

## The comic of Clamat': the use of a comic as a linguistic mediator.

*Claudia Sortino*<sup>1</sup>

**Abstract** The purpose of this chapter is to analyze the use of comic as a linguistic mediator showing and analyzing when the associative memory by images can have influence on the understanding of the text and on the “anticipation”.

One of the theoretic reference is the theory of the situation of G.Brousseau and the analysis of didactic situation was manage in reference at the “sly” use of semeiotic specific instrumental present in the realization of our comic.

Our experimentation regard the three classes of a secondary school of Palermo: two first classes, three second classes and two third classes. The age of students is of 10, 11, 12 and 13. The comics designed and utilized for our experimentation are four and they are organized for topic of teaching.

By the experimental analysis it seems to result the comic as linguistic mediator, has a “iconic” function that let to narrow the semantic field of reference in relation to the number of datum-field for written text and besides the cognitive influence happen on different linguistic levels.

Recalling the use of a semeiotic instrumental I refer not only to the use of some symbol and to the representation of particular situations but only to the specific attitude of the teacher by the use of such instrumental.

The idea of the use of a comic as a instrumental to the didactic transposition was born from the exigency of succeed in communicating a mathematical delivery, in particular geometrical one, and then a certain logic, trying to reduce to a minimum the evident difficulties in the comprehension of the spoken language and then of the logic inherent in the some language.

To this purpose I carried out some comics with some situations that used the “universal<sup>2</sup>” symbols and some images that in the specific and in a joyful way, tried to:

- 1) support a good devolution of the problem from on emotional point of view to motivate the pupil to find a strategy of resolution to prompt the main character of comic to solve his problem;
- 2) let to “show” that phase of carry out a mathematical symbol that let the passage from a natural context (also it is fantastic) to a mathematical context in which it is possible to look for strategies of resolution;
- 3) make understood the role of the definitions of simple mathematical object and of some specific mathematical symbol for express conceptions;
- 4) make single out the necessity resources to get an objective selecting the information that are possible to extract from the context;
- 5) favor the connection of the resources to the purpose to get to induce the pupil to concatenate the actions to do in effective way in order to produce a resolution of the problem;
- 6) produce a conjecture;
- 7) induce to the resolution of a problematic situation recognizing and using, for example, the geometric proprieties of the figure.

### **Introduction:**

*The comic of Clamat* is a collection of vignette organized to didactic topic and to level of learning. This collection can be used to a didactic intervention inside a didactic programming which can considerer a transversal curriculum. The use of a comic as a mediator of meaning has a double aim in relationship to the presence or no of foreign pupils inside the classroom.

The use of universal symbols inside a specific context, for our experimentation, results a good *instrumental of*:

- communication / mediation / knowledge of meanings of the symbols and of the mathematical activities;
- reflection, comprehension of the own way of argue, conjecture, interpret and represent a problematic situation;
- development of the own intuitive and critical ability and the personal rielaborate.

So, this instrument seems to result functional to attain the following objects: *general objects*:

- to build a shared context in which it has a sense to do same mathematical activity;
- to build a common “language” to speak about maths;
- to mediation and to communicate own “mathematical meanings” inspired by a different culture;

---

<sup>1</sup> Component of G.R.I.M. (Gruppo di Ricerca sull’Insegnamento delle Matematiche, Dipartimento di Matematica), University of Palermo

<sup>2</sup> The term “universal” involves non only the territories in which was conducted the experimental but also that territories of which is verified the knowledge of at least a shape of comic.

- knowledge and comprehension of some mathematical symbols and of their deep meaning in relationship to a problematic situation.

specific objects:

- reflection and refinement of own way of interpret, argue and explicate a problematic situation mediate by a visual experience;
- to develop of own sensibility and critical ability to the comprehension and to the criticism of the images;
- the comparison of the strategies of resolution,
- deepening and/or reinforcement of specific topics.

This activity offers, in our opinion, a possibility of to reflect about the relationship between a problematic situation, a request of information to resolve it, a selection of the information just we possess and about the relationship between the solutions of a problematic situation and its ties (“acceptability” of a solution).

**Why the choose of a comic in place or as support of a text written?**

We think that the comic as a didactic instrument in place or as support to the classical problem treated by a text written is an excellent writer of popular science and it encourage the analysis of own abilities. Thanks to its structural organization it is a ludic instrument at the cognitive level to *the spectator* (this definition is more pertinent than of reader! Pellitteri, 1998). The spectator is involved from more senses. The comic involves not only for the principal character (that the spectator must love it sudden!) and for the action described by the same character, but above all for the not-replaceable and importance presence of the ‘balloon’!

The comic tell a story! It is a speech of concept: the comic expresses in a easy way what it wants to say and it uses a system of conventions, a iconic law that enumerates balloons, signs of movement, onomatopoeias, calligraphic variables.

So there is a triangulation between the character that is doing the action, its thought translated in symbols and described in a balloon and described by words in another balloon. This triangulation results a perfect instrument functional to the communication and to the ‘devolution’ of the problem.

Unconsciously by the only (initial) experience of view, the spectator is immersed and involved in a ‘nice’ problem. In general he will try to resolve it using his instruments and his logic and critical capacity either personal pleasure or didactic contract.

By our interview with Claudio Stassi (designer of comic in some Italian editors) it seems important to observe that to the creation of a comic or a vignette used to the mathematical divulgation (and not only) it is important that:

- the spectator loves sudden the principal character and so he decides to let oneself to keep company during the mathematical experience;
- the ideal character has a human nature so the spectator agree his advice and his problem. In this way his mind seems to elaborate the following thing: ‘...oh, there is a human with the amusing appearance of a mouse which wants to explain something in a nice way...’;
- the comic or the vignette must be the most possible rich of colours. In fact a white and black images can annoy;
- there is a first balloon that represents the problematic situation translate by symbols and by logic, clear and significant approaching of images;
- there is a second balloon (eventually of support to) that contains the question of the problem written;
- there is always a only principal character and eventually some secondary characters organized and/or used by the principal character.

The balloon is an important object because it is a excellent instrument of communication, of transposition of a knowledge or of a thought or a intention.

By the presence of a balloon the reader is catapulted inside the thought of him he looks, listens and in a certain sense lives in that moment.

In its intimate logic structure the balloon let we enter inside a thought, to read a will and also to listen a voice that involve us and demand us asking to participate. It takes advantage to the particular union between the images and the words and it crosses not only two languages but two communicative strategies (Pelliteri 1988).

In this way the balloon let us enter inside a thought to make us becoming an active part of that thought.

### **Scott Mc Cloud's View of the Invisible Art of Comics**

The power of the comic is exciting and it hasn't limits. *McCloud Scott* in his book shows his need to define the word "comic" and to describe it he recalls the best master of the comic Will Eisner. Will Eisner uses the expression *sequence art* to define it.

McCloud speaks about "icons" and with this term he intends any images used to represented a person, a place, a thing or an idea. Symbols are only a category of icons.

In the non-figurative icons the meaning is fixed and absolute and their appearance not influence their meaning because they represent an invisible idea.

In the figures on the contrary the meaning is fluent and changes in relationship to the degree of diversity from the real life.

The words are the icons completely abstract, they have not any likeness with the original object.

About the figures, he observes that when we abstract an image and we make a cartoon we not eliminate the particulars but we concentrate on a specific particulars. So the comic has the special power to:

1. concentrate our attention on an idea;
2. the universality of the imaginary of the cartoon: the more a face is a cartoon the more persons it can describe.

The cartoon is a empty in which there are dragged *identity* and *consciousness*. We don't observe a cartoon only but we became a cartoon! The reader makes becoming what he read in the balloons a voice inside his head, a concept.

*Marshall McLuhan* observes a such shape of *not-visual awareness* when the person to be in touch with inanimate objects.

When we drive, for example, we feel much more of our senses refer to us. The vehicle becomes an extension of our body. It absorbs our sense of identity. We become the car!

Our capacity to extend our identity to inanimate object can to transform a bit wooden into legs (crutches), a bit of metal into a hand (service), a bit of plastic into ears (the cornet of telephone) etc..

In any case the constant awareness of ourselves flows out to include the object of our extensive identity.

McCloud says all things we fell in the life ca be divided into two reigns: the reign of concept and the reign of the sense. Our identity belong to the conceptual world but we can *see it, listen it, touch it, smell it or taste it*. It is a simple idea and all the rest initially belong to the sensorial world, to the external world.

Gradually we extend beyond we ourselves as far as to met the sight, the smell, the contact, the taste and the sound of our body and of the world that surround us. In this way we discover that the object of the physical world can meet us and they have own identity or like our extension they start to burn to the life we give them.

The cartoon is located in the world of the concepts. Reducing the images of a face into two points and two lines seems that our scale of iconic abstraction is completed but really we can to continue to abstract the image : the words are the definitive abstract!

Words, figures and others icons are *the vocabulary* of the *language* called *comic*.

The comic must be able to explain about the deeper need and the deeper idea of the designer to ripen as a Medium. Our culture is oriented to symbols and the visual iconography can give to us a hand to realization a universal communication shape.

We perceive the world as a whole across the experience of our senses.

The phenomena of *closure*, that is the observation of the parts and the perception of a whole, is the process thanks to that the lines become a face ☺.

There is a instrument of communication and expression which uses the closure and in which a public is a spontaneous and awareness collaborator and the closure is the agent of the change, the time and the movement: the space between the vignette, the ‘margin’, that give hospitality to the magic and to the mystery that live in the heart of the comics.

In the limbo of the margin the human imagination takes two different images and transforms them into a only idea. The closure let us to collect these moments and to built mentally a continuous and unified realty.

If the visual iconography is the vocabulary of the comic, the closure is its grammar and because our definition of comic is pivot on the disposition of the elements we can say *the comic is the closure!*

A easy figure can evoke a emotive or sensorial answer.

The backgrounds can be another important instrument to indicate invisible idea, in particular the world of emotions. The icon synesthesical more used, more complex and more versatile of the comic is the balloon.

### **The languages of comics**

By our experimental analysis it seems to result the comic as linguistic mediator has a “iconic” function that let to narrow the semantic field of reference in relation to the number of datum-field for written text. In fact, written text often has a big degree of complexity in the operation of de-codification. It not returns the picture with the same accuracy and precision that the image gives.

We are agree by the definition of D.Barberi (2002) to define the *language as an ambient* more than an instrument of communication: we inhabit the first while we use the second in relationship our communicative aims.

The languages are different aspects of the global ambient of the communication and consequently they are strongly connected, interlaced, in continuous reciprocal interaction.

The language is an ambient in which we stay and inside we think. Many times as a temporary solution we try to explain in a language what we think in another language. So every languages end to be crossed by several languages.

Ideas develop inside a language. So the language in which we think in that moment will not have only the characteristic of a instrumental used to transmit the ideas but it will be the ambient in which we are when we form they. So the characteristics of the language in which we are thinking influence our thoughts.

### **The organization and the results of our experimentation: What are the “sly” instrumental present in the realization of the our comic?**




Our experimentation regard the three classes of a secondary school of Palermo. The age of students is of 10, 11, 12 and 13. The comics designed and utilized for our experimentation are four and they are organized for topic of teaching. They are identified in this way: The problem of tins, The problem of the ladders, the problem of the ways and The problem of the home. The principal character is a lovely mouse which lives everyday problems.

For every comics we have prepared a didactic unit and by a qualitative analysis of our experimentation seems that for every comics we have obtained the specific objects and the general objects we have just mentioned in the introduction.

It is important observe that in the realization of the comic as a good linguistic mathematical mediator is important the particular use of some “sly” instruments.

This mathematical instruments are very important because they seems to encourage the development of mental diagram or the logic use of particular mathematical symbols. They seems to encourage to remember a formula or to understand better a problematic situation and the link between the data of the problem. In fact sometime we remember an image or some

literal symbols and at least we remember the meaning. In our experimentation we used some “sly” instruments inside the comic and the pupils interpreted them in this way:

-  **the balloons** as a mediator between the reader (or “spectator”) and the problematic thought or intention of the character;
-  **the arrows** as a implication, a logic and associative link;
-  **a question mark** as a presence of a problem or as the object of the problem to resolve, to calculate;
- ... **dots** as repeated action.

By the “sly” use of this semiotic specific instruments present in the comic the teacher is not present as a “teacher” but as a supervisor. The teacher gives the comics and a set of questions to the pupils and then he must supervises the development of the production of single pupil.

In the lesson-exercise he give birth the interpretation of the problem from the polyphonic interlacing between the story that the images tell and the story that the words tell.

### Conclusions

In mathematics, in which students spend so much of their time doing routine exercises, student actions are very highly organized; students expect to complete most mathematical tasks without any blockages or delays. Thus, the blocks that inevitably interrupt problem-solving activities may lead to intense emotions.

By our experimentation we think that if the student are just involved and they are thrilled to the problem, their degree of organization of mental activity is supported by various of types of sensorial experiences and the possibilities of physiological interruption (Mandler, 1984) is less frequent to a classical problem.

It was very interesting that some pupils reproduced in their resolution of the problem a particular scheme that yield a demonstration more clear and fluent.

In general all pupils understand the problem described by the action mimed by the character and by the balloons. Probably, also because with the presence of the balloons and in particular of symbols like “arrows”, they see image and touch the problem. We thing we learn, also, from the comparison of experiences and if this experiences are lived by more sense this create a big awareness of the knowledge. In particular the possibilities to create a mental logic diagram could help pupils to have clear the problem and to have the possibility to find various links and resolve it.

The images are more near to the daily life and they are more power than the words in our society. So, the teacher by the “sly” use of some specific “iconic” recalls experiences lived by the pupils. In this way, we thing the teacher induces pupils to understand associative strategies and a mental logic diagram to organize and to resolve a problem. Moreover, pupils see the meaning and the importance of specific mathematical instruments (or symbols) and some of pupils utilized them just in their resolution of the problem.

“There is not pencil that can design finely the things as a mind and there is not paper as large as imagination that can to contain all this things”.

### References

- M.Pellitteri*, “Sense of Comics, La grafica dei cinque sensi nel fumetto”, ed. La Grafica Castelvechi, 1998 .
- McCloud Scott*, “Capire il fumetto - L’arte invisibile”, Torino, ed. Vittorio Pavesio Productions, 1996.
- Daniele Barberi*, “I Linguaggi del Fumetto”, Strumenti Bompiani, 2002.
- Articolo di *Douglas B.McLeod – Verna M.Adams*, “Affect and Mathematical Problem Solving, a New Perspective”, 1989.
- Filippo Spagnolo*, “Insegnare le matematiche nella scuola secondaria”, c.ed La Nuova Italia, 1999.
- Bart Kosko*, “Il Fuzzy – Pensiero Teoria e Applicazioni della logica fuzzy ”, c.ed. Baldini e Castoldi.
- Articolo di *Marcia Ascher*, “La tradizione Kolam”, marzo 2003.
- Vygotskij L.S.* 1934, “Thought and Language”, Italian translation from the two editions by L.Mecacci, Bari: Laterzia,1992.