



ILLUSTRATING TEACHING IN FORESTRY EDUCATION

Finnish-Russian Development Programme on Sustainable
Forest Management in North-West Russia 2005-2008

Tempus Tacis, NW-Forest Trainer 2002-2006



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FOREWORD

In 2003 four Russian organisations, ENFA from France and the Teacher Education Centre at Tampere Polytechnic started cooperation in order to develop vocational teacher training in forestry education in North-West Russia. This project came to its end in autumn 2006 but the cooperation between these organisations did not end. Because the cooperation had been very fruitful and good results were attained, the organisations decided to continue developing teacher education together.



Seminars organised in France, Russia and Finland form a part of the activities planned for the new cooperation. Organised by the Teacher Education Centre at Tampere Polytechnic - University of Applied Sciences, together with Ministry of Agriculture and Forestry, the first one of these seminars was held in Tampere in December 2006. The theme of the seminar was Illustrating Teaching in Forestry Education.

Illustration was chosen as the theme of the first seminar because of the great importance of the topic. One of the most essential challenges in a teacher's work is the ability to concretise, clarify and simplify complicated phenomena and theories. Illustration helps for instance in combining theory and practise, in finding the core of the matter to be learned, and in memorizing the important things.

It is very well known that different students learn in different ways. This means that teachers are faced with the challenge of making their teaching easy to follow and to understand by different learners. This naturally implies that using one way of illustration is not sufficient – instead, various methods should be utilized. Using different means to illustrate is an important way to facilitate different students' learning and understanding.

This publication is constructed of the presentations given in the seminar. I warmly thank all the persons in Russia, France and Finland who contributed to the planning and implementing of the seminar and this publication.

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Cover Photos:
Finnish Ministry of Agriculture and Forestry

ILLUSTRATIVE TEACHING

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Teachers` pedagogical skills

A general objective of vocational education and training and teachers` activities is for students to increase their learning and develop their vocational competence. The role of teachers both as experts in their field and as experts in learning is complex and multi-dimensional. Teachers` professional skills can be described in many ways. For example, teacher education emphasises the following: vocational competence, development of working communities, facing different people and situations, pedagogical skills, networking and global competence as well as educational activities. *Vocational competence* means that teachers must have strong competence in a subject field gained in working life. This is the vocational competence that they must convey to their students. Many elements of vocational competence are continuously changing and developing, and vocational competence can be said to comprise several sub-skills. Such sub-skills include, for example, technical vocational skills and the skills needed to act in a working community. Technical vocational skills can still be divided into psycho-cognitive and psycho-motor abilities, while skills needed to act in a working community can be further divided into psycho-social and ethical abilities. *Development of working communities* is also a task for teachers, as vocational education and training is no longer seen as just being an individual growth process but as a development and change process affecting the working community as a whole. *Facing different people and situations* refers to the fact that teachers must be skilled and able to face diversity in their own work. Students are heterogeneous: their age, vocational background, home background, learning abilities and ethnic culture vary. *Network and global competence* integrates teachers and their everyday work into the world around them. Educational institutions are no longer isolated units with the task of “manufacturing” students for real working life; instead, educational institutions take the initiative and operate actively in their own environment locally, regionally and internationally. *Educational activities* and acting as an educator also form part of vocational teachers` work. Students may have various problems that affect their studies and these may sometimes make studies difficult or even impossible.

One important area of teachers' work is their *pedagogical skills*. In vocational education and training, teachers must master information and skills pertaining to learning and teaching in general, while they must also know the pedagogical starting points of their own vocational field and must be able to support students at various stages of their vocational development. This means that teachers should be equipped with appropriate and versatile methods of teaching, guidance and assessment.

What does illustrative teaching mean and why is it needed?

Teachers are usually experienced experts in their vocational field who are able to solve complex vocational situations and to develop their own work and working environment. This expertise is part of each teacher's personality and it manifests itself, for example, in a teacher's way of using specialised language typical of the vocational field in question and in their way of analysing situations that may arise in everyday work. Students, on the other hand, are usually new to the field with only a vague overall idea of the field and insufficient skills in the field's own jargon. This adds up to one central challenge in teachers' work: the ability to make complex issues more concrete, more explicit and simpler. This is the skill that is referred to as *illustrative teaching*. It means that teachers, together with their students, take theoretical, abstract, vague and conceptual themes and build them into understandable compositions that support students' vocational development.

Another argument in support of the need for illustrative teaching is that education and training still often seem quite far-removed from real working life situations. Research has shown that the transfer of things learned in the classroom to real-life situations is often poor. The concept of transfer means applying the same information and competence in various contexts. If learning at an educational institution is developed separately from real-life situations in working life, learning may become ineffective and a student's learning capital will not form part of the competence needed in working life. By carefully planning illustration into teaching, the transfer effect of things that have been learned can be supplemented. Illustrative teaching can also be said to mean increasing the authenticity of the learning environment. The learning environment and teaching procedures should be developed so as to resemble real-life situations in working life as closely as possible which leads us to talk about contextual learning and a constructivist learning concept underlying it.

Illustrative teaching is part of teachers' pedagogical skills and it aims, for example, at the following:

- deepening the core content to be learned
- confirming the content to be learned
- helping students to focus on the essentials
- helping students to remember what needs to be remembered.

Illustration in teaching and guidance situations

Supporting learning and organising the learning event are part of teachers' core expertise. Learning situations by nature often bring together theory and practice. The role of teachers is to lead students to sources of vocational competence and expertise by mixing theory and practice and merging them in such a way that different students can make use of them in their own learning process. Teachers must choose methods of illustration that take into account the different ways of and the starting points for learning that students have as well as the opportunities provided by the learning environment.

Teaching can be illustrated in many ways. Illustration can be based, for example, on linguistic and verbal activities, non-verbal activities, general activating tasks or using different kinds of technical equipment. The concept of illustration is often understood only as part of teachers' lecture-style teaching but the pedagogical content and purpose of illustration are much more extensive. An important part of illustrative teaching is also selection of suitable learning materials.

Linguistic and verbal illustration refers to teachers' possibilities to clarify the basics of the vocational content to be learned with the help of their linguistic expression. An important starting point is that the teacher's own linguistic register is close to the students' experiential background and that the teacher uses clearly structured language. Teachers must not use their own vocational field's specialised vocabulary without making sure that the students can grasp concepts in the field. Teachers may also use metaphors and illustrative stories, provide practical examples, present contrary and comparative views on the topic to be learned, emphasise and repeat central points, paraphrase core issues of the theme and draw up summaries for students. An important method of linguistic illustration is to put forward questions. Carefully designed questions can be used to guide the students' approach to the vocational subject

matter to be learned and to check the direction in which the learning process is proceeding. Questions should be developing and constructive in nature, not controlling.

Non-verbal forms of illustration include such things as variations in use of the teacher's voice. Teachers can vary the speed and rhythm of their expressions and use their voice to emphasise issues that students should pay attention to. Teachers can also use facial expressions, gestures and movement to illustrate lecture-style teaching in particular. One important form of illustration that teachers can use is how they look at the students. There is something known as a pedagogical look that can be used to manage teaching and guidance situations. On the other hand, there is also an approving look that can be used to make teaching more accessible to students and to create a personal feeling about the situation.

Activity-based illustration can be classified according to who the principal participant is. The teacher can do, present and demonstrate but students can also experiment, do and produce. Naturally, the aim is always for students to be active in their own learning process. Activity-based illustration can also be thought of as being an operating model running through the whole education and learning process so that students' opportunities to participate and be active are developed and increased. Such models of inclusive teaching include, for example, exploratory learning, problem-based learning and co-operative learning.

Technology can be used to illustrate in many ways. Different kinds of simulators, the use of data networks, video technology etc. open up many new opportunities for teachers to develop their pedagogies into more concrete forms that model real working life situations.

Students' different learning styles as starting points for illustrative learning

A learning style refers to the way in which a person concentrates as well as acquires processes and stores new information. Every human being has his/her own way of learning and studying. If one student's learning style is consistent with the conditions of education and the learning situation created by the teacher, then studying and learning are experienced as a pleasant and productive process. Even though the learning styles of students are different, one

learning style cannot be said to be better than another. Sometimes, however, learning styles may contradict the learning environment. Such a situation may lead to difficulties in learning and may even make learning impossible sometimes. Learning style classifications are based on the different ways that people have to perceive their surroundings and process the information that they acquire. The styles may be innate or acquired.

An individual student's learning style comprises his/her individual characteristics, the features of the environment and the interaction between these two factors. There are many different kinds of learning style classifications and different classifications are based on different emphases in terms of background thinking. There are also many things that pertain to learning but that are not innate tendencies. Such factors include, for example, motivation, persistence and general attitude towards matters.

One much used basis for learning style classifications is the way that a person receives information. The starting point in this model is formed by the senses and every human being's individual way of learning about his/her environment using different sensory channels. The background thinking of this model is closely connected to NLP (Neuro-Linguistic Programming). The model dates back to the 1970's and is still widely used. In this model, learning styles are divided into auditory, visual and kinesthetic ways of learning. Most people use all of these in different situations, but many people have clear preferences in terms of which are the most efficient for learning.

Auditory learning means learning based on hearing. The significance of hearing and the auditory sense is marked with auditory learners. They pay attention to sounds and discussions going on around them. Auditory learners learn what they hear and can recall it easily. They are often good listeners, like verbal instructions and are happy to discuss new information. Auditory students learn with help from verbal instructions and repeat things over in their minds. Rhythm and music may make learning easier. People with auditory tendencies enjoy discussions and explanations.

Visual learners remember what they see and can recall visual details. Visual learning may mean seeing and remembering texts, illustrations and graphs. Images that enable them to learn about the world are also important for visual learners. Verbs typically used by visual learners include to see, to show, to focus, to make out, to cover and to clarify. In a lecture situation, a student with visual tendencies hopes to see things shown as photographs or illustrative graphs. People with visual tendencies often use their hands when talking

as if they are somehow drawing an explanation at the same time. They are systematic and want things to proceed smoothly. If this does not happen, they may even become frustrated. When communicating, they maintain eye contact with their counterpart.

Kinesthetic learning means learning based on the sense of feeling. Kinesthetic learners want to actively participate, do and try things out for themselves and get a feel for something. They remember most effectively through their own experience and doing. Kinesthetic learners also use very concrete language: “I feel...” and “This seems...”. During a lecture, kinesthetic people pay attention to how the lecturer explains things, for example.

Learning styles can also be classified according to other models, such as, Kolb’s model, Howard Gardner’s dimensions of intelligence and Felder’s and Soloman’s learning style classification. Teachers should familiarise themselves with various classifications and thus increase their understanding of the students. Understanding one’s students, in-depth expertise in one’s own vocational field and multi-dimensional pedagogical expertise come together to create the basis on which teachers build their teaching and guidance work in general illustrative teaching in particular.

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THE ROLE OF METHODS OF VISUALIZATION IN INCREASING QUALITY OF EDUCATION IN FOREST INSTITUTIONS

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Quality of higher education is being currently under a lot of discussion in Russia. It is an open secret that the quality of specialized education has been deteriorating during the last two decades. There are many reasons to that and here are some of them.

Higher education is getting quite general in society. Eighty percent of all school graduates seek to obtain a higher education degree. Only the best would continue studies in the universities back in the past provided they managed to pass the necessary entrance exams. Today, on the contrary, practically anyone has access to higher education. If you fail to pass the exams, you can enroll by paying for the studies. The number of higher education institutions has increased dramatically. Universities have to compete for their “clientele” by offering good contract terms. Hence, anyone can today choose “an affordable option” among the universities and their departments and enroll.

Consequently, the quality level of the student corps has been decreasing considerably. The knowledge of those being enrolled today is usually significantly lower than before. The forthcoming decrease in the numbers of young ages will produce fewer applicants to the university places and further aggravate the situation.

University staff faces more complicated challenges today. Teachers have to master and implement methods that would enable to work with students who obviously lack basic initial knowledge and scientific view of the world.

Petrozavodsk State University has been making considerable efforts to improve the quality of education in order to meet these current challenges in

higher education. Three departments of the University have been chosen to pilot development and introduction of a quality management system. The Forest Engineering Department is one of these three pilot departments. Constant training and education of the staff, their commitment and motivation, customer-oriented approach (i.e. students and employers), their satisfaction are among the basic principles of quality management.

A very important development has been introduction of the Criteria 1.2.3 – Efficiency of the internal education quality management, in the evaluation set of the educational institutions from January 1, 2006.

An opinion poll has been made at the Forest Engineering Department to study satisfaction of the students as far as the quality of education is concerned. The research covered 78 percent of the students.

The students were among other things asked to state the qualities they would like their teachers to have. The results are as follows.

Most of the students view the teacher's personality, professional and personal qualities as the main factor to motivate learning activity of the student. Thus, the students attach great importance to the professional and personal virtues of their teachers.

When answering the question about the qualities they would like to see in their teachers, the students rated first (77 percent) the ability to present material and explain new things. Communication skills, ability and will to have friendly contact with the class rated second (64 percent). This quality can be viewed as a professional one for any kind of teaching staff. Over half of the students (56 percent) would like their teachers to have a sense of humor. Almost half of the students (47 percent) appreciate the teacher's ability to be sensitive and delicate, willing to understand the students. Other qualities rated below 30 percent of the answers given during the research (see table).

Qualities of an “ideal” teacher

Question: rate a couple of qualities you would like to see in your teachers	Share of the answers	Rating
Ability to present material, explain new	76,9 %	1
Communication and human contact skills	63,6 %	2
Sense of humor	56,1 %	3
Sensitivity and understanding skills	47,2 %	4
Good knowledge of the industry	29,7 %	5
Deep knowledge of the subject	28,1 %	6
Intellectuality, refinement, good culture	20,6 %	7
Democractic views	16,6 %	8
Commitment to science	5,3 %	9

As follows from the results, the student rate highest the pedagogical abilities of the teachers and their capability to understand modern youth.

The outcome of this research calls to address training of these particular qualities among the teachers, to seek improve their teaching and psychology skills, as well as the ability to use modern means and methods of teaching.

Teacher`s work is very multifaceted. The teacher has to select and process a huge volume of material and to present it to the students in a right manner for apprehension. Visualization plays here a significant role. The quality of the learning process depends eventually upon the efficient use of visualization means by the teacher.

Power Point presentations are widely used today as an instrument of graphic visualization in the teaching process. However, are all such presentations really instrumental to be effectively convincing and well memorized? When using graphic imagery, teachers tend to compile too much data, very concerted texts and detailed tables, graphs and charts, presenting them with minor or even without any adaptation on the slides.

Certain rules and methods are to be employed to make a presentation efficient, particularly in the appearance of the slides, compilation of tables, graphs, pictures, etc. A special course has been developed at Petrozavodsk University, Department of Professional Development and Regional IT Centre, designed to train teachers in the right methods of presentation and use of specialized computer software.

In order to motivate teachers to use more multimedia techniques at their classes and lectures, a competition has been launched in the University for the best multimedia presentation of a lecture course. Any teacher may participate by submitting the lectures in form of multimedia content. The winners are chosen by the Organizing Committee of advanced experts in the subject matter and pedagogy. The courses are evaluated both from the angle of the presentation methods and the essential content of the subject substance.

Implementing new IT in teaching and its wide use in the learning process requires a long and complicated development of the teacher's skills. Against the background of the quality management principles we have to be consumer, i.e. student oriented, providing for their satisfaction with the learning process. The most important teaching skill from the point of view of the students, that is "ability to present the material in a new manner", cannot be achieved without modern teaching techniques.



PEDAGOGICAL USING OF SOME TOOLS IN TRAINING PRACTICES: A FEW POINTS THAT WE SHOULD NOT FORGET

Jean Courtas

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I examine the topic “Illustrating teaching in Forestry Education” from the role of a teacher of teachers. I am going to introduce some elements of my personal practice after more than twenty years of observing lessons realized by teacher trainees in different agricultural schools in France.

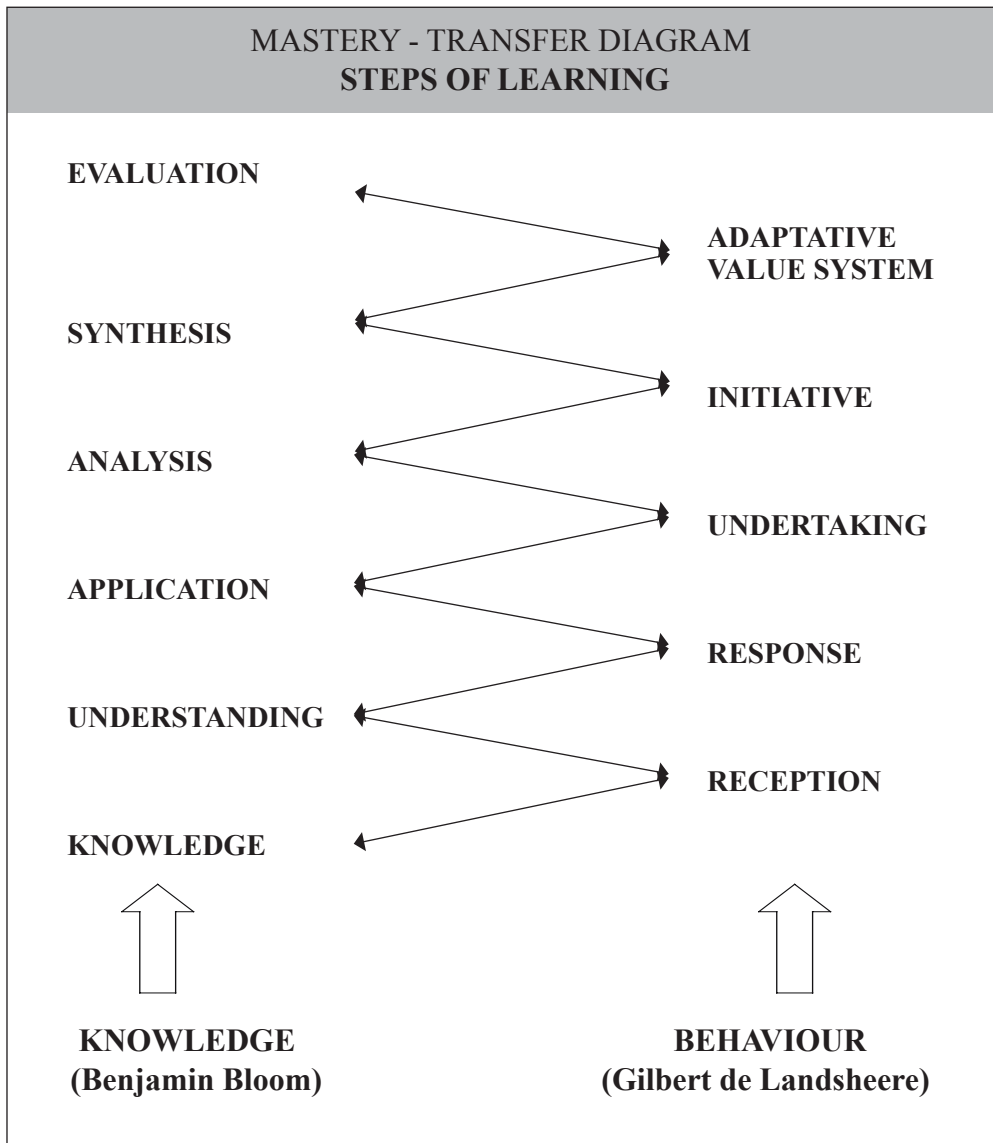
My motto is:

We teach like we learn

Teachers should take into account that there are students who have very different learning styles. Some are visual learners and some are auditory or kinesthetic learners. Some of us learn by combining all these different learning styles. This very important aspect should be taking into account when giving advices and directions to the teacher trainees.

First I am going to examine the different steps of learning by using the ideas of Benjamin Bloom and Landsheere. Then I will handle the role of a teacher in learning process. What are the teacher’s functions? I will also rise up the use of an old tool, blackboard. In the end I will briefly discuss the question of how to prepare lessons properly.

Steps of learning



Benjamin Bloom proposes six levels of increasing complexity when we learn. These levels are:

1) knowledge, 2) understanding, 3) application, 4) analysis, 5) synthesis and finally 6) evaluation.

Gilbert de Landsheere, writing about the behaviour objectives, proposes five levels:

1) reception 2) response, 3) undertaking, 4) initiative and 5) adaptive value system.

When using a blackboard knowledge is elaborated, constructed in front of and with the learners. It becomes the property of the teacher and therefore also the property of the learners. Blackboard is a place to build and to develop together, both the teacher and the learners. It is easy to use the blackboard like a draft. You can write to it, draw to it, you can make a sketch to it and everything can be either erased or retained.

Blackboard is a permanent guide during the lesson. It fixes the plan, the main ideas, definitions, the key words, the difficult words and teacher and learners have the same references all along the lesson.

Not all tools carry these same possibilities. Of course, just like any other tools and methods, the blackboard is not always a good tool. It just offers some possibilities that teacher either can use or can not use.

What is a good tool, a good method?

What is a good tool, a good method? How to use illustration successfully in teaching? A tool transforms to a good tool when we know how to use it correctly and when we are familiar with the technology. A teacher should also be able to choose the best-adapted tool for the particular situation. For example, let us imagine we teach botany and we have to choose between slides and samples. The choice is likely to be the samples because they have a lot of advantages. Learners have the opportunity to have sense perceptions. Learners have the possibility to smell the plant, see it and to feel it. Samples are present in the reality, and even the most beautiful slide can transfer only a fraction of the reality.

A good teacher gives various types of activities to the students, thus adapting teaching to the different learning styles.

- integrate the use of the tools to the previous experience of the learners.
- give priority to the comprehension when appointing exercises to the learners
- present the information in a clear, concise and familiar way.

All these conditions depend on the teacher.

In conclusion I have to say that there are no good tools or methods and no bad tools or methods. There are only tools and methods with a right usage or with a bad usage. A tool can be a good help or a bad friend. It depends on the manner in which it is used and introduced during the lesson, and how we propose their using to the learners.

Preparing lessons

When preparing lessons teacher should always raise some basic questions to herself / himself.

What is the main message that I want to convey and express during the lesson? When this question is answered teacher should choose the best tools and methods. Of course the minimum requirement is that the methods and tools to be chosen should be available and at ones disposal. They should also be the most appropriate to the target group (level, difficulties) and to the topic? Too complicated tools and methods will only harm the learning process and students' attention will be directed only to the tools and not to the actual topic of the lesson.

Teacher should think through how to associate and articulate different tools and methods to different parts of the lesson. Before lessons teacher should also perform proper preparations of the tools. Tasks of different types should be given to the learners to increase the comprehension.

USING POWERPOINT WISELY

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The main goal of this article is to give some new ideas to the reader and to help thinking critically when making PowerPoint slide shows.

Use another tool

PowerPoint is very widely used in education. Because of its popularity, it has got a bit unexciting. It is boring to watch one slide show after another in a seminar or school. More boring than the visual face of the slides is that PowerPoint in itself is not surprising in the slightest. Lessons have become more alike than ever. Therefore it is recommended to think about other ways illustrating teaching than PowerPoint.

Some suggestions of tools which could be used instead of PowerPoint are PDF-files which could be displayed with a web browser or on their own, document camera and web pages. The structure of a lecture would not be so linear and even that makes the presentation more interesting. Honestly: Is the tool, which was made for marketing, sales talk and suchlike, really the right tool for pedagogical use in education?

The truth is that PowerPoint is a very simple program to use: it is easy to create presentations with it and easy to show slides in a classroom. Not everybody has a PDF Maker in their computer or a document camera in the classroom. Surely web pages are available almost everywhere nowadays, but what if the network is down? If you still have a computer and a data projector in the classroom and have your ppt-file safe, you have your teaching material to show to the students.

It seems that especially in universities, where education technology is highly developed, PowerPoint is not top-rated when speaking about illustrating teaching. That is why it is necessary to think twice when and where to use it and when not.

Slides are for illustration not for presenting theories

When you start doing your presentation, remember a couple of things. First of all, **keep the presentation simple**. Slides should not be filled with words. Use short sentences or only some keywords. Keep the content physically in some kind of order. For example the alignment should be the same in every line and so on. Same rules apply for print media, web design and slide shows. A slide with text should be readable and understandable.

Teach the students. Reading every word straight from a slide is not the meaning of the presentation. In traditional teaching, before all the new technology, teachers used to *tell* things to students. They did not read things straight from a book. Instead they told their own conclusions of the matter they were teaching. Of course there were books and other materials alongside with that, but the real teaching was something the teacher had personally created. Why would PowerPoint give permission for teachers to forget their professional skills in teaching? Too often lessons become repetition of the same old slides with nothing new.

If your slides only contain keywords or pictures it would be good to print handouts to students beforehand so they can write notes during the presentation next to the slides. That helps the students to remember what they have learned in your lesson. If you have written the whole speech on the slides, do not print handouts: nobody will listen to you if they get the speech on paper. It might also be good to mention separately that the slides do not contain the whole speech and it would be useful to take notes.

Spend some time with the layout

Keep the visual face of your show calm. If you add several animations to your slides, for example pink bunnies jumping all over the slide and maybe some hounds trying to catch them, the audience easily concentrates on the wrong issue.

Animation is in order when illustrating some kind of a process. This might be a chemical or a physical process or maybe a simplification of how a machine works. Still it is recommended that the animation is played only once and is not running again and again as long as the slide is shown.

The colours are important too. Do not use too strong colours that are hard to watch and neither use too light colours that are too hard to see. It is better to have a light background and darker text than the other way around.

To make your own work easier, use masters. Then you do not have to build the design separately for each slide and editing is easier when you need to edit only the master slide. You can also add some information like date, your name and the number of slides to the master and you need to do that only once.

Powerpoint user`s checklist

Make sure that when you use PowerPoint in teaching you do not forget the pedagogy. You can still create good-looking layout to your slides.

Talk more than the text on your slides. Forget the karaoke and let the students speak too. Do not hesitate to skip a slide or two if it seems that you have already discussed through the things you have on it.

Be prepared to change the plan in the middle of the lesson.

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Improving the Design of Slides for the Teaching of Science, Technology, Engineering and Mathematics

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Abstract–PowerPoint slides are used increasingly in the teaching of science, technology, engineering, and mathematics (STEM). The slides created can suffer because of the default layouts offered by the PowerPoint programme. As a result of using PowerPoint defaults, the slides created are very often hard to read and hard to remember. This paper suggests a new research-backed method for the design of slides used in STEM teaching. The method incorporates the principles of rhetoric, cognitive psychology and human factors to produce slides that are more memorable and more suitable for STEM teaching. The design method uses a layout that consists of a sentence headline supported by images and important words.

1. Introduction

The aim of this paper is to introduce a new slide design for the teaching of science, technology, engineering and mathematics (STEM).

The use of slides for STEM teaching has become more and more common in universities and colleges around the world. Thanks to the success of Microsoft Office (95% market share), most slides used in STEM teaching are created using Microsoft's PowerPoint programme./1/ It has been estimated that every day trillions of slides are produced around the world that are usually not read or remembered. Although there is nothing wrong with the software itself, the default layouts offered by PowerPoint usually mean that the slides produced are hard to read and even harder to remember for the audience. Slides that are hard to read and remember will have an obvious negative effect on the learning outcomes of STEM courses. The default layouts offered by the PowerPoint programme are often criticised for their phrase headings that leave the audience unsure as to the purpose of the slide. Another criticism is of the bullet

lists that hide the organisation of the slide's content. (figure 1). Edward Tuft, a professor at Yale University, has even gone so far as to blame PowerPoint default layouts for the Space Shuttle Columbia accident of 2003. /2/ By making changes to the layout and typography of slides, it is possible to produce slides that are easy to read and to remember. This paper will first discuss the criteria used in the design of slides for STEM teaching and then will briefly explain the typography, and layout of such slides. This paper will not deal with the design of slides for subjects other than those mentioned above.

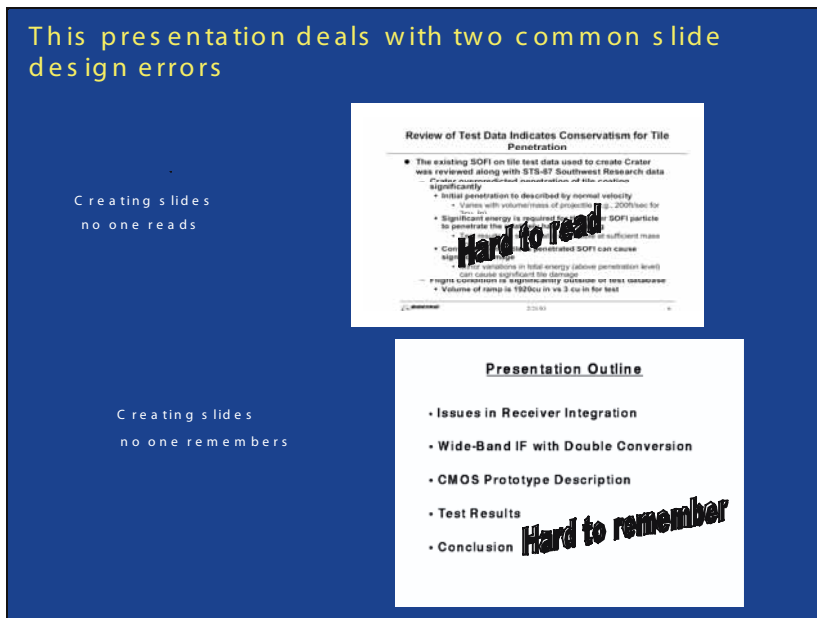


Figure 1. PowerPoint defaults are criticised for being hard to read and hard to remember. /4/

2. A new slide design for STEM teaching

There are three criteria that should be used when designing slides for STEM teaching. /3/

1. The slide design should help the audience during the lecture.
2. The slide design should help the slides serve as notes after the lecture.
3. The slide design should enable colleagues to give the same lecture.

Based on the above criteria, a more effective method for the design of slides used in the teaching of STEM has been developed. Actively promoted today by Virginia Tech, the University of Oslo, the University of Illinois at Urbana-Champaign, Penn State University, and Tampere Polytechnic, this new design incorporates a sentence headline which contains an assertion in place of the phrase headline and images and related words instead of bullet lists.

2.1 Typography of the new slide design

The basic idea behind the typography and layout of the new design is quite simple. First of all, instead of relying on the typography offered by PowerPoint, the new slide design uses Arial bold for all text on the slide. Then, the font and background colours are carefully chosen to ensure there is contrast between the background colour and the colour of the font. By making these small changes, the slide becomes easier to read and helps the audience during the lecture.



Figure 3. The background colour and the font colour must have contrast./4/

2.2 Layout of the new slide design

The layout of the new slide design differs radically from the default layouts offered by PowerPoint. Instead of having a phrase headline, the new design incorporates a sentence headline that is an assertion (figure 4). The assertion is the information that the audience needs to remember and states the purpose of the slide. By putting the important information in the sentence headline, the slide design helps the audience during the lecture as well as serving as notes after the lecture./3/

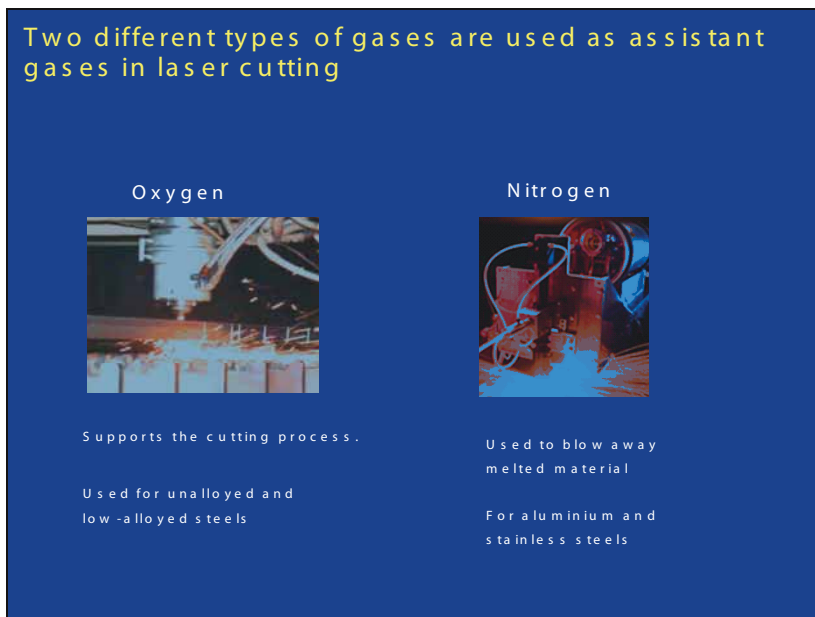
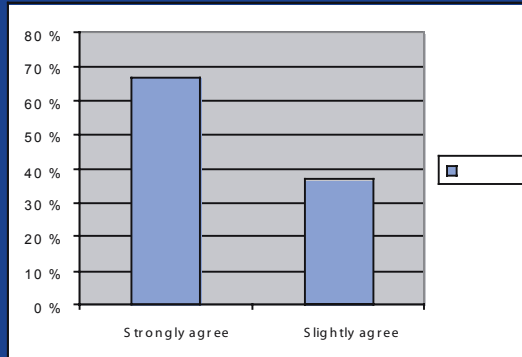


Figure 4. The sentence headline states the purpose of the slide./4/ Research at Tampere Polytechnic shows that not only does the sentence headline suggested here help the audience but also helps the teacher remember the purpose of the slide (figure 5).

Recent research at TAMK shows the sentence headline helps students understand information

The sentence headline, and the information it contained, helped me to understand the meaning of the slide.



In total, 54 students answered the questionnaire

Figure 5. The sentence headline helps the audience during the lecture. /4/

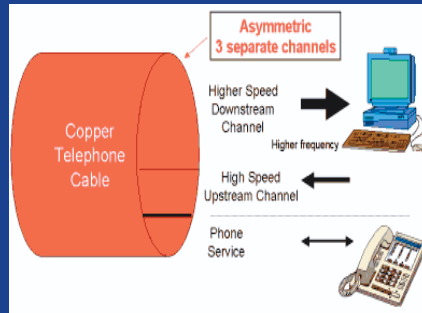
The body of the slide should contain an image/images and words that support the assertion stated in the sentence headline. This incorporates A. Paivio's dual coding theory. Paivio's theory states that the mind processes and stores words and related images in different areas of the brain. Research has shown that if a person is shown an image and related word, that person will remember twice as much information as that person would if they saw only a word or an image. Therefore, the use of images and related words makes it easier for the audience to remember the information contained on the slide (figure 6).

/3/ /5/

The body of the slide should support the headline with images and words

Supports with images

Supports with important words



C l e a r

f a m i l i a r

c o n c i s e

Figure 6. Images and related words support the assertion in the sentence headline. /4/

3. Conclusion

In this paper, a new design for the teaching of STEM has been introduced. The design differs radically from the layout defaults offered by the PowerPoint programme. Instead of phrase headlines and bullet lists that make it difficult for the audience to remember the information on the slide, the new design uses a sentence headline that explains the meaning of the slide to the audience by means of an assertion. The assertion is then supported by images and important words in the body of the slide. This, in addition to an easy to read typography, makes the slide more memorable for the audience. As stated in the introduction to this paper, only the design of slides for STEM teaching has been discussed in this paper. It is, however, the opinion of the author that there is no reason to suggest that this slide design should not be used successfully in the teaching of other subjects.

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- /3/ Alley, Michael, and Kathryn A. Neeley, “Rethinking the Design of Presentation Slides: A Case for Sentence Headlines and Visual Evidence.” *Technical Communication*, vol. 52, no. 4 (November 2005), pp. 417-426.
- /4/ Heath, Peter, *Teaching Materials*, Tampere Polytechnic, 2006.
- /5/ <http://tip.psychology.org/paivio.html>



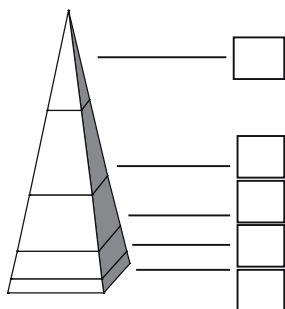
GRAPHICAL MESSAGING

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A lot of graphic images are used in computer presentations, i.e. tables, charts, graphs. The quantitative data is often presented as diagram. The diagrams (charts) can be divided in five types – cakes, linear and bar charts, graphs and point diagrams.

Many various attractive graphical patterns are included in the presentation software products making them all the more imaginative. They all however are mere modifications or compilations of the above mentioned five basic types.



Suppose, you encounter this slide in one of the presentations. Try filling in the percent shares corresponding to each of the segments. Research by Gene Zelazny shows that the percent will rarely sum up a hundred. The results would fluctuate from 45 to 280 percent. The estimate of the same data presented in a cake (circular) diagram gives much less fluctuation from the relevant 100 percent.

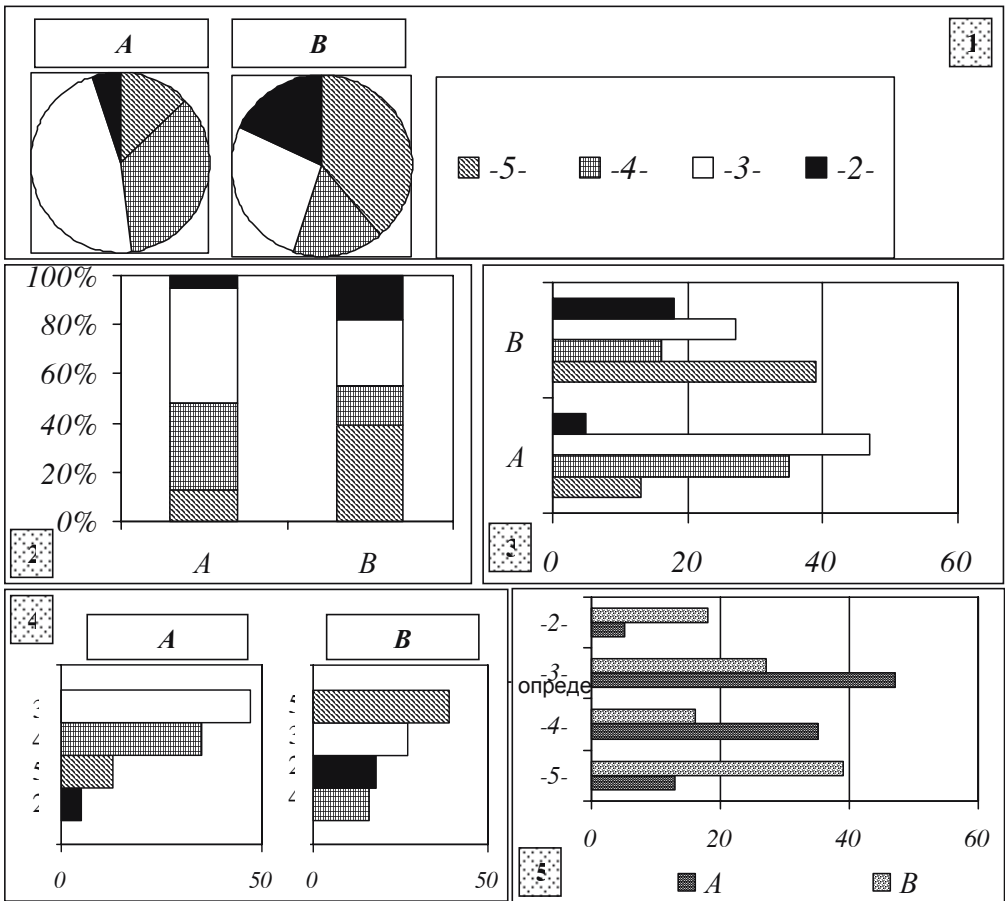
Hence, if you need a clear representation of quantitative data, try to abstain from excessive creativity. The creative approach should be limited to the relevant positioning of the diagram at the slide, choice of colours and fonts.

A specific message of the chart is to be formulated in order to choose the correct type of diagram.

E.g. the following data on the academic performance at the mathematics course of two groups of students (A and B) for the year, in percent.

Grades	Group A	Group B
Excellent (-5-)	13	39
Good (-4-)	35	16
Satisfactory (-3-)	47	27
Bad (-2-)	5	18

Try to present this data in as many diagrams as you can come up with. Probably, they will include the charts presented below



Each of these diagrams reflects certain specific idea.

Charts 1 and 2 demonstrate that groups A and B have different academic performance.

Chart 3 demonstrates that the academic performance percent for one category is not homogeneous in groups A and B, and there are no regularities to be observed.

Chart 4 shows that most students in group A have satisfactory grades (3) and in group B the largest relative number of grades are excellent grades (5).

Chart 5 reflects, particularly, that group B has more bad grades than group A, and group A has more satisfactory and good grades than group B.

Thus, in order to choose the relevant type of diagram, the basic message to the audience has to be formulated. This basic message may be then used as a heading to the diagram or slide in the presentation.

The highlighted message may be expressed by means of comparison. There are five basic types of comparison – *by components, by positions, by time frame, by frequency and by correlation.*

Comparison by components shows particularly the size of each component expressed as percent share of the total, e.g.:

- *Positive grades for mathematics in group A occupied the majority share of all grades in 2006 .*

Comparison by positions demonstrates the interrelation of the objects:

- *In 2006, the number of positive grades for mathematics in group A exceeded that of 2005.*

Comparison by time frame does not concentrate on the shares in comparison with the total and not on the correlation of the shares, but specifies the change of shares in time, demonstrating what happens to the indicator at a certain point in time:

- *Academic performance in group A has been improving every year.*

Comparison by frequency seeks to indicate how many objects fit into certain intervals:

- *The number of positive grades for mathematics in group A is more than that in group B.*

Comparison by correlation demonstrates the dependency between two variables.

- *The more additional classes are held in maths, the better is the academic performance in this subject.*

The Microsoft diagram master software produced the following table of correspondence between the type of diagram and the type of comparison:

		Type of comparison				
Basic types of diagrams		by component	by position	by time frame	by frequency	by correlation
	Cakes	⊕				
	Linear		⊕			⊕
	Bars			⊕	⊕	
	Graphs			⊕	⊕	
	Points					⊕

Reference:

Gene Zelazny. Say it with charts. The executive's guide to visual communication. – McGraw-Hill, 2004. – 220 c.



VISUALISATION METHODS IN TEACHING ENGINEERING COURSES IN FORESTRY EDUCATION

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Introduction of IT is connected with increase in quality of teaching skills. This process is particularly influenced by the trends to visualize the teaching material as the most appropriate and efficient way to perceive, to process and to remember knowledge.

Any teacher knows that every student has got several types of memory: visual, audio, mechanic and general memory. As the Russian saying goes: It's better to see something once than to hear of it a hundred times. This wisdom confirms the fact that we memorise faster and remember better on the basis of visual images. Obviously, people in older ages remember things from distant past in minuscule detail. Thus, this capacity along with other memory potential should be employed to the fullest extend possible when teaching students.

Different learning subjects require various levels of visualization. The social sciences clearly differ from the technical courses in this respect. While teaching such humanities as philosophy, the teacher rarely has to use chalk and blackboard, while when teaching technical subjects these basic instruments remain still in very intense use.

Modern teaching methods unfortunately penetrate real life at a very slow pace mainly concentrating in the field of IT related subjects and courses. Modern methods are practically absent in such technical courses as Mechanic Timber rocessing, Materials and Timber, Woodboard Production: chip boards, fiber boards and MDF, etc. In addition to the afore mentioned chalk and blackboard, main means of visualization here remain such things, as obsolete printed or manually drawn charts and posters, primitive homemade simulation models, and, at best, study visits to factories and plants as well as promotion videos offered by the manufacturers.

Against the background of large scale increase of information amounts in the learning process, this situation is totally inadequate. PC with all the modern hard- and software is an ideal instrument and media for **visual** modelling of various chemical and technical processes, including those within the engineering systems. This is of particular importance for modern students, who never encountered any mechanisms in practice prior to starting their vocational education. Getting to know these processes as modelled in a reliable and obvious way on the computer display helps students understand the essence of these processes and perceive them adequately. For instance, during the Mechanic Timber Technology course the student could in an interactive mode load the product (e.g. furniture _ chair, shelf, board, etc.) at the computer or video projector screen and follow the deformation of the product under applied load. The students would visually perceive the deformation results, weaknesses and the actions needed to improve product qualities.

There are several ways of **visualization** recommended for the teaching materials, which are examples of how the studies of the students should be organized:

- Presentation of new material as images, charts, tables, graphs, etc.
- Consolidation of the material learned by means of textual or graphic presentation.
- Learning how to take care of the copyrights by means of independent creative activities aimed at acquiring knowledge by means of computer graphics.
- Interpretation of the information learned as per the theoretical and practical curriculum.

These objectives can be best reached in the following manner. When drafting a curriculum for the course, the teacher would define its elements to be best represented as a computer model and produce TOR for the visualization product needed for that. The product development agreed by the staff would be given as a computation and graphic course assignment to an individual student or team of students who are enrolled in an appropriate line of studies, e.g. Process Automation.

Another option would be to place the order with software and graphic design professionals able to produce any kind of visual material. However, this is a rather expensive option and ready made videos and image materials exclude the students from the process. On the other hand, participation in the creative endeavour, information retrieval, presentation of the product are all basic elements of the learning process.

Visualization is also a complicated psychological process, which helps develop visual memory, associative, abstract and logical perception of the students. Today, when computers are used everywhere for management and control of manufacturing processes, introduction of the computer based visual learning software and products would be a solution for quite a number of challenges:

- Production of a complete set of didactic material for teaching various courses, which earlier were not covered by the IT-based methods.
- Efficient employment of the student know-how and creative potential to develop and improve teaching and didactics.
- Application of modern IT solutions to the engineering sciences.
- Flexible revisions and updates of the materials depending on the actual practical or learning requirements.

Another parallel way to develop IT-based learning for the engineering courses would be compilation of the image data bases by study subjects and topics. New technologies, e.g. digital photo and video, will be very instrumental to represent real live plants and processes. Digital data bases by topics and subjects would represent parts of the wood processing equipment, functionality of installations and devices, stages of timber processing at real life equipment along the entire manufacture chain from the raw material to the end product. Data can be stored as video, slideshow or Power Point presentation.

Implementing these solutions would help improve the learning process, quality of education and more efficient use of the potential offered by modern IT.

VISUALIZATION IN IT -EDUCATION

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IT today is an important element of both education and the functioning of the forest sector. In future, any type of professional activity will be related to information and ICT.

Teaching professional courses requires various levels of visualization. The social sciences and technology have to employ different approaches in this respect. A particular position among the subjects of learning is occupied by the IT subjects, i.e. GIS, forest fires monitoring, distance learning systems. These subjects were originally better equipped with the visual means than other general and special subjects of education.

Visualization is a complex psychological process, which influences development of visual memory, perception, abstract and logical thinking of the students. It is generally known that the student forgets 90 percent of what was heard in class, 60 percent of what was seen, but just 10 percent of what was done in class by the student her- or himself. If the student observes one thing and hears another, the student tends to believe what was seen. There is a saying that it is better to see something once, than to hear about it a hundred times, i.e. seeing is believing. What was observed by the students visually in class produces 60 percent of the total outcome of the study, the way and form how something was said is responsible for 30 percent of the outcome and only 10 percent is produced by what was said in class. Hence, increase in efficiency should be sought through reasonable combination of all learning methods and channels to transmit knowledge and information. Adequate visualization would first and foremost convince the student, probably as mere intuition, in the correctness and truth of what has been presented. Visualization plays a particular role when forming the concepts.

In modern conditions, the most traditional and conventional visualization instruments are still blackboard and chalk, as well as printed or homemade posters. This being the case not just due to lack of resources and money in the



institutions of education, but also to the tradition and even to the conservative approach among the teachers. Obviously, this is more spread among the old school teachers, who do not employ modern visualization equipment in the teaching process. A research of the needs in forestry education done under the Tempus-Tacis project in 2004 in Arkhangelsk demonstrated that one of the most urgent and topical development issues would be introduction of modern visualization techniques.

When teaching IT related courses, traditional approaches are applicable, too. However, they would not be very efficient. The teacher may at discretion use the blackboard to represent charts, tables, structure the issues under discussion. The positive aspect of this traditional way is that everything would be copied by the students from the board to their notebooks. Overhead projector slides, on the other hand, usually remain “behind the scenes” for the audience.

The research of the image of the forestry sector educational institutions in Arkhangelsk done by Silveco in 2004 demonstrated that the graduates seeking IT related jobs (e.g. with the boards or offices of forest management) possess the necessary know-how and knowledge not in excess of 10 percent of the actually needed level. This situation is absolutely unsatisfactory. The students put forward as the reasons of this situation lack of practical classes dedicated to specific software means and products and the low level of visualization of the teaching material, this being true especially of GIS studies and related techniques.

Visualization of IT studies can be viewed as follows:

- Passive visualization _ static imagery, text and word processing, presentations software (e.g. Power Point, etc.).
- Active visualization _ data bases and digital mapping.
- Combined visualization _ Internet, digital textbooks, distance learning, interactive process modelling.

Unfortunately, modern learning methods are penetrating the actual educational practices just too slowly. Obviously, the best way to deal with the challenge would be as follows. First, the presentation software _ Power Point would be very helpful to introduce modern way of preparing lectures. Used in a proper manner, Power Point provides efficient visual presentation of texts, tables, graphs both statically and dynamically. It is very important to provide also handouts to back the presentation in class. Second, when drafting a curriculum or programme of a course, the teacher has to define those elements which

would be best presented by computer based modelling (e.g. an interactive simulation of a forest fire monitoring system). Further specific development of such complicated interactive visualization solutions would be a technical challenge to be partially met by involving the students of IT related subjects that are today taught virtually at any institution of higher education.

A digital image and video library providing data base on the specific subject or course would be a good instrument, too. There is a lot of experience to learn about such solutions in Russian and foreign institutions. Exchanges would be most welcome. This kind of material would be at best used in PC equipped classes for students in smaller groups.

These solutions and approaches when implemented would help improve quality of education both in the IT related subjects and virtually elsewhere. Along with experience accumulated and lessons learned, the IT best practices and efficient ways to deal with information would emerge, thus positively changing the whole perception of the important role that visualization has got to play in education and learning.



VISUALIZATION OF THE LEARNING PROCESS AT LISINO FOREST COLLEGE

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Lisino Forest College

“It’s better to see once than hear about it a hundred times” (Seeing is Believing)
- Russian proverb

Visualization is one of the most important means of teaching. Visualization as implemented in Lisino Forest College, see Chart 1.

1. Appearance as a teaching instrument.

Design of the College grounds. The first thing to be observed by a student applicant when visiting Lisino College are well designed and attractive college grounds _ neatly cut green hedges, nicely landscaped flower beds, good lawns, exotic plants, alleys, convenient walkways, wooden architecture. Students are then involved in designing and maintenance of the college grounds, they take part by planting trees, bushes and ornamental grass, taking care of the flower beds and green hedges. Students will thus form certain skills in landscape design to be then utilised at their future job, in forestry and elsewhere.

Forestry Uniform. All college staff wear forestry service uniform on special occasions. The students have their uniform, too. This dress code and uniform create a feeling of being part of the real forest sector.

Design of the college premises and classes. The college corridors are decorated with images of forest landscapes and houseplants.

The classrooms are designed and decorated depending on the subject matter. The botany class would have a lot of living plants, helpful to visualise plant physiology and morphology. The forest protection class has a display of forest insects, pests and diseases, stuffed animals, particularly a big display of

stuffed birds. The soil science class rooms stands with the soil profiles of Russia, rock classification charts and soil formation minerals. The reforestation class has forest plantation charts and scale models, etc. Lisino College has got twelve classes dedicated to special science subjects.

All classes are also equipped with visual representation of the subject matter, the related skills to be learned by students when taking that particular course. Thus, by merely attending these classes the student would gradually look through, apprehend and memorise the essential elements of the subject.

Job opportunities at information stands. In addition to the curricula and timetable information, these stands contain job opportunity announcements with vacancies, positions, salary, housing and other benefits, as well as qualifications and requirements. These announcements help to both inform the students and develop a commitment to their future career.

Study museum. Lisino College has a Forest Museum with data and exhibits of the college history, forest plants, insects, soils, animals, timber samples. Both career development and curriculum classes are conducted in the museum.

2. Teaching, learning and visual aids

Visual aids. Visual aids are used both for theory and practice courses. All classrooms are furnished with a lot of poster, chart and graph material. Excellent sets of tree and bush seeds, strobiles and fruits, tree, grass, lichen, fern herbaria, trunk, needle, leaf and root pest insects, stuffed animals, animal skins, parasite fungi, timber, mineral and rock samples, soil profiles, mineral fertilisers, etc. are utilised in practical teaching and training of students.

Information Technologies. The teachers have been taking active interest in the PowerPoint software during recent years, as it offers good opportunities to present images, tables, schemes and graphs in class. The product is much more convenient to handle than printed material, i.e. posters. The students also use various PC-based products when studying taxation and forest management.

3. Natural study sites

Natural study sites are used both for the theory and practice. *Study tours* (field trips) are among the teaching forms, when the students are taken to forest to look into the diversity of forest habitats. A comprehensive vision of the forest nature is given to the students during such study tours.

All *practical training* takes place in forest, particularly, logging (in winter), thinning (in summer and in winter), planting of trees, tending, biodiversity studies in the growing forest.

The college has a *study nursery*, where the students grow various trees and bushes and follow plant development under extended periods.

Additionally, there is a 52 ha *base forest nursery* in the College, where the students are involved in growing seedlings, i.a. containerized seedlings.

Integrated study tours – are an interesting form of practical education for the third year students. All students and teachers of the specialised courses visit forest sites (various types of forest and loggings) during field trips to carry out integrated site analysis including environmental and economic aspects.

Horse stables. The students are provided with a possibility to attend optional horse riding courses. The stable has about thirty horses. The riding skills, ability to gear and steer horses may turn out very useful for many forest workers.

4. Individual student assignments

Design of practical assignments. Over half of all student assignments in the college are practical assignments. The student is issued a description of the work to be done, including the objective, list of applicable material and equipment, content and instructions on the graphic design and presentation of the ready assignment.

E.g. to study the trunk anatomy, the student is asked to look into its cut in microscope, to make a cut drawing in the notebook and to comprehend and memorise what has been observed.

When making calculations, e.g. for taxation, the student has to put down all of them in the notebook and a special form. Thereafter, the student makes the same calculations in computer software and compares the outcomes of manual calculation and computation.

When doing laboratory works on soil science, the student would get a quantitative or qualitative result to be then written down in the notebook accompanied with the conclusion on the result obtained with the necessary explanation thereof.

Term Projects. The curricula include term projects on Forest Plants and Silviculture. The students get individual project assignments, carry out necessary calculations, produce charts, technical mapping, draft a report and present it with all the relevant attachments and explanatory notes. The explanatory section of the report helps the student clearly realise the entire content of the work done with all the cause and sequence patterns.

Externship reports. The senior students in their last, fourth year of studies, carry out externship at the forest companies and forestry enterprises. The externship includes seven weeks in autumn and six weeks in spring. During the externship, the students are involved in doing all the operations together with the staff of the forest service. The students are required to keep a daily diary of the externship, writing down all the operations done. At the end of the externship, the students present reports containing description of all the work done at the forest service. They attach filled in forms and documentation on various operations and activities, an explanatory note with the analysis of the best practices and lessons learned of the work of the forest service. Drafting the report would help the student clearly apprehend the methods, the objectives, the content and the aim of all the work during the externship.

Visualization of the teaching process facilitates it, making it more perceptive, cognitive and exciting, improves the quality of education.

Teaching and visual aids.
Sets of exhibitions
Posters
Videos
Computer based products

Appearance as a teaching instrument
Design of college grounds
Dress code
Design of college premises
Study Museum

Visualisation methods in the teaching process

Natural Study Sites
Study Forest Sites
Study and Base Nurseries
Environmental Trail
Horse breeding

Individual Student Assignments
Design of laboratory and practical assignments
Term Projects
Externship Reports

ROLE AND PLACE OF VISUALIZATION IN RUSSIAN STUDIES AS A FOREIGN LANGUAGE IN FORESTRY EDUCATION

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Foreign students at the Saint-Petersburg Forestry Academy (LTA) usually pursue a rather specific and pragmatic aim – getting a particular higher education degree. They have to emerge in a foreign life with a foreign culture, way of life and language. The Russian language becomes for a foreign student a means to communicate in everyday and professional life, a source to learn another cultural and historical heritage.

The issue of what kind of language and cultural courses should be offered to international students for better success in Russian high school is still pending. “The mentality of any nation is”, obviously “not a result of learning but the outcome of life” (1). The mentality can only be understood and grasped, but a dedicated effort to form the necessary cultural background is needed to do that.

The cultural background of a nation is reflected in the linguistic perception of the world, in speech behavior, in communication situations. Visualization used to adapt foreign students to a new reality and to build up background knowledge can be viewed as an efficient factor of a positive psychological contact.

Photos, images, pictures, tables, charts, videos, computer products help penetrate a foreign culture and simulate communication close to that of reality.

What would in this respect be the most effective channel to transmit information in a particular audience? Ninety percent of information is received obviously in a visual manner, thus the teacher should build upon the visual literacy of the students, which depends on the student’s ability to adequately perceive and produce visual images. In case of foreign students, these images

are derived not only from the experience, knowledge, general cultural background, but equally from the force of the cultural interference.

Psycholinguistic research on the cultural differences of speech and thought is quite helpful in this respect. These differences lie, particularly, in the field of representing and processing of textual information. In terms of cognitive psychology, Europeans are more proficient in perceiving information independently from the background, in operating abstract categories, being logical, able to establish cause and sequence. The Oriental culture is more background biased, operating in concrete terms, highlighting specific details. Hence, there are two different approaches to create interconnections when receiving new information: 1. Word – Notion, 2. Word – Perception (manifested while the image is getting concrete) (2).

LTA has students from Europe (usually, at the inclusive courses), China, Vietnam and Africa. The teachers have to consider the national peculiarities of perception, e.g. traditional symbols of colour in different cultures, trying to lift various types of lacunas – especially emotive gaps in perception of images, symbols, ethics, background knowledge, cultural heritage, etc., in order to damp the cultural shock in the secondary linguistic personality of the student.

Major potential for this is offered by the topic of Saint-Petersburg. The foreign student has an idealistic virtual image of this city. This image is revealed during education in three appearances: the front of Saint-Petersburg, the face of Saint-Petersburg and the masks and disguises of Saint-Petersburg. What should be done to prevent the cultural shock from overshadowing the front, the appearance of the face from causing disillusionment, to realize that the disguises are ephemeral?

The topic of the city opens up to interactive learning. Images of the city, excursions and tours of the city, getting to know its history, watching documentaries and fiction videos compose a visual entity and help increase the visual literacy of the student. Interactive way may be constructed in various manners, including education without obvious participation of the teacher from the point of the student. Simulation of situations to manifest the Petersburgian way of communication and interaction proves quite efficient. Interaction is presented through renewed dialogues, which develop into a polylogue, into a polyphony of views, a theatrical presentation, with the student attempting to identify her- or himself as a genuine Petersburgian.

Visualization of the learning process shall by all means be expedient and aimed at a better command of the language and linguistic discourse.

The fact of alien culture becomes intrinsic to the linguistic consciousness of the secondary language personality only provided with an emotional response, thus filling in the gap in emotive knowledge.

The front and face of Saint-Petersburg are presented also in the professionally specialized curriculum “Russian Forest”, developed at the chair of Russian language and pedagogy in LTA for semi-advanced foreign students of Russian. The course is offered during two weeks at the Summer Schools.

“Russian Forest”, curriculum:

Day 1 – arrival of students to LTA and St.-Petersburg, accommodation at the dormitory.

Day 2 – Russian language class at the Chair under the topic “Hello, Saint-Petersburg!” Presentation of the teachers to the students. Small texts about the city, a video about the city’s places of interest. Discussion, dialogues, polylogue: “What do I know about St.-Petersburg”, “What new have I learned about the city in class”, “What I would like to see during two weeks of my visit here”, etc.

A short tour to follow of the LTA, its departments.

Day 3 – Russian language class at the Chair under the topic “Studying Russian at LTA”. Texts about LTA using the Academy’s materials by the Russian language and Forestry teachers. Discussion, dialogues, polylogue: “What new have we learned about LTA, its history, departments, professions and fields”.

A tour of the Museum of Zoology and the Museum of Entomology.

Day 4 – Russian language class at the Chair under the topic “We love Nature”. Learning Russian folk songs about nature. Audio presentations.

A tour of the LTA Park, The Garden of Dendrology and The Green House.

Day 5 – visit to the Lisino Forestry, presentation of the Lisino staff.

Day 6 – tour of the places of interest in the city surroundings (a choice of bus trips to Peterhoff, Pushkino or Pavlovsk) under the topic “Garden and Park Tradition of the 18-19th centuries”.

Day 7 – Study walking tour of downtown St.-Petersburg in its famous gardens and parks (Summer, Tavrichesky and Alexander Parks).

Day 8 – Russian language class at the Chair under the topic “I live in the LTA Dormitory”. Texts from the LTA materials. Discussion, dialogue, polylogue: “My new friends”, “What have I learned about life and study in Russia”, “International meetings at LTA”.

A tour of the Museum of the Peoples of Russia.

Day 9 – Russian language class at the Chair under the topic “Our leisure”. Texts from the LTA materials. Discussion, dialogue, polylogue: “I like to travel”, “I am a frequent theatre-goer”, “My hobbies”.

A boat trip on the city’s channels and rivers.

Day 10 – Russian language class at the Chair under the topic “In a Russian souvenir boutique”. Photos, images, pictures, documentaries presenting Russian souvenir boutiques, its clients and vendors. Simulation of a purchase situation: “I like Russian babushka dolls, how much is this one?”, “Where can I buy Russian souvenirs?”

A visit to The Lenraumamebel Furniture plant.

Day 11 – Russian language class at the Chair under the topic “Russian cuisine”. Learning about Russian traditional food and cuisine recipes. Various visualization means.

A tour of the State Russian Museum.

Day 12 – Russian language class at the Chair under the topic “I speak Russian quite well already”. Dialogues and a polylogue on the topics studied.

A visit to The Mariinsky Theatre of Opera and Ballet.

Day 13 – A bus trip to the Lendulovo Forest together with the teachers of the Forestry Department.

Day 14 – Russian language class at the Chair under the topic “Good-bye, Saint-Petersburg! Till we meet again”. Discussion, dialogue, polylogue: “My experience of the city”, “What am I going to tell my friends about this visit”.

References:

1. V.G.Kostomarov, O.D. Mitrofanova: Didactic instructions for the teachers of Russian for Foreigners. 3rd Edition, Moscow, Russky Yazyk, 1984 (in Russian).
2. L.B. Volkova: Cross-cultural interference in Foreign Language Studies. Communication and Cognition. Mir Russkogo Slova-2006/2, pp. 74-77 (in Russian).



ILLUSTRATING TEACHING IN FORESTRY EDUCATION

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MINISTRY OF AGRICULTURE AND FORESTRY