

STATE OF THE ART OF „VISUAL LEARNING” IN POLAND National Report

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1. EU-Project visuaLearning – International data

1.1 Brief description of the EU-project “visuaLearning”

Knowledge based societies today are highly focused on transfer of information based on text. During school time and later on during vocational training, university studies or further education learning proceeds through reading and writing. At the same time communication by means of pictograms increased a lot in everyday life as well as in business life. Many work processes in connection with PC work with icons. All software programmes e.g. of Microsoft or Apple guide the user through their programmes by the support of icons. Vending machines are equipped with touch screens as well as computer information sources in museums. They all include pictograms, pictures and icons in order to make information more accessible to the user. In all these examples the understanding of pictures and signs is required.

Common learning theories do not give an appropriate answer to the question how learning happens through visual processes. The question about the influence of pictures in learning process as well as the reception is left to disciplines related to arts, e.g. design, advertising, etc. and has not yet been posed by adult educators in particular. From our experiences in basic skills we know that especially people with low literacy skills depend on processing information by means of pictures. This is regarded as a compensation strategy for managing daily life. In the same time it is a special strength or competence that has not been acknowledged or recognised enough yet for reasons that this is an informally acquired competence.

With this project we want to build up on current findings from both basic skills and acquisition of informal competences in order to find out how the so called “visual learning” eases the process of learning. One important goal is to strengthen “visual competence”.

1.2 What is Visual Literacy?¹

The term “Visual Literacy” was first coined in 1969 by John Debes, one of the most important figures in the history of International Visual Literacy Association (IVLA). Debes’ offered (1969b, 27) the following definition of the term:

“Visual Literacy refers to a group of vision-competencies a human being can develop by seeing and at the same time having and integrating other sensory experiences. The development of these competencies is fundamental to normal human learning. When developed, they enable a visually literate person to discriminate and interpret the visible actions, objects, symbols, natural or man-made, that he encounters in his environment. Through the creative use of these competencies, he is able to communicate with others. Through the appreciative use of these competencies, he is able to comprehend and enjoy the masterworks of visual communication.”

However, there are many more definitions of the term. In fact, each visual literacist has produced his/her own! Understandably, the coexistence of so many disciplines that lie at the foundation of the concept of Visual Literacy, thus causing and at the same time emphasizing the eclectic nature of it, is the major obstacle towards a unanimously agreed definition of the term.

2 Description of the procedure

According to data given by the project coordinator (The German Institute for Adult Education - DIE) the analysis of the current state of the art of “visual learning” in Poland was carried on three levels:

¹ Source: excerpt from International Visual Literacy Association website

- Study by means of the Internet
- Analysis of the literature
- Conversation with an expert – interview with a psychologist

During the study based on the Internet the search area was extended by related terms that are directly connected with the subject and were suggested by the project coordinator, e.g.:

- Visual learning
- Visual/Image literacy
- Visual competence
- Visual communication
- Visualisation
- Visual facilitating
- Visual culture etc.

From the studies conducted on the abovementioned levels a general picture emerges showing the current situation in Poland in relation to this issue and also how the term 'visualisation' is understood.

The studies conducted by means of the Internet and also the analysis of the available literature enabled to select several areas in which the visualisation method is mostly used. They are e.g.: widely understood education (teaching of foreign languages, speed memory courses, speed reading courses, teaching of individuals with developmental problems), different medical areas (visualization as a relaxation method, natural therapy, memory development method), the arts, advertisement, information technologies, etc.

This report aims to present a general state of the art of 'visual learning' in Poland. At the same time it is also an attempt to answer the up to date questions and aspects connected with the visualisation method. Besides the general understanding of the term 'visual learning', one of the most significant issues are the benefits from visual learning for the determined target group and also defining the influence of visual accessories on the learning quality and effectiveness.

From the conducted analyses it results that the visualisation in Poland is extensively used in the foreign languages teaching, therefore as the project target group the adults learning foreign languages were selected. Taking the advantage of the wide cooperation network of ITeE-NRI we actively collaborated, due to the specific needs of the project, with the Teacher Training College in Radom.

3 The development of visual learning in Poland

In the contemporary world the transfer of innovation is, to a greater and greater extent, based on the image. It is, on the one hand caused by the expansion of audiovisual media and technology development that enable to easily record a moving image and sound (television, film), and on the other hand by the attempt to facilitate the access to information to those community members that have difficulties with understanding a written text in a given language. As we all know, it is easier to understand an image than a written text, and since there is a tendency to reach to a mass recipient, the image more and more often replaces the text. The culture of a highly technologically developed society becomes an image culture.

The consequences of such a situation can be observed e.g. in the field of education. We cannot imagine any lesson without supporting the oral tradition by an image of any type. Although we are not always aware of it, we often enter in such situations into the field where the visualization methods are applied.

3.1 The understanding of visual learning

Visualisation is a method that uses the natural skills to create various images in human thoughts. It is a kind of a memory exercise and a work based on images concerning the past, current and future situations – it serves a better processing of these images, making new interpretations and reconstructing past experiences.

The visualisation is a technique of better remembering and creating the association systems: a technique of fixing memory „hooks” which allow to remember numbers, quantities, relations, greater narrations, etc.

The examples of memory „hooks”:²



Visualisation can be seen as a style of learning based on visual channel of perceiving information and on visual representative system, with reference to processing and getting out the contents.

² Compare. Taraszkiewicz M., *Jak się uczyć lepiej*, Centrum Doskonalenia Nauczycieli, Warsaw 1996.

According to the sense that plays the dominating role in the process of remembering, we can distinguish visual memory, aural memory etc. In the learning process usually one of the memory images is preferred, but nobody is a sole visualiser or a sole audile. Everybody is a mixed type and usually one of the senses dominates over the others. In order to rise the learning quality it is worth to recognise not only one's remembering channel, but also the type of intelligence and the dominating hemisphere.

Since today more and more information is transferred by means of a sole image or a combination of image and sound, psychologists and teachers pointed out to the way of understanding the visual transfer. It was noticed that the way of image perception is not natural and obvious, but depends on the knowledge, experience, value system, recipient's cultural context, current situation and the issue everybody pays attention to - if we need the received information – similarly as it is in the case of a written text. So it is unfair to treat the image as an easy medium that can be understood through only little intellectual effort. On the contrary, we should learn how to look at the image and to comprehend the information conveyed in it, similarly as it is with a written text (e.g. precise watching the picture and paying attention to the background, details etc.). In the language teaching even a term "visual understanding" (germ. „Sehverstehen") has been created; analogically to the term „audio-understanding" (germ. Hörverstehen").

Since the '90s there has been a term „Hör-Sehverstehen" which means the understanding of audiovisual message. This way of understanding was distinguished as a separate category, because the information conveyed by means of the image not always (and actually very rarely) coincides with the information conveyed simultaneously by means of sound (read text, text accompanying a moving image), although it is usually expected that they should coincide and complement one another. Thus the recipient has to apply a special kind of a more complicated activity: to simultaneously decode both types of information and refer their contents to one another.

The image can contribute to a better understanding of teaching content and to a better transfer of knowledge only if it has been understood correctly. The codes (ways, techniques) of depicting some contents by means of image depend on the cultural affiliation of the image creator, and the perceiving and interpretation (the way of understanding) of the depicted image contents depend on the cultural affiliation of the recipient. In a cultural circle where the image was created the sender and the recipient use the same code and the understanding of the message is usually not problematic. For the representatives of other cultures it can occur incomprehensible though, since they do not know the realities and may understand the message in a completely different way.³

3.2 . Image functions

The use of image in today's teaching is based on the discoveries in the field of learning psychology. It has been namely proven that the image facilitates a faster and more efficient remembering of meanings of words, information and relations between them.

Numerous useful psychological and didactic functions can be ascribed to images:

- makes us attentive to the depicted subject, and thus increases the interest of pupils and absorbs their emotions;
- motivates pupils to an active participation in the lesson;
- conveys the sole information or combined with the text;
- thanks to visual associations it helps remember, process and organise new information;
- makes it easier to recognize, comprehend and solve problems by means of depicting the relations between particular elements and their functions⁴.

³ Heyd G., *Aufbauwissen für den Fremdsprachenunterricht Deutsch als Fremdsprache*. Gunther Narr Verlag, Tübingen 1997.

⁴ Heyd G., *Ibidem*.

In the foreign language teaching an additional and very crucial function of the image is to make the learner speak in the foreign language.

Visual aids (media), generally speaking, are all media of communication that are perceived by pupils by means of the sense of sight. However, a narrower scope of this term, commonly accepted in teaching, limits the terms „visual aids” or „visual media” to a single static picture (motionless) or a series of static pictures not accompanied by sound, and also technical boards and devices meant for conveying information, such as projector and overhead projector.⁵ Strictly speaking, the visual aids are: images in textbooks, magazines, on separate sheets, postcards, photographs, pictures, maps, posters, charts, etc.

The application of visual aids is not always connected with the necessity to use separate technical devices, as it is in the case of the sound or audiovisual media mentioned below. The images can be found in illustrated magazines and drawings or diagrams can be made by pupils or teachers. Also a drawing on the blackboard is still a visual help⁶. The common accessibility and the simple use make the visual aids very common in lessons.

Moving images mostly accompanied by the sound are seen as a separate category – audiovisual media. They comprise films (silent feature films and sound films, documentaries, advertising film, didactic films etc.) on VHS video tapes or DVD, played during the lessons by means of specific technical devices. Film is a very attractive didactic aid but working with it is a complicated didactic task. It requires an appropriate preparation of the entry material, as well as the application of appropriate work methods and techniques. Therefore a separate „sub-subject” called teaching with film was created in the foreign language teaching in the ‘80s and ‘90s.

A similar development can be observed with reference to the highly advanced medium operating by means of an image combined with a written text – the Internet. The Internet, in the traditional sense, is also recognised as the visual aid. The use of the Internet in the teaching process constitutes a separate area of teaching.

3.3 Visual learning - biological-psychological aspects

The analysis of a specialist literature and the discussion conducted with the psychologist from Public Gymnasium no. 6 in Radom explained many psychological aspects connected with visual learning. The aim of this part of the report is to present the meaning of the involvement of different parts of the brain they have for the visual learning, to present the models of subjects recognition, to define visual competencies and to determine the advantages and disadvantages of connected with the use of visual aids.

From the beginning of the human being’s existence the biological conditions have always been the same – the dominant sense is the vision, the next one is hearing and later on the remaining senses. Most of the information from the surroundings is collected by means of vision, it is an immediate and overwhelming process that involves the consciousness to a minimum. The images impose the perception themselves, they can fully absorb the attention, catch the eyes and therefore it is easier to remember them. However, psychological studies show that the most efficient learning methods are methods that require the use of all senses in the process of knowledge acquisition. The image says more than 1000 words. We remember 10 % of what we read, 20% of what we heard, 30% of what we saw, 40% information that are a combination of sound and visual signals and 80% of what we personally experienced (studies by Bern Steinbrink).

⁵ Reinfried M., *Visuelle Medien*, in: Bausch, Karl-Richard/ Christ, Herbert/ Hüllen, Werner/ Krumm, Hans-Jürgen (Hrsg.): *Handbuch Fremdsprachenunterricht*. Francke Verlag, Tübingen 2003, p. 416-420.

⁶ See Storch G., *Deutsch als Fremdsprache – eine Didaktik*, W. Fink Verlag, München 1999.

A crucial role in the visualisation process plays the brain, and strictly speaking its different areas in the left and right hemisphere.

The place of the abovementioned mental activities is the cerebral cortex that constitutes the outermost part of the brain. The brain consists of neurons that electrochemically transmit the information. Unlimited abilities of the brain development base on the expansion of neural networks. The ability that enables the nerve cells the remembering is the ability of constant modification of the existing networks. Some of them, due to different stimuli, become stronger and the others disappear. The memory is a vivid and constantly changing structure. There are separate neural systems for all kinds of memory. Many structures are involved in the creation of memory traces; structures located both in older and in younger parts of the brain.

Humans with the dominating left hemisphere have a tendency to sequential (partial) thinking and processing the information in a linear way (one after another). They mainly think by means of symbols, such as letters, words, numbers.

Humans with the dominating right hemisphere usually think holistically seeing a general image and they combine one another into completely unrelated ideas. At the same time they mainly use senses, imaginations of view, sound, touch and movement, without referring to words. They are more courageous in the communication and do not concentrate on mistakes but rather on mutual understanding.

The image - as a complex sensual information transmitted to the brain - is remembered both as a whole and as a set of detailed elements. Such a differentiation is in accordance with the concept of functional specialization of the hemispheres, according to which the right hemisphere deals with the overall coding and the left one with particular elements and relations between them. The left hemisphere registers concrete things, e.g. mathematics, logic and words. The right hemisphere registers and is activated by music, imagination, creativity, etc. By means of the left hemisphere we register words and by means of the right hemisphere we perceive visual impressions and the comprehensive image of the presentation.

The visual learning progresses used in deductive way – it means bottom-up

Every activity is based on a complicated cooperation of both hemispheres. The more activated our brain gets the more connections we create in the corpus callosum, thanks to which we think better and faster and the operational and formal thinking is easier.

In the situation of damage one hemisphere can take over the functions of the other one.

In order to make learning more effective the right hemisphere should operate using the imagination, colours, rhythm, movement, music, spatial associations and intuition. So far in the traditional process of gaining knowledge usually only one hemisphere was used – the left one (speaking, reading, writing, logic).⁷

Although it seems that all data is organised in specific portions in the memory, not all of them are coded in the same way. We apply different memory codes for different kinds of materials. One of the most popular theory of the memory today is the concept of dual coding (Bower, 1972; Paivio, 1971) which assumes that we have separate codes for the coding of verbal and visual material. The verbal information is stored as a sequence of words and the visual information is stored in the image memory. So, there is a spatial code for visual coding and line code for the verbal material.

The use of visual aids facilitates the learning of people with different developmental problems, e.g. mental retardation or autism. Sometimes it is the only way for them to be successful in learning. It has also been proven as a way to increase the self-reliance and the independence in the range of the day-to-day activities of those people.

Due to the retardation in the development of thinking (people with mild mental retardation stop to develop to in the phase of concrete-abstract thinking, they do not exceed

⁷ See Tokarz M., *Przyspieszone uczenie się w klasie*, PG no. 7, Tarnów 2001.

the intellectual level of a 12-year old child with normal mental development) people with mild mental retardation have difficulties to master:

- abstract concepts
- analytic-synthetic abilities
- the ability to generalise and think abstractly
- logic thinking
- concentration
- the ability to imagine abstract things
- independence in thinking

In the case of dyslexic children the right hemisphere plays the dominating role. The left hemisphere is not fully active. It results from the observation that people with developmental dyslexia are characterised by a greater sensitivity towards the surroundings, thinking more with images than words, vivid imagination, greater intuition, greater curiosity of the world than an average man. All the abilities related to the functioning concern the right brain hemisphere that plays a secondary role in the school system.⁸ Thus the stimulation of the left hemisphere to harmonize the work of both hemispheres is crucial in the work with dyslexic children, because as a result better learning outcomes can be achieved.

S. Tucholska (1997) examined 60 children unsuccessful in learning from the initial classes of a primary school. The results show that the greatest deficits at those children were observed within the scope of sequential abilities and knowledge acquisition, to a smaller extent also in verbal communication, and the least deficits referred to spatial abilities.

So we can say that in the case of almost all children, who in their initial school education cannot cope with the requirements imposed by the school, little efficiency of sequential and direct memory, insufficient ability to maintain concentration, smaller resistance to distracters, inefficient suppleness and plasticity when making operations on symbolic material and difficulties in self monitoring can be observed.

Dyslexic people usually have the following learning styles:

- holistic, dispersed, nonlinear
- intuitive
- visual-spatial
- concrete
- divergent
- inductive

It seems that at children with developmental dyslexia the visual-verbal style of learning should be applied as the most effective method in the process of knowledge acquisition, and at children with mental retardation it is often the only way to obtain results in learning.

3.4 Advantages and disadvantages of visual learning

The specialist interview with the psychologist and the analysis of specialist literature made it possible to distinguish many advantages of visual-verbal learning, that are used in the broadly defined education of people of different age, irrespective of the level of mental fitness:

- time economy (learning progresses faster)
- learning efficiency, easiness in the reconstruction, permanence
- greater clarity in the information transfer

⁸ Gręźlikowska A., Krupa B., Nawrocka-Matera M., *Dysleksja – błogosławieństwo czy przekleństwo*, NSP Centrum Logopedyczne, Radomsko 2005.

- emphasizing the main elements of the presentation
- good concentration
- interest
- incentive to listen
- help in understanding by means of connotations
- usefulness in the visualization of difficult and abstract issues
- holistic cognition and understanding of the surrounding world
- bringing the presented teaching contents closer to the reality
- possibility to create natural procedures meant for solving problems, tasks
- taking into consideration psychophysical needs of pupils
- developing the interests and aspirations of pupils
- individualisation of contents, methods, learning organisation
- taking into consideration the pupil's subjectivity In the learning process, his learning style that has the influence on the organisation of didactic work (selection of objectives, contents, methods, etc.)
- the growth of integration and cohesion of the acquired knowledge
- the increase of self-reliance in the learning process
- the increase of cognitive, research and creative activity.

It has to be noted that it is not a method without drawbacks, because:

- the excess of visual aids can disperse the recipients. When discussing the text e.g. on the foliogram the speaker has to talk to the listener and maintain the eye contact with him. At the same time the speaker has to be careful and show only this content he is talking about, while covering the remaining information;
- the lack of correspondence between the visual and verbal ways of knowledge acquisition and the application of solely visual methods can lead to the lack of intellectual consideration and as a consequence the lack of memory traces and learning efficiency;
- the computer cannot replace the teacher because the words expressed by him have definitely lesser importance than the information expressed by a human. It results from the fact that we are, due to our evolution, predisposed to interactions with other humans;
- the application of the visual style is not always substantiated, it often depends on the type of the contents conveyed.

In order to competently use and strengthen the wide opportunities offered by the visualisation method, the teachers are required to possess specific competencies determined as the following:

- the knowledge on the role of the left and right hemisphere in the learning process
- the knowledge how to use both hemispheres and by means of which methods
- the knowledge on the process that takes place in the brain during the stress
- the application of relaxation method and incentive to act, in order to make the pupils willing to work
- the knowledge of the teacher's own learning style and the dominating hemisphere (see annex 1)
- the knowledge of pupils' learning style and the dominating hemisphere
- an individual approach in which the needs and the abilities of the pupil and his interest and aspirations are taken into consideration
- self-confidence, self-belief and faith in the efficiency of own teaching methods
- clear expectations
- the knowledge of pupils' aims and needs
- the ability to create friendly atmosphere in the classroom

- the use of positive, affirmative language
- the ability to stimulate the work of both hemispheres by means of visual, auditory and kinetic systems,
- the application of memory maps for making notes
- the skill of time management and focus on the most important issues
- the stimulation of the subconsciousness to facilitate the recalling
- the ability to trigger positive states of the consciousness
- teaching by playing

3.5 The description of various examples

Włodarski (1968) investigated the influence of the verbalisation, that correctly or imprecisely defines the subject, on the recognition of the presented shapes. The basic experimental procedure consisted in the displaying of a direct image and expressing a word that describes the one or the other of the invisible unequivocal images. Next a break followed after which the whole set of shapes was displayed in a random order (colours and sizes) and the experiment participants were asked to point at the image seen before. The experiment participants were children in the age of 3 to 14: 1916 healthy children and 200 children with mental retardation. The most important conclusions formulated on the basis of these studies are the following:

- a. the words describing the imprecisely remembered visual features exceeded the number of the false recognitions, but they did not influence the number of the correct recognitions in all age groups;
- b. the words' influence varied, depending on the degree of accepting the words as the names of the perceived elements;
- c. the gender of children had no influence on the results in any of the measured rates;
- d. a significant relation between the influence of words and the age of children was observed, particularly in the shapes recognition - along with the age the influence of naming the shapes increases. In the colours recognition no influence of age was found;

The IBM studies during the training of workers revealed that the multimedia interactive course lasted 8 hours and its results were by 36% better than the results of a traditional 40-hour training.⁹

In the year 2000 M. Kozielska conducted studies among students. It turned out that the demonstrational and dialogue programmes increased the cognitive, research and creative activity of the students, whereas the exposing or operational programmes were less effective.

R. Botwina and W. Starosta are convinced about the advantages of the imaginary training. They perceive the visualization as an optimization method in handball and football training. In their studies they proved that the handball and football players, who instead of traditional exercises imagined that they score the penalties, achieved better results than the sportsmen that took a break in training before taking the penalties. Moreover, the imaginary training was often more successful than the common training of taking the penalties. These results prove that the sportsmen who received an injury or are convalescing should continue with the training in their imagination.¹⁰

A good picture of the current situation in the field of foreign language learning can be found in the journal "Języki Obce w Szkole" (Foreign Languages at School) that is the

⁹See Olszewski J., *Rola multimediiów w podnoszeniu efektywności nauczania*, Akademia Ekonomiczna, Poznań

¹⁰Bałaj B., Fortuna P., *Przed oczyma wyobraźni, "Charaktery 2005"*, no. 12.

only Polish journal for teachers available in the whole country. The authors of the majority of the papers are teachers from primary and secondary schools, therefore their review makes it possible to figure out to what extent the new teaching trends are known to the more ambitious teachers.

The visualisation is an element that has been applied in the foreign language teaching for a long time, so the papers devoted to his subject have been published in this journal already for a few years. For the needs of his report the annual volumes from the year 2004 (number 1-6), 2005 (number 1-6) and 2006 (number 1-2) were analysed.

In 2006 two papers dealing with the problem of visualisation (including one review of an illustrated dictionary) have been published.

In 2005 – 3 scientific papers and 1 paper describing an exhibition that uses visual elements.

In 2004 – 3 papers about a lesson with images and 2 with video films.

Moreover, several papers on the use of the Internet were published, however they did not exclusively refer to visual materials but to a complex usage of this medium.

The subjects of the papers concerning the work with the image were typical for the state of the current knowledge: image as an impulse to shape the ability to argue (Pędzisz 2006), the use of memory maps (Przychodzeń/ Zgrzebniak 2005, Osoba 2004), the portrait as an impulse for human's description (Prokop 2005), work with images on foliograms made by pupils (Gorczyńska 2004).

Some proposals of the work with visual materials are especially interesting and are worth to be presented more in greater details.

H. Sz wajgier (2005) – a teacher of German in one of the Lublin secondary schools conducted a lesson on tourist attractions in the well-known European cities. The pupils worked with the Internet and their task was to find the pictures of monuments and tourist attractions in the cities in Germany and other countries, as well as the information about them. Based on the collected resources they were to develop a tourist guide throughout Europe in German language. During the presentation of their work the pupils also used postcards, brochures, souvenirs (miniature tower from Pisa, bear from Berlin etc.). Such proposal is didactically valuable thanks to the use of the state-of-the-art medium – the Internet, visual elements, activating methods and authentic communicative situation.

J. Wilga and K. Krawcewicz (2005) described a cognitive activity of pupils during a multimedia exhibition of Goethe Institute „Herzliche Grüße”. The exhibition presented language phenomena located in pavilions that were of different colours and each of them was devoted to a separate subject or to the sensations experienced by one sense (sight, hearing, touch). The grey pavilion presented the visual information: scenes from theatre performances, well-known films, video clips, fragments of television programmes, photos of famous people, classical and contemporary paintings. Pupils visited the exhibition with “work sheets” developed by teachers. The work sheets contained questions that referred to the different elements of the exhibition and the pupils had to find the answers during visiting the exhibition, e.g.: what colour is the mailbox in Germany?

A very interesting example of the cross-subject teaching (integrated teaching) represented teachers of English, French and history from a secondary school in Sulechów (Kauhan/ Rogińska/ Karpowicz 2004). The lesson was dedicated to the battle of Waterloo and to great historical figures from the history of England (Sir Arthur Wellesley, the prince Wellington). The mock-up depicted the state of the battle at 7 p.m. and the place where the battles took place, also roads and the names of towns were marked. Apart from the mock-up there were also charts showing the plan of Belgia Campaign from 1815, the armament and the military uniforms, portraits commanding officers (Napoleon, Wellington, Blucher) and also a detailed plan of military actions during the battle of Waterloo. The presentation of the charts and the mock-up was accompanied by a detailed plan of military actions. The lesson ended with a historic quiz.

Visual elements are also frequently used in the development of classroom newsletters hung in specific subject rooms and also specially prepared for cultural events, e.g. the day of German or English culture at schools (pupils make e.g. art works connected with the culture of a given language, frequently during art classes, it is an example of the cross-subject teaching – at present a very popular trend).

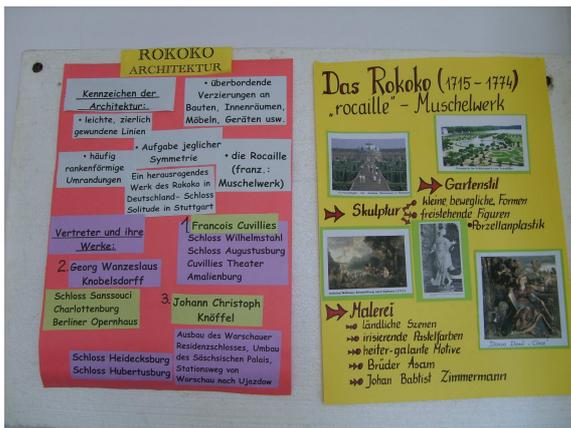
There are some examples below which have been prepared by the students of Teacher Training College in Radom for visualisation of developed themes.



Romantic music



Women



Rococo



Sport

3.6. The transfer and visual competencies in the foreign language teaching

Since the learning as an active process requires the involvement of both parties, a mature student constantly needs a feed-back in order to correct the mistakes. The knowledge on the progress in the learning leads to the increase of learning effectiveness. The possibility to compare own results with the standards and the results of others seems to be very motivating.

The use of various teaching aids, materials and methods is also important in the transfer of the presented contents, since they help satisfy the differentiated needs of pupils, depending on their learning strategy they already developed for themselves. Due to the limited time of maximum perception the KISS *Keep It Simple and Short* rule should be applied. It is also worth to remember about the appropriate order of the presented contents. Studies prove that we mostly remember the contents presented at the beginning and at the end of the lesson.

A contemporary lesson cannot exist without visual aid anymore. The image is used in all scopes of teaching a language and the culture of the target-language country: the aim is to extend the lexical, grammatical and cultural competencies and to improve the skills of reading, listening, speaking and writing.

The paragraphs below briefly discuss some examples of the use of image for the development of the above-mentioned skills and competencies.

Lexical competence (vocabulary)

In the scope of lexical competence the image is used for the explanation of the meaning of words, phrases, idioms by means of the so called direct and indirect display method. The direct display consists in showing an authentic subject that is the content of a given word or an activity performance, e.g. when explaining the word „sich setzen” – sit down, the teacher displays this activity. There are often difficulties with the application of the direct display technique at school, because it is e.g. impossible to show an alive elephant in the classroom. Therefore, it is often replaced by the indirect display method that consists in showing the presented subject in the picture, e.g. the meaning of the German word *Ameise* is explained by showing a picture displaying an ant. It is a very common saving time technique and effective in remembering, applied in all lessons of foreign languages. With this aim mostly the images (reflections) of objects, activities and the like are displayed.

The explanation of meanings by means of the image is more and more often applied in dictionaries. In the years 1990-2005 about 20 illustrative dictionaries for children in the age of about 5 to 10 learning German came out onto the Polish market.¹¹

¹¹ See Lisiecka-Czop M., *Ilustrowany słownik ucznia niemiecko-polski*, in: "Języki Obce w Szkole", no. 1/2006, p. 185-186

The aim of the presented images is to evoke connotations on a given subject (school, town, winter, holidays, etc.) and to name them in a given language. This procedure is applied in the initial phase of the lesson in order to collect the vocabulary to a given subject. Pupils enumerate words they already know in the foreign language and write them down on the blackboard around the centrally placed picture, e.g. autumn scenery. The connotations named in the native language are immediately translated into the foreign language and written down. The associogram developed in his way is complemented where needed with new terms by the teacher.

In order to collect the vocabulary to a given subject logical images, such as mind maps or clusters are applied.

Grammatical competence

The role of visual displays is to explain and make the remembering of grammatical structures (eg. construction of sentences, tenses, etc.) easier. In order to do it most frequently analogical and logical images are applied: schemes, graphic displays, symbols. The schemes showing the creation and the application of grammatical structures are applied in all foreign language textbooks as teaching aids that should improve the explanation and help remember a given grammatical structure. Commonly used are icons (funny drawings, exclamations, figurines, and the like) that should draw the pupil's attention to a grammatical problem. They mean: Attention, we are explaining new grammatical issue! The visual attraction of these displays should also act as a motivation.

The image has a key role in the communicative approach towards teaching grammar (communicative concept, '90s). It consists in exercising grammatical structures, particularly in real communicative situations and not in single sentences with no context. The role of the image is to display the situations requiring a verbal reaction, using a given grammatical structure (past tense, conditionals, verb with an appropriate preposition etc.).

The visual technique used for exercising both kinds of competencies, both grammatical and lexical one, is *picture dictation*. Pupils do the exercise in pairs. One pupil describes the picture he is holding in all possible details in a foreign language and all the time he is hiding the picture, so that his partner cannot see it (e.g. room, street, person). The task of the partner is to draw what he hears in the description by the first pupil. The drawing and the original are compared after the completion of the task. Next, the pupils obtain another picture and exchange their roles.

Cultural competence

The image plays a very important role in the scope of conveying the knowledge about the country of the target language. This area of knowledge about the country or the language region is called reality studies or cultural studies. The images are used to display the knowledge from geography, history and culture: geographic regions, tourist regions, landscapes, towns, architectural monuments, paintings and other kinds of arts. The image informs about the every day situations, typical for a given language and cultural area: customs, holidays, social scenes, typical objects, the way of living, eating etc. The visual transfer progresses by means of a photography, slides, photos from newspapers or the Internet. The image plays here an information role: it conveys or complements the knowledge from a given area. At present in the textbooks and other sources for language teaching there are practically no texts on the reality studies that would not be accompanied by a picture. The picture in this scope is equally important as the text and sometimes even more important. The role of the picture increased in the recent teaching concepts, and particularly in the intercultural concept (from the end of the '80s), where the own culture and the culture of the target language is compared. The static pictures are more and more often complemented or replaced by the audio-visual transfer, since every school possesses an appropriate technical equipment, necessary for showing films (video or DVD), and the possibilities to obtain appropriate recordings from the television in English or German are practically unlimited. The offer of

the didactic films specially intended for the use in foreign language lesson increased significantly as well. The number of tourist films is also significant.

Receptor abilities: the comprehension by listening and reading (work with recorded or read text)

The aim of visualisation is to facilitate the comprehension of a text students listen to or read themselves. A picture or a sequence of pictures is presented simultaneously with the text meant for listening or reading. The pictures make it easier to understand a situation or a course of events, thanks to the comparison of the text with its visual depiction. By means of the pictures it is also possible to check the understanding of the text heard or read by pupils. They are told to put the pictures in the order corresponding with the course of events in the text or to choose from several pictures the appropriate one, corresponding with the content of the text or depicting the situation from a given text.

In modern teaching the pictures are not solely the object of observation and their role is not only to be seen by pupils. There are numerous ideas of how to use the picture for the interactive activities, e.g. to work by means of a project method. However, the greatest attention in glottodidactics is paid to using the picture in productive activities: to produce a spoken or a written text by the pupils. The picture, as a stimulus for speaking and writing, is in the foreign language teaching one of the basic functions of visualisation.

Productive skills: speaking and reading

The picture constitutes presently the most important factor inclining to an oral or written expression. In every textbook every dialog is accompanied by a picture or by a photograph displaying a situation in which the given dialog takes place.

The role of pictures is to induce the pupil to a longer speech in a foreign language. In order to do it the picture has to be “open” and by that is meant that it is not fully expressive and not fully defined and it possesses an “information gap” that induces the reader to speculations. The “openness” of the picture can be realised in four categories:

- spatial: what is beyond the picture?
- time: what happened before that what is presented on the picture and what can happen later?
- social: what kind of connections or social relations are there between the presented people?
- communicative: what are the depicted people talking about?¹²

This picture category is also called “talking pictures”. These pictures introduce a fragment of the reality into the class, that evokes some comments, presenting own opinions, hypothesis, description. The talking picture should be also provocative and surprising, include contradictions, ambiguities, require explanation, unusual constellations, e.g.: what two older ladies have in common beside a big, heavy motorcycle?¹³

Within the foreign language teaching also special picture presentation techniques were developed. One of the most common method, also applied to incline to speech, is showing the picture gradually, piece after piece and not the whole picture at once. It can be done by means of a “cover”: a bigger piece of paper with a hole in the middle. Pupils can see only a part of the picture that is visible in the hole. The question is: what is displayed in the picture? Pupils express their guesses in the foreign language. The teacher moves the hole to another place, showing another part of the picture and the pupils make further guesses till they guess the content of the picture.

¹² Storch G., Deutsch als Fremdsprache – eine Didaktik. W. Fink Verlag, München 1999.

¹³ Ibidem

For each of the above specified area of foreign language teaching there is a broad English and German theoretical literature and a huge number of materials for teachers that, due to their amount, cannot be presented here. However, such materials by Polish authors, published in Poland, are unknown.

3.7. Polish literature on visualisation

Foreign language teaching (glottodidactics) in Poland draws extensively on the countries of the target language to create its developmental thought. The methodology of teaching English as a foreign language is mainly based on the publications of British or (to a lesser extent) American authors, German language teaching bases mostly on German authors, etc. Most works concerning the application of visual aids in the foreign language teaching come from these countries as well. This literature is extensive in both languages, both with regard to the different aspects of theoretical knowledge and materials helpful for teachers that can be used in foreign language lessons at school. Many of these publications are known to students of teaching faculties and to ambitious teachers. The rest limit themselves to the textbook offer.

During the investigation of the library resources of the two libraries for teachers: Voivodeship Pedagogic Library in Radom and the library at the Teacher Training College in Radom (in the medium-sized city as to Polish conditions, where there are 9 secondary schools, 4 teacher training higher schools, including 3 for foreign language teaching: one state college and two private ones, and also teacher's faculty at Radom Technical University) only two monographs by Polish authors related to the investigated subject were found: Brzeziński 1980 and Jagodzińska 1991 (both in the resources of Voivodeship Pedagogic Library). Both works present quite outdated knowledge: the work by prof. Brzeziński, a valued (already gone) scientist dealing with glottodidactics from Maria Curie-Skłodowska University in Lublin is based on the literature from the '50s, '60s. and '70s. The work by Jagodzińska presents the state of knowledge from the '60s, '70s and '80s.

It does not mean that the Polish scientists do not research into this subject matter, but the problem is that academic literature (in particular in humanities) undergoes a deep crisis at the moment. The publishing market generally lacks publications dealing with the teaching theory and practice for all subjects, publishing houses mainly produce textbooks with the aim of a quick win. Therefore, the monographs in the area of detailed didactics, although they are developed, do not find a publisher. The latest studies (from the last 10 years) should be sought in papers published in academic journals, available only to a narrow group of specialists. Another reason is the underfinancing of pedagogical library that has very little funds to buy new books. The library of Teacher Training College in Radom possesses numerous publications related to the investigated subject, however only in German and English.

The role of the image in the learning process is also investigated by the learning and teaching psychology. Psychologists are mainly interested in the efficiency of the image as a means supporting the remembering. Among the Polish researchers the already classical work by J. Pieter (1970:290-308, 382-390) has to be mentioned that, despite the long time, has remained, to a great extent, up to date. The studies on the influence of external and emotional factors, including visualisation, on the process of remembering were also conducted by W. Szewczuk (1984).

3.8. Experts and institutions

After the general investigation of the area of visual learning in Poland no confirmed information on the experts specialising exclusively in the field of visualisation in Poland was found, however there are several specialists (mainly at state higher schools) who conduct the research in this field as an additional field of their specialisation:

E. Dybińska: Academy of Physical Education in Krakow;
 A. Gręźlikowska, B. Krupa, M. Nawrocka-Matera, Logopedy Centre (Radomsko);
 K. Karada: Department of History Methodology UMCS (Lublin);
 M. Kozielska: Institute of Physics – Poznan University of Technology (Poznań);
 M.Taraszkiewicz: Teachers Development Centre;
 H. Hamer;
 M. Jagodzińska;
 S. Tucholska.

The visualisation technique is mainly applied at private schools and centres that apply its elements on the courses of effective learning and the development of human's talents, but also as a relaxation method applied in various medical areas. In Poland more and more teachers at state schools (e.g. Rybnik, Ostrożany) apply recent methods, but their application scope is very limited in comparison with private institutions that widely use the attractiveness of such methods. They are e.g.:

- Polskie Towarzystwo Dysleksji/Polish Dyslexia Association
 ul. Pomorska 68 80-343 Gdańsk
 e-mail: ptdgdansk@wp.pl

- Centralny Ośrodek Doskonalenia Nauczycieli / National in-Service Teacher Training Center
 ul. Aleje Ujazdowskie 28 00-478 Warsaw tel. 022 3453700
 e-mail: ekspert@codn.edu.pl

- Methodical Centre for Psychological and Pedagogical Help/Centrum Metodyczne Pomocy Psychologiczno-Pedagogicznej
 ul. Polna 46a 00-644 Warsaw tel. 022 8254451(to 53)
 Multimedia Educational Laboratory /Laboratorium Edukacji Multimedialnej
www.lem.codn.edu.pl

- Institute for Mind Development/Instytut Doskonalenia Umysłu
 ul. Bernardyńska 9
 20-109 Lublin tel. 081 5262819
www.iqlabs.pl

- Center for Citizenship Education/Centrum Edukacji Obywatelskiej
 ul. Noakowskiego 10 Warsaw tel. 022 8758540
 Fundacja SYNAPSIS
 ul. Ondraszka 3 02-085 Warsaw tel.0228258742

- Institute of Teachers Education/Instytut Kształcenia Nauczycieli
 os. Stalowe 7\33 Cracow tel.012 6421920
 e-mail: biuro@ikn.edu.pl
www.ikn.edu.pl

- P.W.D.APEX Logopedy Centre/P.W.D.APEX Centrum Logopedyczne
 Plac Wyszyńskiego 3\3; 97-500 Radomsko tel. 044 6852127, mobile 502585120
 • www.logopedia.pl
 • poczta@logopedia.pl

- Institute of Educational Studies/Instytut Badań Edukacyjnych
 ul. Górczewska 8 01-180 Warsaw tel.022 6320221

- Teachers Education Centre/Centrum Kształcenia Nauczycieli
 ul. Kościuszki 5 26-600 Radom tel.048 3621579

- National Centre For Supporting Vocational and Continuing Education /Krajowy Ośrodek Wspierania Edukacji Zawodowej i Ustawicznej
ul. Spartańska 16 02-637 Warsaw tel. 022 8440740
e-mail: ekspert@koweitiu.edu.pl

- Denis School
Al. Jana Pawła II 12 00-124 Warsaw tel. 022 8509191
e-mail: biuro@denisschool
www.denisschool.com.pl

- Faculty of Pedagogy and Psychology, UMCS Lublin/Wydział Pedagogiki i Psychologii, UMCS Lublin
ul. Narutowicza 12 Lublin
www.puw.pl

- Akademia ECCE HOMO XXI Brain and Body Development
Training of Memory, Intuition and Creative Thinking for the Men of the Future
ul. Grażyny 23\28 20-602 Lublin tel. 081 5252807 mobile 0500214763
e-mail: info@homo21.com.pl

Such courses comprise mainly the following:

- Training on creative development and memory improvement
- Strategies for accelerated language learning
- Speed reading, mind maps
- The ability of effective learning
- The Silva Mind Control
- How to pass an exam without stress
- Exercises on visual communication (mainly connected with advertisement)

Interesting and up-to-date information on the use of visualisation are also included in the Internet magazine that is devoted to the subject of effective learning, life-long learning, European and global trends in this, also to educational diagnostics and issues supporting this subject mater: "TRENDS learning in XXI century"(TRENDY uczenie się w XXI wieku) published by Department of Pedagogical Information, National in-Service Teacher Training Center.

4 Summary and Conclusions

In present training programmes (particularly in foreign languages teaching) it is worth and necessary to systematically introduce modern textbooks, continuously enrich methods of communication by adding cultural elements and regularly develop language awareness of the students. Constant expansion of the range of teaching techniques and strategies in language classes contributes to a continuous increase of the quality of teaching, as well as of the effectiveness of the learning process. Therefore, generating strong motivation and positive emotions, as well as the individualization of teaching and learning process are one of the main priorities in the work with students.

Visualisation is a method giving plenty of opportunities for supporting work and bringing good results. Moreover visualisation is a much more attractive and pleasant than traditional methods of teaching. Psychologists however emphasise that its main role should be to support, not to replace these traditional methods. This is because visualisation may lead to intellectual poverty: mechanical reading without deeper thought, lack of abstract associations, thinking or imagination.

This method is used mainly in private institutions during courses of speed reading, accelerated learning etc. In public schools visualisation is not widely applied. It is still used as a kind of play, often not fully deliberately. Activities undertaken during preparation of this report as well as interviews with experts indicate the need of making teachers aware of and familiar with the opportunities arising from the use of mnemotechniques. Very often lack of conviction and ideas limits the use of visualization only to private institutions orientated towards wide group of students looking for now, effective methods of learning.

There were also numerous reports that many teachers are familiar with this method, however they neither use this method nor know how to skilfully use it in practice. Therefore, one of the recommendations for the project is the need to give knowledge and ideas on how to use psychology, knowledge of how the brain works and visualisation techniques in order to make the teachers aware and persuade them that this method is not only attractive but in the first place effective.

There is a lack of information on the experts in the field of the visualisation of teaching, but it is also known that various studies addressing this topic are carried out.

The most important literature concerning visualization methods in the training of foreign languages comes from German and English speaking countries.

Polish literature of the subject is based on studies conducted in the years 1950-80. Later publications were not widely distributed and can be mainly found in academic libraries. Access to these publications is limited and requires additional effort from the interested individuals who very seldom take initiative to overcome these difficulties.

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6 Annex

6.1 An example of an exercise aimed at identifying a dominant sense

Your sensory system (according to M. Lawlor, Inner Track Learning)

This test will give you an idea about how you process information.

Write down the numbers next to each statement:

2 – if you can imagine this very clearly

1 - if you can imagine this less clearly

0 - if you cannot imagine the view (sound, feeling).

And now put on you favourite music, sit comfortably, take a deep breath, read the first statement and go to the next one.

1. VISUAL IMAGES:

Imagine:

The flame of a candle

Red sunset

A galloping horse

A hand writing your name on a blackboard

A green circle on a yellow background

A lake

A violet number on a pink background

The house you live in

Yourself walking down the street

A dog you know

2. AURAL IMAGES

Imagine:

Low tone of a gong

A ringing phone

A voice calling your name

Sounds of the street

Voices of children playing in the street

A cooing pigeon

A flying aircraft

A stone falling in the water

Voices in the adjacent room

Your favourite tune

3. TACTILE IMAGES

Imagine how would you feel:

Chopping a tree

Walking barefoot on sand

Swimming in a cold sea

Bouncing a ball

Riding a bicycle

Touching sandpaper

Touching silk

Touching an orange

Touching a cat

Touching someone's hand

Compare results corresponding three sensory systems. The most developed is the one, by which you collected the biggest number of points. Accelerated learning is meant to develop remaining systems and thus facilitate the learning process.