## STATE OF THE ART OF „VISUAL LEARNING” IN ROMANIA
### National Report

**SIMONA GITU**  
FiaTest

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Any communication or publication by the beneficiary, in any form and medium, shall indicate that sole responsibility lies with the author and that the Commission is not responsible for any use that may be made of the information contained therein.
1. Introduction

1.1. Project background (Summary of the project „Visual Learning“)

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 proceed through reading and writing. At the same time communication by means of pictograms has 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” easies the process of learning. One important goal is to strengthen “visual competence”.

1.2. Conceptual Framework

In the psychic development and in shaping of adult personality learning has a main role, because by learning an individual acquires new behavioural patterns. All skills and competences, knowledge and intellectual operations are acquired by learning.

A.N. Leontiev defined learning as “the process of acquiring intellectual and behavioural experience”, this experience referring to the assimilation of information, and
moreover, the shaping of thinking, of cognitive spheres, of willpower, therefore the shaping of personality.

In learning there can be noticed a successive preponderance of psychic processes: the first knowledge stage corresponds to the knowledge of sensations and perceptions, the second knowledge stage corresponds to representations and imagination, then, in a later stage the higher process of abstract thinking is involved.

Bruner’s theory outlines both the positive and the negative aspects of school learning: on one hand, education system is withdraws the student from the environment of “immediate action” and transforms learning into an independent activity, with a well-determined objective, facilitating the distinction between what is essential and what is not, and the development of complex ideas. On the other hand, there is the disadvantage of the appearance of a gap between reality and formalism. That is why the necessity of the formative training has appeared. This is also achieved by perceptive visual learning.

Perceptive visual learning is actually a reading activity (except that the aim of going through the text is different), i.e. the visual content is perceived in a complex way, implying not only the simple reading (i.e. decoding of graphemes and perception of icons), but the interpretative understanding.

An inventory of the psychic processes involved in the complex reading activity which has the aim of interpretation-assimilation of the visual content: visual perception – active and specialised on linguistic symbols; attention focusing; understanding – specific for the stimuli nature ( verbal, chaining in linguistic contexts, which are implicitly situational too); motivation, in relation with the text understanding; memory ( short-term and long-term0; thinking – based on an automatism architecture (skills which are necessary for correctness and rapidity of deciphering);conscience ( as intentionality, then as decision-making and action control).

In the teaching-learning experiences the strategies of visual communication should adapt to the learning situation and the psycho-pedagogical aspects are of major importance. The sending and the assimilation (preferably simultaneous) of the content by combining the verbal language with the nonverbal one, of the imaginative structures with the verbal ones are more effective than their separate action.
2. Description of procedure

2.1. Visual learning – perspectives of life long learning in Romania (research, projects, visual learning methods and techniques)

The issue of adapting learning contents to the student’s particularities has become more and more important. At present, the teaching style used in Romanian schools is adapted to the school curricula, which are being permanently improved in order to support students. The adaptation of the teaching style to the student’s learning style may be the premise for the improvement of the learning style effectiveness.

In support of this theory, Gardner’s theory has been invoked, which defines at least 7 types of intelligence: visual/spatial intelligence, verbal/linguistic intelligence, logical/mathematics intelligence, body/kinaesthetic intelligence, musical/rhythmic intelligence, interpersonal/intrapersonal intelligence and naturist intelligence.

Visual/spatial intelligence is regarded as the type of intelligence which facilitates the learning process by vivid perception of colours, lines, shapes, space as well as of the relation between them. By visual learning students can visualise, and graphically represent spatial images, and can perceive their own position in space.

Visual teaching/learning has several advantages which have been noticed by teachers/trainers/educators:

- increased opportunities for the development of students’ talents and for obtaining performances;
- increased opportunities for the achievement of connexions between the various curriculum areas in the didactic process;
- additional material for the improvement of assessment effectiveness.

The limitations of the consistent application of the visual learning techniques are material in most of the cases. The lack of, or insufficient technical resources which should enable a large number of students to use the visual learning methods is one of the most frequently invoked limitation.

However, recognition is granted for the beneficial impact of new technologies on the learning process, technologies which increase the visual/spatial intelligence.

Students of today have grown up watching TV and are very oriented to visual learning. Billboards, projections and movies are important elements of learning. The essential support of printings and Xerox copies for academic learning is also well-known. When audio-video interactive systems are used in the teaching/learning process,
students are no longer passive observers, they become active thinkers.

For example, the video player can be used for active learning in several ways. Instead of running a material from beginning to end, teachers can use the advantage of stopping, rewinding and resuming, enabling students to discuss what they have seen; imagine what they will see afterwards, which opportunities for anticipatory and participatory are learning, of critical importance in the educational process.

IVD system (interactive videodisk) is a very friendly-user system used in the teaching/learning process which is operated in connection with a video player and a TV monitor, or a PC. IVD system is flexible enough to incorporate other technologies such as CD-ROM, DVI (Digital Video Interactive), CDI (Compact Disc Interactive) and artificial intelligence. Visual peripherals which increase learning skills are also very effective for accelerated learning.

These are only a few of the benefits given by new technologies to the learning process. The internet allows access to papers and articles (in Romanian) which promote new technologies as a resource for the development of visual/spatial intelligence (e.g. [http://www.intime.uni.edu/model/Romanian_Model/teacher/teac1summary.html](http://www.intime.uni.edu/model/Romanian_Model/teacher/teac1summary.html)).

On of these article mentions the use in some new schools of electronic panels, or huge screens or monitors. Teachers and students may be involved in the design of visual messages for display, using materials e.g. from document files or directly from computer networks. One can foresee in the relatively near future virtual reality when all present simulations are pale by comparison. This new world generated by computer has just started to use propose learning methods which enable memorisation in new dimensions. A student with a helmet which contains a miniature monitor, headphones and an electronic glove. This equipment is connected to a computer which coordinates the sensorial input with the physical movement. The computer monitors the location of the gloved hand and creates real experiences. The article mentions that one of the first programs enabled the participant to go on a street in Aspen, to notice the surroundings and even to change the seasons of the year. When the participant reaches the corner, by positioning the electronic glove, he can turn right or left to explore the surroundings. Little imagination is necessary to foresee the learning experiences which will be offered to students in physics, chemistry and medicine. This visual-spatial equipment is tools for the learning process which develop students' visual-spatial intelligence and facilitate the access to various topics for a larger number of students. They will be of a real help for physically disabled students or for students with special needs.
In Romania visual learning is very used as a reading learning method in primary school (6-8 year-old pupils). The most common methods used are the global method and the semi-global method:

**Global Method**

Learning is based on visual memorisation of words and sentences. This method, even if it has not been very appreciated by all teachers and parents it is interesting because it does not ask from children to understand how it works. “This is a game of taking photos” explains Maria, a teacher of first grade school pupils. Clic-clac, the pupil takes pictures, and exercises his/her visual memory. Moreover, children learn to watch. There are words without writing rules and it is better to learn them from start as they are”. Global lecture is also very exciting and children learn to enjoy reading very early. The main drawback of this method is that it requires an effort of memorisation which could be too great for some pupils. Moreover, this method is not self-sufficient, as children cannot apprehend some linguistic details by it.

**Semi-global Method**

This is the most recent method resulting from the previous one. Pupils decipher letters and syllables, memorising at the same time words and sentences and work on their understanding. This method is an alternative one, it is not mandatory, but it has been adopted by 90% of the primary school teachers, and they use it with or without a textbook. Some of them make their own didactic material, copying any material they consider interesting as reading support. (material is available on internet at: [http://www.lumeapiticilor.ro/site1/dezvoltare/lectura4.html](http://www.lumeapiticilor.ro/site1/dezvoltare/lectura4.html)).

Adults are also confronted with learning needs as they must assimilate necessary knowledge for the development of their professional competences. The development of new competences requires access to huge information and in order to facilitate the selection and the memorisation of new information the trainer resorts to various methods and techniques which are specific for adult learning.

New technologies are widely used in order to facilitate the learning process. The use of computer and of various programs which enable visual learning techniques have created the premises of several projects initiated by Microsoft in its centres of Romania.
For example, “Partners for Education” is a holiday program which organises courses of visual programming for high-school teachers and students. In July 2005 Microsoft IT Academy Centre of the “Low Danube” University of Galați organised training courses for teachers and students for the development of applications for Microsoft .NET (Visual Basic .NET) Windows.

<<The course was attended by 14 teachers and students of Galati high schools who expressed their interest in the use of new technologies for educational or utilitarian applications. According to Camelia Negoiță, an informatics inspector of Galați County, several students and teachers were interested to participate in that course, although they were on summer holiday. “The perspective of such courses appeals to more and more students and teachers. Some of them will get a trainer certificate and they will set up IT Academy centre in high schools. Thus, high school students will be able to attend these courses for their own professional development and to get the certificate. Teachers also intend to organise optional courses for the use Microsoft .NET products.” declared profesor Camelia Negoiță.

The Centre of Continuous Learning and Technological Transfer (CFCTT) of “Low Danube” University is the only Microsoft accredited centre of Galați, but its IT courses are attended by students from the neighbourhood areas. By running several training stages, the number of high school teachers which have access to technologies of modern programming has increased considerably. Training stages for informatics teachers of Brașov, Buzău, Dâmbovița and București have been organized so far, and this program is going on in other counties as well.

IT Academy is part of a larger program entitled Parteneri pentru Educație (Partners in Learning Program). By cooperating with local partners, Microsoft sets up Microsoft IT Academy centres for teacher training, so that they could use creatively in their work IT tools and resources.>>

(www.microsoft.com/romania/educație/pil/anunturi.mspx#ESG)

In Romania educational software has become very popular lately and it uses several visual learning techniques (Image communication, Visualization, Visual facilitating), the main objective is to create interactive learning situations by increasing the student’s involvement in the learning process. There are used various diagrams, images, drawings, etc. with the role to facilitate the connection between previous knowledge and the newly acquired information. An example of highly popular educational software for
the development of mathematic skills for secondary school students is „Geometrie: între joc şi nota 10”, developed by INTUITEXTTM.

Educational software is developed by IT specialists, school psychologists and educators. In order to promote these teaching methods there are organised dissemination conferences. One of these events was held in Poiana Braşov in May 2004, The National Conference of Educational Software organised by Microsoft Romania and the Romanian Association of Educational Resources - ARRE. The aim of the conference was to facilitate the exchange of ideas and experiences between teachers who use computer as a didactic tool. Educational projects and lessons developed by teachers or even by students were presented. The conference was attended by 180 primary and secondary school teachers coming from 22 counties as well as university professors from Braşov, Iaşi, Cluj and Constanţa. On this occasion a portal dedicated to the virtual community of innovative teachers was launched (i.e. teachers who promote IT methods and techniques in the teaching/learning process).

Another category of adults who are actively involved in the life-long learning process is formed by professionals who require permanent updating and improvement of their professional competences. These needs are covered by educational service providers who organise company-tailored training courses. In order to meet the requirements of their students regarding the effective structuring and the easy access to information, training providers use a various range of training methods, including visual learning techniques. Having in view the necessity to develop visual competences in order to facilitate the learning process, trainers frequently resort to diagrams, graphs, images, as well as various methods and techniques of presentation (PowerPoint presentations, video recordings, taking pictures of learning situations, etc).

Several EU projects developed in Romania have had the objective to identify the categories of adults which face learning difficulties.

One of these projects was entitled The right to learn and its main objective was to develop a set of didactic materials meant to develop the basic skills of adults in conformity with the human rights. The right to learn was run between 2001 and 2004 and was financed by the European Union by Grundtvig / Socrates program, as well as by the partner institutions of Romania, Slovenia, Italia, Austria, Great Britain and Croatia which are active in adult education. This project had as target group adults with maximum ten years of formal education, and with deficiencies of writing, reading,
numeracy and social communication skills. The didactic materials adequate for this target group resort to visual learning techniques on a large scale in order to develop self-confidence, personality flexibility, adaptability, capacity of problem-solving.


2.2. Interview with the experts

- **What is the current understanding of visual learning?**

*Expert 1:* Through visual learning most people understand learning/teaching by using images or graphic representations or even films, spots, video presentations, etc. Basically, any educational process that involves images, no matter the way they are presented is considered to be a visual learning technique.

*Expert 2:* Visual learning could be understood as aspect of deferring of the intuition principle: namely a child, especially a little one, but an adult too, learns better if he can see the real object or he can see the images, films, diapositive.

- **How would you describe the development and current situation in Romania?**

*Expert 1:* Visual learning is involved in teaching, but mainly as a secondary, alternative mean of education. Although the educational policy promotes and encourages this kind of learning, in Romanian schools is not so currently used as it involves more work for the teacher, and material, time and human resources as well as the usage of some IT devices which, at this point is quite unreachable for some teachers. Regarding this matter we are facing some competence as well as attitudinal limitations – this situation varies, of course from one institution to another (for example, in some colleges visual learning is more used, but keeping its status as an alternative mean).

This perception changes, however, when it comes to the work of the psychologist/school counsellor. Counsellors use visual learning as basic mean of education especially with group counselling. Actually, it is expected for them to work like this, as it is believed that the counsellor should intervene in a different manner.

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1 These interviews were made using an outline for the interview and sending by email these outline to the interviewed experts (was easier and acceptable in this way for learning specialist interviewed). They have an outline by they didn’t give response to all questions – the reason was the newness of the terms/concepts.
than the teachers, class or head masters should. Students respond well to visual learning, first of all because it is different, it involves less effort, as they no longer have to listen, comprehend, memorize and eventually use the information in order for this to be acknowledged. In visual learning the message, information is simply there, beneath the images, they just see and acknowledge it. This explains why they are fond of this kind of activities and they get involved, whereas they find school crowded and dull.

Although students give positive feedback to visual learning, not all teachers respond, as they do not see the way they could use V.L. in their domains.

*Expert 2:* There is no “visual leaning” concept: either conceptual, either learning program or methodology. Even so, within the training of adults programs, and specifically when is speak about communication skills development, the stress is on non-verbal aspects (body language) which, according to Mehrabian researches it has a statistical weight of 55% from those there communication forms. Thereby, the participants of the training programs are awaked on the relevance of visual images on the final massage that we communicate.

- **What importance does visual learning have in science and practice?**

  *Expert 1:* Visual learning leads to better and quicker understanding of the processes, the functionality, better anticipation of the problems that might occur, and with this kind of acknowledgement, practical skills form and develop more easily.

  *Expert 2:* It depends on the science and practice, in biological sciences visual learning is important, as well as in learning practice.

- **How does the brain recognize objects?**

  *Expert 1:* The individual collects information about the object through the senses (sight, smell, hearing, tactile, taste), combines them and achieve the perceptive image. This image is then overlapped on the representations that already exist until finding the matching pattern. Thus the object is designated as being part of a category and recognized.

  *Expert 2:* By perception organs, nervous system and integrating the information in special area of brain.

- **How does visual learning happen: inductive or deductive?**

  *Expert 1:* -
Expert 2: Both; it’s emphasize a way or another term of the level of knowledge of the object by subject, if exist a mental representation, term of the quality of representation, of the perceptive experience of the subject/person.

- What are advantages of visual learning for our target groups (low skilled people, people with reading and/or writing problems etc.)? Or in general: what are advantages or disadvantages concerning visual learning?

Expert 1: -

Expert 2: Visual learning (like I understand) conveys a wide range of concrete information facilitates the mental representations making and is approachable for understanding. If visual learning is emphasized, the concrete thinking is developed against the abstract thinking.

- What qualifications should teachers have to strengthen visual learning in their groups?

Expert 1: -

Expert 2: I think the teachers need to participate at special trainings in college but also at professional courses (in-service trainings), besides of adequate pedagogical practices (teaching practice).

- What competencies belong to visual competencies?

Expert 1: -

Expert 2: Self control ability of the visual perception, the development of conscious observation abilities.

- What do think about the necessity of visual competencies in the future?

Expert 1: -

Expert 2: I think are very important, especially in kindergarten education and in primary school; them must to be developed at the teachers by two reasons:
- The teachers must to be able to organize materials in a way that stimulate visual learning;
- The teachers must to be able to develop at the children visual skills. These visual competencies are essential for those who make manuals.

- Conclusions and prognosis for “visual learning” in the future.
Expert 1:

Expert 2: It is difficult to make a prognosis; visual learning in Romania depends a lot by educational policies and less/or not at all by specialist. Nevertheless, at the level of each trained teacher in this area, visual learning might have a future.

• Recommendations (for the project)
  o To make one preliminary/introductory course with visual learning theme, and some practical programmes for fritting the informations.
  o Introduction of visual learning in kindergarten and primary schools (pilot programmes)
  o Organize the workshops for discussing the best practices with those who applied this methods.
  o Building up of an educational portal for teachers and parents, with an link to an interactive site for children.
  o Publication of the results of the project, translation and publication of an specific books from this activity domain.

3. Short description of current situation

Although visual methods and techniques are currently used in all forms of education in Romania, a permanent information and dissemination of various learning experiences is necessary for continual improvement. There can be noticed an increasing interest of the educational institutions in the improvement of the educational programs and curricula by including new learning techniques. Teachers are trained on a permanent basis to learn new techniques, and there is a permanent exchange of information in the dedicated media, as well as on the internet.

In Romanian educational system the interest regarding visual learning occurs at the level of some curricula, like plastic art education. In this area, visual communication is understood in a large meaning (i.e. visual language from scientific information to a artistic one, complex and so on to daily life aspects.)

However it’s need a very good acknowledgement and information of teachers and trainers concerning the benefits of visual learning methods in adult education process. Also this target group must to realize how important are the different ways of communication (mass media, IT devices and software etc) for visual learning process, and implicit, adult education.
4. Recommendations for the project

We are aware of the importance of visual learning in learning process and we use pictograms and other visual learning instruments in our training programs. Though, within the training programs our trainers use pictograms, imagines, video records and all kind of instruments and techniques for improving the learning process, a defined methodology of visual learning doesn’t exist. There is the same problem in primary and secondary education. The interviewed learning psychologist within this project suggested to be included in our target group (for Romania) the primary and secondary teachers. The main reason is in Romania there is no institutionalized concept of life long learning and it will be more useful for primary school teachers/learning psychologist to know and use a visual learning methodology. Another reason for this proposal is that in Romania there is no adult education institution for the third age adult. We teach people who want to learn in the third age, but there is no national framework for this kind of education.

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2 Because visual learning is not a very popular concept in Romania, within this report the bibliography is a short list. There is insufficient information, studies, researches concerning the visual learning process describing the way that this process would represent a real method used in adult education.
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