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AN EDUCATIONAL APPLICATION OF GRAPHIC FACILITATION

Abstract: *Graphic facilitation visually sends ideas, through simple and fast techniques, neglecting the artistic component of the drawing and emphasizing the essential. The contribution of this paper is a project of graphic facilitation during technical drawing classes of students in engineer sciences and industrial management and for informal learning. This educational application comprises more themes and a final evaluation*

Key words: *graphic facilitation, informal learning, visual learning, graphic symbols, patterns.*

1. INTRODUCTION

In the modern world nowadays, the information flow is huge and it is more and more important to acquire new methods of filtration and integration of essential elements.

Graphic facilitation is a shape of visual communication through which some concepts, ideas and complex processes are conveyed into simple images, thus ensuring a fast and clear way to render the information. This method is very versatile and can be used in various contexts and for various objectives: conveying information through formal or non-formal activities, exploring a field, projects management, monitoring the implementation of a process, planning, evaluating, etc.

This form of visual communication uses methods and techniques which are classified into four categories:

- Graphic facilitation, in which a professional visually organizes information, throughout a working session. This is the actual graphic facilitation and represents this article's main subject;
- Visual note taking, in which visual symbols are used for private use;
- Recording/harvesting, in which the graphic facilitator records what other people say throughout public sessions;
- Visual coaching, in which graphic illustration is used for personal development.

2. GENERALITIES

In trying to explain the picture superiority effect, Professor Allan Paivio from the University of Western Ontario, came up with the dual coding theory. Encoding represents the process through which information is translated into a shape which allows it to enter into the memory of human brain. According to this theory, visual encoding is made both visually, as well as verbally and has an advantage over verbal encoding in regard to coding and accessing the information.

Visual thinking consists in the ability of analysing and interpreting images and develops through exercises which use different visual supports (images, maps, films, drawings), through a process called visual literacy.

Graphic facilitation visually sends ideas, through simple and fast techniques, neglecting the artistic component of the drawing and emphasizing the essential. Easily recognisable symbols are used, and when complex information is transmitted, special patterns are created.

The following elements are required for the success of graphic facilitation: the usage of a visual alphabet, previous and thorough knowledge of the approached theme, the identification of theme's purposes, the elaboration of some adequate patterns and the access of all participants to the final product.

Graphic facilitation is not an art and practicing it does not require artistic skills. Anyone can include graphic facilitation into his or her educational methods and abilities through an adequate training.

3. EDUCATIONAL APPLICATIONS OF GRAPHIC FACILITATION

Graphic facilitation is inspired from architecture and combines notions of design, programming and psychology. Although graphic facilitation is a method which can be used in many fields, among which the didactic one, its educational applications are still no so visible in the information space.

During the teaching-learning processes, during classes, seminars, projects or laboratory classes, the teacher's role can be assimilated to the one of a facilitator using graphic tools to explain the topic. Because "a picture is worth a thousand words" some long explanations can be replaced with infographics which concretize the information, and are much easier to understand. Thus, a form of graphic facilitation of the above mentioned explanations can be seen in figure 1.

The contribution of this paper is the presentation of a project of educational application of graphic facilitation in descriptive geometry and technical drawing classes. This modern method will develop students' visual thinking and will be very useful in project management.

Fig. 1 Example of graphical facilitation of visual learning

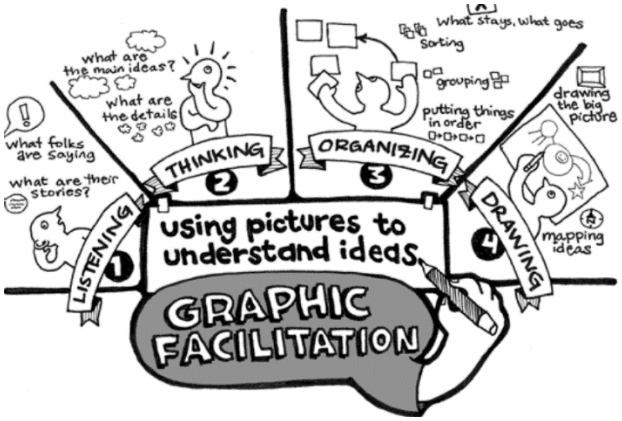

Fig. 2 Components of graphical facilitation

In the introductory part of this project the first idea which is presented to the students is the one stated by Dan Roam, business consultant and graphic facilitator: "The conversation today is visual. If you want to be in the conversation, you need to be visual."

Supporting the things mentioned above, students are invited to comment and complete the representation in figure 2, [1].

One of the redundant ideas of the relationship with the students is that they are not skilled in drawing, fact which makes them lose their self-confidence and estranges them from graphic representations.

Graphic facilitation does not require drawing skills, visual thinking works in simple symbols, detailed representations not being necessary, after certain rules or in perspective.

We will begin with very simple shapes: lines, circles, squares, triangles, rectangles and then the degree of complexity is gradually grown, as one advances in practice.

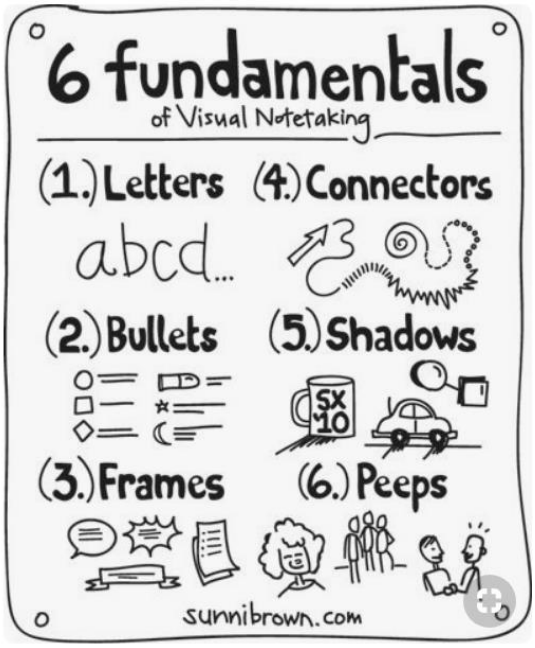

Fig. 3 Fundamental elements of visual language

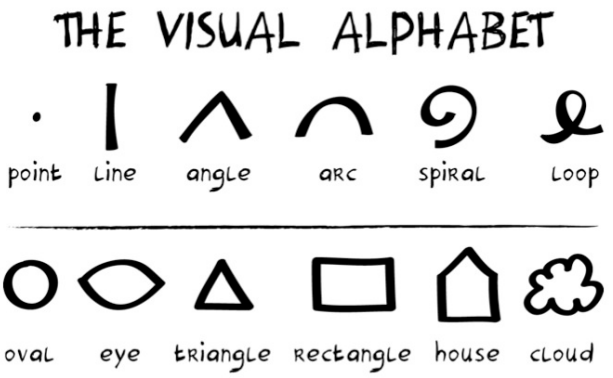

Fig. 4 Example of visual alphabet

Visual facilitation comes in the students' aid and is the solution to some challenges with which they are dealing: creativity, easier communication and efficiency of some information, complex concepts and processes, concretization in order not to lose sight of the overview, team collaboration.

A common practice among students is the one of doing their own type of drawings, in an adjacent area of conventional representation.

This project values their creative potential, encouraging them to bring their own contribution and grows their self-confidence.

Elements of visual language with various complexity degrees are presented during the proposed project for the classes of graphic facilitation.

First of all, the students are presented simple elements: the visual alphabet and the quadrants, connectors, shadows and people silhouettes, like in figure 3, [2].

The visual alphabet is made of those elements upon which any representations necessary to graphic facilitation can be built.

One of the examples proposed is the one of Sunny Brown (figure 4), [2].

The quadrants facilitate the act of following the information thread, emphasize some elements and organize the drawing space. The text used in filling in the quadrants must be as large as possible.

Some of the simpler types of quadrants are shown in figure 5.

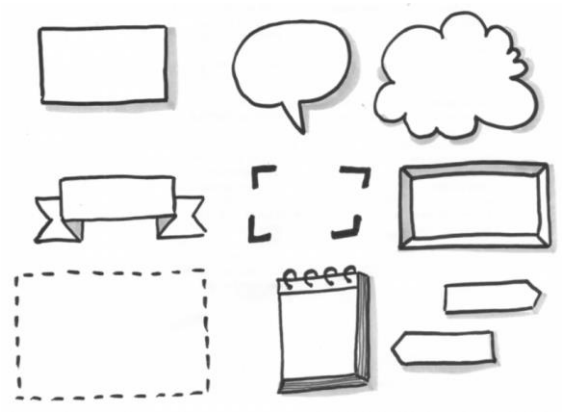

Fig. 5 Examples of frames

4. A PROJECT OF GRAPHICAL FACILITATION ON TECHNICAL DRAWING. THEMES AND EVALUATION

The main purpose of this paper is to apply graphic facilitation in an educational project during technical drawing classes, for students in engineer sciences and industrial management. This project will be started in the second semester of this year and its future results for several years will be the theme of a future work.

The training and development of the visual thinking of students in engineer sciences is one of the major objectives of graphic disciplines. We consider that with this project students will acquire some abilities related to: building a personal graphic language, expressing certain concepts and processes through images and symbols, extracting the essential of the transmitted information.

This educational project implementation is conditioned by the existence of some of the student's qualities: capacity to carefully listen and focus, communication and resilience to the effort of going through a full session.

This application project of the graphic facilitation comprises more themes and an evaluation of the activity by collecting the feedback.

The necessary materials are A3 drawing paper and drawing instruments.

The first theme that the students receive is represented by some basic exercises. The solving time of the first theme is between 40 and 60 minutes, time being an important element and the timing can be made, for example, with the special function of cell phones.

Firstly, on an A3 format, one has to draw continuous lines, dashed lines and lines-point oriented in different directions, the drawing time being of 3-5 minutes. The speed of drawing grows. For 30 seconds one draws as fast as possible.

On other A3 formats one has to draw rectangles and triangles, in the same amount of time and same growth of the drawing speed.

The same exercise is made for drawing circles. After that the circle shape is modified, ending up to ovals and the specific eye shape.

Then one has to draw circles as fast as possible, for 30 seconds. Without picking up the pencil from the sheet of paper, one has to draw continuous a circle, for 1 minute.

After that one has to move to drawing arrows, modifying the speed of execution and their shape, including 3D arrows.

Further on, on an A3 format, one has to draw cloud shapes, for 3 to 5 minutes, continuously growing the speed of drawing. The shape is modified, adding endings in order to present a speech bubble and a thought bubble.

On A3 formats one has to write the alphabet in capital letters and small letters, for 5 minutes.

Then one has to write letters and figures as fast as possible, for 30 seconds. One has to do calligraphy exercises for 5 minutes. One has to do writing exercises, drawing each letter in as many ways as possible.

An example is the one in figure 6, [3].

Then one has to draw human figures for 3-5 minutes. The drawing speed grows and the drawn variants are modified, appealing to the students' creativity.

Fig. 6 A writing exercise

The representations have to be as simpler as possible and as suggestive as possible. The representations are simplified to the maximum, each student choosing the variant which represents him the best, in the shortest time possible.

The second theme during the student training for graphic facilitation is of a medium complexity. The solving time is of 90 minutes. The required materials are A3 formats, drawing instruments and coloured markers.

Using graphic symbols from the previous theme, students have to draw for 5-10 minutes, images which represent a sheet of paper, oriented in different ways.

Further on, one continues with "signalling plates", which are rectangles containing a message and contain elements which indicate direction.

One has to draw for 30 minutes as many elements from inside the classroom as possible, in various variants. On the drawings one has to use colours for underlining and highlighting.

For the students at industrial management, the theme will include drawings of tree strategies, problem tree, goal tree, Gantt charts. We consider that graphic facilitation will be very useful especially in theirs projects management.

Students receive the parts of a simple mechanical ensemble. The parts of this ensemble were previously drawn by students in the classic way. Now, one has to draw their symbols in as many variants as possible, emphasizing the simplification and the essential.

The next theme is more complex and is represented by drawing a repertoire of pictionary, symbols and metaphors, [4]. For 30 minutes one has to make a representation which answers the question: Who am I?

Then one has to draw graphic symbols in order to show specific engineer activities: conception, design, drawing, execution, installation, control.

The final theme shall be solved by a team of 3-4 students and is represented by building a pattern for a project, for example, for the mechanical ensemble drawing whose parts were previously symbolised.

Bas Bakker [5] shows how to design templates in nine steps, smarter, faster and better. Each step is the answer at a specific question:

- Start: Why are we doing this?
- Goals: What is the goal of the meeting and the visual template?
- Content: What are the essential ingredients?

- Design: What visual concept can we use?
- Delete: What can we delete from this concept?
- Concept: What are the must-have elements?
- Test: Does it work?
- Final: How can we improve it?
- Done: How do we deliver it?

In the case when the representation isn't clear enough one can use explanatory texts. The text shall be written firstly and after it shall be framed.

Working time shall be limited in order to pass as fast possible from the idea to the drawing, without insisting on aesthetics, but on clarity and brevity.

At the end of the class students have to answer to the following questions: Is the obtained image a good representation of the shape and function of the ensemble? Is it complete? Can it be simplified? Could it later be used for more complex representations? In case of some affirmative answers the representative graphic symbols can form a portfolio.

The students will be encouraged to apply the graphic facilitation abilities in other fields of their activity, such as in industrial management, in video presentations, but also in their personal habits and hobbies. They can form a symbol repertoire and can create patterns for various contexts.

An evaluation is made at the end of the graphic facilitation classes, showing some precise aspects. Students have to answer to the following questions: In what way did these classes help you? Which elements were not clear enough? What are your suggestions in order to raise efficiency?

On a broader outline, very important effects connected to the understanding process, learning and teamwork are followed. In time, the growth of motivation to learn, of the will to participate and communicate and the easiness to understand shall be evaluated, [6].

5. BENEFITS OF GRAPHIC FACILITATION IN EDUCATION PROCESS

We expect that the benefits of this project of graphic facilitation will be visible both on an individual level, as well as on a team level.

On an individual level one will see the growth of the students' interest for this simple and concise shape of illustration of some technical notions, which allows the entire process to be seen at a glance. Any student will integrate the instruments and the methods of graphic facilitation among his abilities.

On a team level, graphic facilitation can contribute at the growth of the involvement and interaction of the participants, at the improvement of their relationships, at the integration and recognition of each member of the team.

Graphic thinking allows remembering a larger volume of information and their integration and the visual product obtained through teamwork helps memorizing and building common memories.

One can notice the homogenisation of some different levels of comprehension, thus contributing to the improvement of the results.

6. CONCLUSIONS

In our work of documentation, we found and studied in the information areas a lot of forming programs of graphic facilitation, offered by practitioners or companies, based on their own experience. We think that between them there is a series of elements of convergence, but also particularities concerning individual preferences and the context in which the experience was acquired.

This paper propose an educational approach in the educational context of technical drawing classes, and we consider that graphic facilitation will be very helpful for students in finding visual solutions for their projects management and seminars. The innovation capacity will be developed: the images show new perspective and the known notions appear in a whole new light. Visual language shall lead students to border fields, very spread and modern: video presentations of projects, evaluation activities, mind mapping, rich picture, storytelling, graphic novel.

After students' graduation, graphic facilitation can be used like a visual approach of learning processes, communication, leadership and marketing for trainings, presentations, workshops, trainings, coaching, meetings, conferences, etc. Also, mentoring, pitching, social-educational animation, cultural projects, and internal organizational processes will be more meaningful, effective and engaging.

REFERENCES

[1] Jon, Yablonski. (2018). *The Psychology of Design* available at: *https://alistapart.com/article/psychology-of-design Accessed*: 2018-12-10.

[2] Sunny, Brown. (2016). *Unlock the power to think differently*. Hardcover. ISBN-13: 978-1591845881.

[3] David, Sibbet. (2010). *Visual Meetings: How Graphics, Sticky Notes and Idea Mapping Can Transform Group Productivity*, Wiley, ISBN-13: 978-0470601785.

[4] *Drawing Lesson, Ideas and Projects* (2016) available at: http://artinspired.pbworks.com, *Accessed*: 2019-01-12.

[5] Bas Bakker. (2016). *How to design visual templates in 99 examples*, Kindle Edition ASIN: B01MXIIG4X.

[6] Graphic Facilitation Guide (2017) available at: *https://www.anpcdefp.ro Accessed*: 2018-12-10.

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