



Exploring Transformative Learning through the Analysis of Visual Representations in Applicative Teaching

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

As contemporary culture is constantly inundated with visual information, the imperative need arises to educate young individuals in the proper processing and beneficial utilization of this information. This article attempts to integrate the concept of transformative learning with the methodological tool of analyzing visual representations from the Grammar of Visual Design. The primary aim is to propose a new approach to the visual material used in the learning applicative, present results and discussions, as well as implications and suggestions for the scientific community. Using the painting «Landscape with the Fall of Icarus» by Peter Bruegel as an example, this article attempts to present a new teaching proposition, highlighting the semiotics of the image as a transformative dilemma.

Keywords: *Transformative learning; visual representations; visual design teaching methodology.*

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1. INTRODUCTION

The theory of transformative learning was developed by educator and educational theorist Jack Mezirow [1,2,3]. Transformative learning is an approach that refers to an individual's ability to reevaluate and readjust their beliefs, values, and personal experiences, transforming them into new understandings and actions. Regarding visual representations, these can significantly contribute to the process of transformative learning. Visual representations such as graphs, diagrams, images, and other graphical tools can help explain difficult concepts and create a framework of understanding for the learner [4]. In relation to the theory of transformative learning, visual representations can serve as tools that encourage the learner to reconsider their preconceptions and beliefs. Additionally, the visual presentation of information can facilitate the process of incorporating new knowledge and creating new semantic connections. Overall, the use of visual representations can enhance the effectiveness of transformative learning by providing an alternative approach to understanding and revising preconceptions and beliefs.

In the international literature, only a few proposals for the utilization of Art within the framework of Transformative Learning are identified. Among these, one relates to poetry [5] and the other two [6,7] concern visual representations. So far, no teaching proposal utilizing the semiotics of images has been identified.

2. THE THEORY OF TRANSFORMATIVE LEARNING AND ITS APPLICATION IN APPROACHING VISUAL REPRESENTATIONS

The theory of transformative learning remains relevant today because it sees education as a means of addressing crises and challenges, promoting creativity and innovation. Therefore, it reflects the demands of a modern and dynamic society [8]. Central to Transformative Learning, according to American sociologist Jack Mezirow, is the idea that every individual, in order to interpret reality, adopts a perspective that is fundamentally a social construct. Specifically, the stages of transformation are as follows [9]: (a) Identification of a problematic situation, (b) Self-exploration of the emotions it evokes, (c) Critical evaluation of assumptions related to the problematic situation and distancing from them to

examine new approaches, alternative interpretations, and attitudes, (d) Connecting discomfort with the experiences of others, (e) Exploring alternative solutions for new courses of action, (f) Formulating an action plan, (g) Acquiring knowledge for implementing the plans, (h) Experimenting with new roles, (i) Building self-confidence related to the new roles, (j) Integrating the above into the participants' lives.

Within this framework, educators do not confine themselves to neutrality but aim to help students realize their potential. Mezirow characterizes them as «cultural activists» as they continuously strive to create and broaden conditions that will enhance critical dialogue and meaningful participation. In doing so, each student, by setting their own cognitive goal, takes on a primary role in the group dynamics [10].

The utilization of aesthetic experience and art through transformative learning can be realized through a variety of techniques that focus on the development of critical thinking. Kokkos [11] emphasizes six stages of applying the theory of transformative learning in teaching practice: (a) Exploration of the need for critical reflection, (b) Participants express their opinions, (c) Identification of the perspectives to be examined, (d) Selection of artworks, (e) Critical reflection through aesthetic experience, (f) Reevaluation of assumptions.

Within the framework of critical review and transformation, it is essential to incorporate the approach proposed by Perkins [12], who distinguishes four phases in approaching a visual representation [13]. In the first phase, the learner is prompted to take as much time as needed to observe the artwork. In doing so, they identify clear elements and express their questions. In this way, the viewer-learner gives themselves time to organize the information they may already have and engage in careful and systematic observation [12]. In the second phase, observation becomes open and adventurous. The term «open» signifies observation free from biases, similar to the phenomenological approach discussed in a previous chapter [12]. In the third phase, observation becomes clear and in-depth. After thinking has been stripped of prejudices, sight is enriched with existing knowledge and becomes more penetrating [12]. In the fourth and final phase, perception is organized into a comprehensive assessment, leading to the formulation of final interpretive decisions [12].

This teaching structure highlights pluralism in the approaches to visual representations. However, each of these primarily targets adolescents and adults, as it presupposes cognitive processes and communication skills that this age group - and not the previous one - has already acquired. Automatically, the question arises regarding the adaptation of these approaches to students in Primary Education. In addressing this issue, the adaptation of Kress & van Leeuwen's Grammar of Visual Design (1996) provides a significant methodological solution. In total, it offers a more holistic and flexible approach that aligns with the complexities of cognitive recognition, emphasizing meaning, multimodal understanding, critical reflection, symbolic representation, subjectivity, and the integration of arts and aesthetics [14,15,16].

3. THE GRAMMAR OF VISUAL DESIGN AS A METHODOLOGICAL TOOL OF TRANSFORMATIVE LEARNING

In 1996, Gunther Kress & Theo van Leeuwen published their work, «The Grammar of Visual Design». Drawing on Critical Linguistics and Michael Halliday's views on Systemic-Functional Linguistics, the authors sought power relationships in human communication, constructing their entire methodology based on Halliday's three metafunctions of non-linguistic communication (ideational-representational, interpersonal, and textual) [17].

According to the ideational-representational function [18], which is concerned with what exactly is represented, visual representations are classified into narrative (indicating that something is happening) and ideational (representing relationships of classification, analysis, and symbolism). The interpersonal function is concerned with the social relationship created between the creator (through the Participants in a representation) and the observer. To detect this, one must examine the contact between these two parties, which is distinguished between demand contact (when the depicted person, through gaze or movement, asks the viewer to pay attention, involving them in the action) and offer contact (when the viewer is simply asked to observe without participating). Also, the study of social distance is crucial, involving the percentage of the depicted body visible to the observer (the more visible, the closer the social relationship sought). This is summarized in six visual fields: immediate distance (the face or head is visible), close personal (shoulders are

visible), distant personal (form from the waist up), close social (the entire body is visible), distant social (body and surrounding space), and public (other people are visible) [19]. Finally, the freedom granted to the observer by the creator is defined by the viewing angle, the perspective. Horizontal angle, when frontal, allows the viewer to engage in the representations, while, when sideways, it places them in the background. The vertical angle, when high, gives a dominant position to the observer, when level, seeks equivalent participation, and when low, attempts to compel the viewer to accept what they see [18].

Textual function correlates the two previous ones into a unified composition, governed by three combined systems: informational value, projection, and framing. Informational value concerns the «geography» of the image: the most important element is placed in the center, while the upper part is connected to the Ideal, the lower to the Real, the right to the Given, and the left to the New. Projection has to do with which of the four elements of a composition or a multipolar text (Ideal, Real, Given, and New) is emphasized more. Finally, framing relates to the ways in which these four elements seem to be connected (e.g., distinct lines or gradually blurring colors or intermediate forms) or separated [18].

4. BRUEGEL'S EXAMPLE OF ICARUS

In order to integrate the pedagogical concept of transformative learning with the methodological tool of the Grammar of Visual Design within the framework of everyday teaching practices, it is necessary to incorporate the transformation steps as defined by Mezirow's research [2]. Below is an example from the History textbook of the 6th grade of Elementary School, taken from the first pages of the book. It concerns the well-known painting by the Flemish artist Bruegel titled «Landscape with the Fall of Icarus» (c.1560) Many interpretations for this painting has been published [20,21,22,23,24,25,26].

The selection of this visual representation was made for two reasons: firstly, because it is on the first pages of the book, and the application of any methodological tool for image analysis can serve as a stimulus for further systematic approach. Secondly, because this image is more of a decorative-accompanying element in the introduction of the unit and can be easily overlooked by the educator, especially since

there is no caption. However, the educator can fully utilize this image. In detail:

Step 1: Asking Questions

Observing the painting, one immediately recognizes certain human figures (a farmer, a shepherd, and a fisherman) engaging in their daily activities in the foreground. A marine landscape with few details, featuring a few ships and a city-port in the background, frames these people. A student, who is asked to describe the painting after a first glance, might focus on these elements. Since the image lacks a caption, the educator can ask the student to give it a title, the meaning of which would likely revolve around agricultural work or the seascape. Once all students have given their titles, the educator can reveal that the actual title of the work is «Landscape with the Fall of Icarus». Automatically, students will scrutinize the painting more closely, and the immediate question that arises is «Where is Icarus?» or «Why is the main figure absent from a painting with this theme?» The dilemma, therefore, revolves around the non-representation of Icarus compared to the majority of his depictions.

Step 2: Checking Our Previous Actions

Students are then asked to observe the painting more carefully. Some of them may not have identified the mythological figure in the lower

right corner of the image. The difficulty in observation is also attributed to the size of the image, which does not facilitate the identification of details. For this reason, the educator should be prepared to present a larger version of the painting, using the teaching technique of demonstration. This way, through a brief use of the demonstration technique, students will locate Icarus and realize that their previous observation was not so attentive.

Step 3: Revisiting Assumptions

At this point, the educator can employ the dialogue teaching technique, focusing on the basic themes of visual representations. Using images already present in the classroom, such as the iconography of Christ commonly found in school rooms or photographic collages on cardboard, students observe their surroundings, exchange opinions, and come to the conclusion that the central themes of visual representations are usually located in the center of the image or occupy the majority of it. However, in «Landscape with the Fall of Icarus», the main theme, as indicated by the title, is on the margins. It would be useful to provide a brief overview of the myth of Icarus. Therefore, placing the theme in the center is not a rule, and when the opposite happens, there is a purpose to be served. The goal is to find out what that purpose is.



Fig. 1. Landscape with the Fall of Icarus, c. 1560, Peter Bruegel the Elder

Image Source: https://en.wikipedia.org/wiki/Landscape_with_the_Fall_of_Icarus (last viewed Nov. 28, 2023).

Prototype: Oil on canvas, Royal Museums of Fine Arts of Belgium, Brussels.

Step 4: Detecting and preparing for new roles, plans, and actions

The fundamental elements of the Grammar of Visual Design should become clear to students at this point. Basic points that can be understood by students, mainly concerning interpersonal and textual interplay, include the viewing angle, the informational axes of Given-New and Ideal-Real, as well as projection. These are three of the basic elements that can be highlighted. It is worth noting that minimal teaching time should have already been dedicated to introducing students to the logic of Visual Design, utilizing, for example, images from the first unit, such as the Second Coming, or monumental photographs from the third unit. In any case, the aim is not to familiarize students with the concepts of Visual Design per se but to develop the ability to analyze a visual representation in terms of its basic structural elements.

Step 5: Applying New Practices (Applying Visual Design)

Having already prepared a series of questions, the educator employs the teaching technique of questioning, guiding students towards a complete analysis of the artwork. Indicative questions may include: «What is the first thing one notices in the painting? », «What is located in the top/bottom/right/left part of it? », «Where is the farmer heading? », «What might he be thinking? », «How do you feel in front of the sea as depicted in the painting? », «How is Icarus portrayed? », «Who can help him? », etc. Gradually, students can be led to the key conclusion regarding our initial disregard for significant events and other realizations, such as the destruction of Icarus following the violation of safety instructions or the need for a continuous reassessment of events through the lens of the science of History. Below is a complete analysis of the painting based on the methodological tool of the Grammar of Visual Design:

- Regarding its ideological-representational function, «Landscape with the Fall of Icarus» is a narrative visual representation. As a whole, the image can be divided into two parts, following a diagonal from the upper left to the lower right. The two triangles formed encompass the sea and land spaces, respectively, and the main vector is a diagonal upwards, from the lower right to the upper left. In this direction – and not the opposite – one concludes by considering the directions of the vectors

created by the body of the farmer, the shepherd, and the ship (from right to left). The body of the farmer creates a second vector upwards, emphasizing the visual dominance of this form in relation to the others. This narrative representation involves action processes: the farmer plows, the shepherd oversees his flock, the fisherman casts his net, the ship moves towards the harbor. The form of Icarus is not presented in its entirety, and the theme of the painting is presented through his absence: no one seems to perceive the event, except perhaps the fisherman. In this sense, the human figures participating in the composition (the actors or participants) either overlap with the main event or simply frame it, playing secondary roles – in any case, their significance is not primary. Therefore, this narrative representation is an image of circumstance.

- Regarding the interpersonal function, the contact of the participating actors with the viewer is not direct, as none of the figures in the painting looks at the observer. On the contrary, everyone is engaged in something, avoiding direct eye contact and inviting the viewer to observe them. It is, therefore, an image of giving. In the giving of contact, one should also consider the phase of social distance, i.e., the distance of the participants from the viewer. Reviewing the corresponding categories as defined by Hall [27] and Kress & van Leeuwen [18], one could characterize the distance of participating actors as public far (public distance – far phase), as the participants are presented together in a wide landscape. Additionally, in the giving and public far social distance, the perspective parameter adds the viewer's dominant supervision, as the horizontal angle of view is frontal (the viewer is directly involved in the representation), while the vertical angle of view is high (the viewer observes and supervises everything). Therefore, summarizing the interpersonal function, this visual representation does not make its message clear from the beginning but invites the viewer to observe the participating actors carefully: indeed, careful observation is what leads the viewer to the figure of Icarus and subsequent contemplation about the placement of the main theme in the margin.

- The elements of ideological-representational and interpersonal function coalesce into a unified whole in the textual function. Concerning the axes that separate the basic elements of informational value, one could argue that the previously mentioned diagonal serves a dual function, both as a horizontal and a vertical axis. «Reading» the image horizontally and utilizing the vectors, one observes a movement from right to left, accentuated by the larger figure of the farmer. This movement, from countryside to town, suggests a transition from the New to the Given, from the uncertain to the certain, from the unknown to the known. Simultaneously, in the part of the painting representing the sea, the movement follows the same direction: the ship is also heading towards the certainty of the harbor.
- Furthermore, the placement of the sea in the space of the Ideal (upper part of the representation) serves as a reminder of travels, exploration, and search, while the position of everyday people in the space of the Real (lower part) reminds us that the search for new goals contains the new but also creates a new established situation as part of everyday life. In summary, dividing the painting into four quadrants, in the upper left (Ideal and Given) belong the town and the harbor (certainty of a permanent home), in the upper right (Ideal and New) the open sea (new journeys and discoveries), in the lower left (Real and Given) the everyday agricultural activities (routine of daily life), while in the lower right (Real and New) one sees the event that disrupts this routine, the Fall of Icarus, which almost no one perceives. The primary projection of the representation is the figure of the farmer: the observer's eye must be kept away from Icarus to later search for the theme. One must first observe the figure of the farmer, then those of the shepherd and the fisherman, and afterwards reach Icarus, discovering that impactful events may happen very close to us, but we sometimes fail to perceive them. The framing of the farmer as the central figure is achieved mainly through the open sea above him: this way, the observer's eye remains in the center of the painting, observing details like ships or the town and staying nonetheless away from the figure of Icarus.

Summarizing the analysis, the creator situates Icarus away from the center of the view, implying that significant events often escape attention and get lost in everyday life. People are focused on the struggle for their own survival, and sometimes the harsh fate of their fellow human beings eludes their attention. Perhaps, if it had fallen into their awareness, they might have offered help, and the fate of the observing Icarus could have been different. However, reality is harsh and cannot be changed. We ourselves must try to learn from it and avoid similar situations in the future.

Step 6: Testing the new knowledge.

Based on the above analysis, students can attempt to identify basic structural elements in other images from the book or in visual representations from various sources, such as advertisements in newspapers, magazines, and websites. This can be done both in the classroom and as homework or even as a brief Work Plan. It would be beneficial for students to be allowed to freely choose the image they will analyze.

Step 7: Acquiring proficiency in the new skill

By increasingly practicing the applications and tools of Visual Design in teaching, students extend their knowledge to their daily lives. Television commercials, advertising banners, web design, promotional material for electronic games and applications—all this visual material is subject to a set of rules governing both the direct and indirect communication of the creator with the observer. Following this realization, students' perception of the world is no longer the same.

Step 8: Applying the new perspective.

At this point, the educator is called to expand knowledge into another field, such as the visual arts. Visual Design can offer useful outlets in creating posters for events and competitions. Additionally, through this methodology, students can approach an artwork during a visit to a museum or art exhibition. Even in their daily lives, for example, in selecting the theme, angle, and focus of their photos, they can use their knowledge from Visual Design.

The application of the above methodology in the perspective of transformative learning is an indicative proposal for utilizing both the Grammar of Visual Design and the image itself in the

teaching process. Beyond the teaching of any subject in which visual representations play a significant visual role, the use of Kress and van Leeuwen's Grammar can itself be a fundamental element in the processing of the Art Lesson, through which students will create their own visual representations. Essentially, it is a different way of communication, given that students will be familiar with this new code, and a new way of expression, as the entire process involves contact with a multitude of works of art.

5. CONCLUSION

In conclusion, it is highlighted that the analysis of visual representations with any methodological tool leads to a deeper examination of existing knowledge and perceptions of Art and, through it, to the critical reconsideration of many internal interpretative constants. In other words, critical thinking is sharpened, and the methodology for approaching each visual representation changes (transforms). In the teaching process itself, the multiplicity of texts makes it imperative to consider the elements of a representation within the framework of a critical spirit, the extension, and applications of which are encountered in the daily life of each individual. Therefore, the educational process has the potential to utilize yet another tool to achieve the desired results.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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