and safe. Remove trainee fear of being wrong; that's the only way they will improvise and learn.
2. Create and maintain a positive classroom atmosphere by removing negative emotions, such as anger, anxiety, frustration, fear and sadness.
3. Think deeply and extensively before preparing and giving out perfectly clear and thorough verbal AND written instructions, handouts, notes, graphs, maps, directions, test, quizzes, etc.
4. Put yourself in the trainee's shoes, and remember your student days: would you be able to follow the instructions, take the test, remain motivated, etc.? Why? Revise the educational material as needed.
5. Give short tests and quizzes every day to keep trainees on their toes and familiarize them with the final exam process and format. Trainees will find it hard at first, but they will thank you at the end.
6. Remind yourself at all times, that you are a sort of a trainee, and the students in your class are your trainers. You have to be sensitive to their needs, and adapt your knowledge to their requirements, or you will face the consequences.
7. Check frequently for understanding in class. Use all possible pieces of evidence (trainee body language, looks, gestures, etc.) to gauge trainee level of understanding. Develop a Plan B to verify understanding by using tools of formative assessment in class and to further elucidate the missed points, if required.
8. Forget the model of the fearsome/omnipotent/omniscient/dominating dictator in class. Tell trainees that you don't know everything, but your role is to help them discover knowledge, how to obtain it, and use it to advance in their careers.
9. Build trust with your trainees and make yourself accessible at all times to answer emergency questions.
10. Ask trainees to help you make this the best and most effective class they ever took, by participating in the class discussions, and by offering their constructive criticism, feedback and suggestions on how to improve the class. Discuss trainee suggestions and take action to implement what was agreed.
11. Avoid judgmental statements, personalized questions or confrontational attitude to students, because this is the sure way to elicit and escalate a crisis situation with unpleasant results for both trainer and trainees.
12. Keep in mind the proverbial "you will catch more flies with honey", and therefore, chill out and adjust your teaching style, answers and attitude to fit trainee profile and learning styles.
13. Review and revise constantly your teaching habits and lecture delivery methodology, and customize it to the class requirements.
14. Take advantage of modern technology (Web, Skype, YouTube, social media, cloud, Forest Workers Glossary, online dictionaries, etc.) and

use visual aids, educational props, real material (e.g. newspapers, trade magazines, instruction manuals, spare part catalogs, websites, etc.) to drive your message home.
15. Urge trainees to be part of the course-upgrading process by searching for new and interesting content to add to the FWOTT. Warn them not to get carried away and waste their time though.
16. Show team spirit and never give up; you are part of the trainer-trainee team and you have to make the team look good, so you should look good too.
17. Be objective but not harsh when correcting and/or grading. Remember, you have been a student too, and many times you experienced injustice. Don't perpetuate the mistake as a teacher.
18. Make teaching your passion and excitement and immerse yourself in positive energy. Somehow passion, excitement and positive energy are transferred to all trainees, and learning becomes much more effective.
19. Maintain your composure in class; show emotion, but keep it under control when needed.
20. Nurture trainee motivation, innovation and freshness in class by stating that there can be no wrong answers, or there can be more than one correct answers, and be receptive to all answers, even the not so good ones. Lie if you have to.
21. Show that you are the Master of the game, but there are many ways to master the game.
22. Reverse roles with trainees and ask them to become trainers, by giving a 10 minute presentation on a subject of their choice to the rest of the trainees, to practice reading, speaking, listening and writing skills, demonstrate their vocabulary mastery and critical thinking skills.
23. Stick to a tightly organized course program, but be flexible and rearrange it if required.

DON'Ts

1. Tell trainees what to do and expect them to do what you told them. Instead, be patient, and use a three-step process: tell them what to do, show them, and then tell them what you showed them.
2. Let a single task go by without a connected activity. Introduce and carry out the activity first, and center the rest of the lesson around it.
3. Surprise trainees in class or in the exams by trap questions, obscure tests, hazy instructions, bunnies-out-of-the-hat, etc. Remember: garbage in-garbage out.
4. Insist that trainees use English in class to ask questions or express their opinion or provide feedback, but do not let them off the hook too easily either.
5. Take for granted trainee suggestions, concerns and feedback, but take action to implement them appropriately as soon as possible.
6. Be content with trainee-supplied evidence of understanding in class, as it can be misleading; sometimes, trainees are polite and they do not want to embarrass themselves or the trainer.
7. Forget that language-learning involves speaking, listening, reading, writing and vocabulary-building; therefore, provide repeated opportunities to each and every trainee to practice all these skills.
8. Hesitate to throw out all your preconceived ideas and previous teaching experience, if you come across a trainee-suggested breakthrough. Just admit to yourself this was something overlooked, adopt it and enjoy.

9. Feel offended or threatened by trainees using their smartphones in class; use it as an indication of boredom and disengagement, and thus recapture trainee attention by changing the subject, your tone of voice, talking speed, playing a video or a game, or creating social interaction, etc.
10. Ever enter a class unprepared.
11. Expect that trainees will be able to follow your normal speaking rate; so, slow down and take your time to make sure every word sinks in. With time, you can pick up the rate.
12. Underestimate game-based learning. In fact, this is your most effective teaching tool, so use it frequently.

TRAINEES

DOs

1. Keep the faith. You will prevail, rain or shine.
2. Exercise regularly, as physical exercise has been shown to help your memory.
3. Sleep nicely and comfortably before tests and/or exams. This is essential to keep your memory in good shape and retain new information. Plan your time ahead of time to complete your studying on time.
4. Keep your mind and body fed and hydrated. Eat glucose-rich snacks (e.g. raisins) and drink enough water while studying, but don't overdo it.
5. Practice vocabulary building drills every day according to the targets you have set.
6. Remember: no pain – no gain. So, study hard throughout the semester, so you will be prepared for the final battle.
7. Avoid passive review and always revert to active recall: Study something like you are the teacher and you will have to explain it to your fellow students. Only then you will understand the material and you will be able to remember it forever.

DON'Ts

1. Don't be afraid of being wrong. Being wrong is being creative; if you are not prepared to be wrong, you will never come up with anything original.
2. Don't be afraid of tests and/or exams. They won't kill you, but they will make you stronger.
3. Don't confuse recognizing information with being able to recall it.
4. Don't stay up all night cramming the night before the exams. That's the safest way of failing the exam.

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