

# Think out Loud: A Visual Thinking Strategies experience for Students in Museums

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## ABSTRACT

*VTSItalia* is the Italian association that experiments and develops the Visual Thinking Strategies (VTS) educational method in Italy: an inquiry-based group discussion about an artwork or a musealized object, that leads the participants in the process of complete and in-depth understanding of the observed object. In 2021 VTSItalia started a one-year project involving three high schools and two national museums in the province of Rome. The project is called “*Pensa a voce alta*” (“think out loud”): the aim was to create a learning environment that could encourage reasoning and confrontation in museums. This way, students might have felt part of a community with a strong interest in museums and that will continue to visit them once they finish their studies. To achieve its aim, “*Pensa a voce alta*” had two classroom meetings in schedule, to introduce the activities and the VTS method to the participants. The purpose of these meetings was to prepare the students for the incoming museum visit, letting them start feeling familiar with observation, discussion and learning methodology in a friendly environment such as the school one. During the following museum visits, students had the chance to observe the artworks they previously studied in the classroom and to confront themselves with brand new ones using the VTS method. At the end of the project participants made captions of the artworks based on their observations, that would have been made available for the museums’ visitors and online, on the website of the project. Results achieved have been very surprising, both for the high quality of the captions, both for the active participation of the students, who expressed their enthusiasm for the project and showed to have completely understood the aims of it.

**Keywords:** Visual Thinking Strategies, learning by doing, education through art.

## 1 Introduction

The VTS Italia research project was set up in 2014, in Sapienza, University of Rome, to test and use Visual Thinking Strategies in a learning context for the first time in Italy; in 2017, the project participants came together in the VTSItalia Association, which has been developing educational and training projects using cultural heritage ever since. Applying innovative teaching methodologies that place students at the centre of the educational process, VTSItalia promotes and implements socially useful programmes for the development of soft skills, social inclusion, and the promotion of well-being. It cooperates with schools of all levels, museums, and universities and other institutions for the development of socio-educational and cultural initiatives in the fields of training and health.

In 2021 the Association realised “*Pensa a voce alta. Confrontarsi al museo con le Visual Thinking Strategies*” (“Think out loud. Discussing at the museum with Visual Thinking Strategies”), an educational project addressed to students in the last two years of secondary school to bring them closer to the museum institution and limit the process that leads young people to visit museums less and less once they have finished school. One of the main barriers between young people and museums is their disinterest: the latest surveys at the time showed that the percentage of 18- and 19-year-olds who have never visited a museum in a year amounts to



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53.6%, and the percentage rises to 64.8% for 20- to 24-year-olds [1]; these numbers, despite slight inflections, remain largely unchanged over the years, up to the most recent surveys [2]. Data collected by the VTSItalia project team show that most of the students who participated in the project, usually go to a museum with their school or family, rarely choosing to visit with friends or alone. These data, which lead us to reflect on the low level of museum-going among adolescents, constituted the generative input of the project, which aimed to promote an active participation of the students within museum contexts, engaging educational strategies that would make them protagonists.

The project lasted 12 months, from October 2021 to September 2022. It involved nine classes from three schools in the province of Rome: Liceo Classico Linguistico e delle Scienze Umane Marco Tullio Cicerone in Frascati, Istituto Tecnico Agrario Statale Giuseppe Garibaldi and Istituto di Istruzione Superiore Statale Cine-tv Roberto Rossellini in Rome. A further nine classes from the same educational establishments took part as a control group to evaluate the success of the project. Etru - National Etruscan Museum of Villa Giulia and Muciv - Museum of Civilisations, two museums in the Roman area, participated as project partners. It was crucial to foster the development of partnerships between teachers and museum workers, so the planning of activities was done through their direct involvement, in order to design activities that would adapt to different possible scenarios, not least because of the health emergency caused by the pandemic. The meetings with the students took place in two steps: the first one in the classroom, to allow the participants to start familiarising themselves with the methods used within a context they were comfortable with, and the second one within the museum spaces, which became a place of exchange and participation. As a return of the experience, the students produced participatory museum captions, resulting from the new narratives that emerged from the previous activities.

## **2 Materials and Methods**

The aim of the project was to generate an experience in which the museum was seen as a living space, in which it became possible to get involved by contributing one's own personal experiences to give a new voice to the museum collections: this fosters a vision of the museum as a place of confrontation where one can go and return again and again, to continue learning and enjoying moments, even after the end of the school term. To achieve these objectives, the VTSItalia project team designed a programme based on constructivist learning, active participation and learning by doing processes, in order to promote social and cultural inclusion. It has therefore identified two effective educational methods to engage students: Visual Thinking Strategies and participatory captions.

### **2.1 Visual Thinking Strategies**

Visual Thinking Strategies (VTS) were developed in the US context by Abigail Housen and Philip Yenawine, who designed a student-centred facilitation method to create inclusive discussions in front of a work of art. The participants to the VTS discussion examine and discuss works of art in a collaborative group, led by a facilitator and prompted by three questions: "What is going on in this picture? What can you see that makes you say that? What more can we find?" [3]. The requests are designed to lead observers in the discovery of the work of art, starting from their own personal interests and coming into contact with the other's point of view without judgement, in order to achieve a comprehensive and accurate interpretation. Moreover, thanks to its cognitivist and pedagogical background, the VTS method generates an optimal space for learning, as the facilitator, who leads the discussion in an impartial manner, encourages the emergence of narratives from the participants, reversing the traditional teacher-learner relationship [4]. In-depth and comprehensive observation leads to a demonstration of increased interest in the object observed and, above all, participants have space to express their thoughts, which are listened to and accepted by the group [5].

The Italian research team since 2014 worked on the translation of the VTS questions, implementing the method for the first time in Italy in projects involving universities [6], schools and museums [7]. The research group also designed a semi-autonomous artwork discovery tool: the VTS method in written form. For this activity, participants observing a work of art are given two cards: the first, Form-A, to be completed by themselves, and the second, Form-B, which is used later to collect the interpretations of the whole group. The first two questions are the same as in the traditional activity, in an oral form; new requests are then added in the Form-A to invite participants to observe the work of art carefully, and to develop new reasoning, replacing the third question “What more can we find?”. Once Form-A has been completed independently, all participants are asked to read out their hypotheses to the whole group, to compare and develop a discussion from the hypotheses that have emerged. In Form-B, which is completed by a group leader, in addition to the VTS questions, they are asked whether there were differences in the interpretations -and, if so, what differences- and whether they finally managed to find a shared interpretation. Throughout the activity, the facilitator is there to help, but in a marginal way: the group can conduct the experience alone, further developing the ability to work together [8]. Furthermore, the cards are very practical for those projects during which it may be useful to keep one's notes for later activities, such as “*Pensa a voce alta*”. In fact, after the VTS activities, the students tried their hand at a new activity: writing participatory captions from their previous experience of observing the artifacts.

## **2.2 Interpretative participatory captions**

Museums need to involve visitors as active participants, in the process of communicating themselves: collaborating with the target audience of one's communication can serve the institutional objectives, contributing new points of view. Moreover, introducing visitor's storytelling can change the traditional relationships between the public and insiders, breaking down the distance between those who know, and can understand, and those who do not know, and are generally excluded from the process participation [9]. Visitors stop being passive users and become participants in a collective process, in which they are involved in activities that have value for the museum, because it leads to the production of materials that will actually be used by future visitors, in front of those same works of art. Everyone expresses themselves, according to their talents and interests, and enriches the work with their own contribution. This type of experience offers visitors what Nina Simon calls “personal fulfilment”, a challenge *that encourages participants to work hard and demonstrate their creative, physical, or cognitive ability* [10].

Producing a participatory interpretative caption is part of this new focus on the audience. This process, to be realised, needs a series of activities aimed at providing participants with all the tools they need to be able to produce a text that is faithful to the work of art, but at the same time enriches it with a new point of view: interpretative captions are in-depth instruments that should meet the needs of the public, both in the choice of language and in the selection of information; they should also be attention-grabbing and provide relevant content for the reader [11]. The activities - which start with the mediated reading of the work of art through VTS - proceed with the handing over to the participants of bibliographical materials useful for an in-depth knowledge of the observed object and with explanations on interpretative captions. Participants then work in groups to identify, select and order the most relevant issues relating to the artifact observed, through brainstorming activities conducted with the support of the facilitator. After this step, the groups independently initiate the process of writing the first version of the caption; this is followed by a revision in which each group evaluates the work of the others - in a process of peer review - to arrive at the final version of the caption.

### **3 Project Phases**

The activities throughout the duration of “*Pensa a voce alta*” were divided into various phases. From the very beginning, the VTSItalia team cooperated with the other actors involved: the project started with the organisation of meetings in which the activity coordinators for schools and museums were invited to establish together the most suitable way of implementing the programme for both contexts, to schedule all the meetings, and to plan the evaluation, involving the control group.

#### **3.1 Training and updating of the work team**

To create a solid, reproducible, and scalable project, the VTSItalia team participated in training and updating activities to improve skills and knowledge. Vincenza Ferrara, head of the research programme on the Visual Thinking Strategies method in Italy and at the time head of the Laboratory of Art and Medical Humanities at the Faculty of Pharmacy and Medicine of the University of Rome "La Sapienza", held update meetings on the recent results of the method itself and trained the team on the use of online platforms for the adoption of “distance learning” for the Covid-19 emergency. Maria Chiara Ciaccheri, cultural planner and trainer, was involved in leading the course “Interpretative and participatory captions” to provide information and tools to give students the right instruments to write an interpretative caption [12].

#### **3.2 In the classroom**

Between November and January 2021, the first two meetings began, planned within the classroom, as a comfortable and safe place to start a new experience. During these meetings, the VTSItalia facilitators projected four pictures (two per lesson) for the VTS discussion; all the artwork projected belongs to the collections of modern and contemporary local museums in the city of Rome. The last image shown in the classroom came from the collections of Etru or Muciv. Doing so, when in the museum, students would have the opportunity to directly experience an already known artwork, feeling the satisfaction of seeing something already studied and the wonder of discovering what the figure really looks like, using their senses deeply.

#### **3.3 In the museum**

The second phase took place - from February to May 2021 - inside the partners' museums: during two meetings, students divided into small groups, experienced the observation of three artifacts in person through the VTS method, using the cards for the written form, followed by a confrontation moment represented in Figure 1. Afterwards, the restitution phase of the experience began, with the production of interpretative and participatory captions. They were asked to imagine writing a text addressed to their peers; cooperating stimulated by a series of prompts, on which they are working in Figure 2; in the following weeks, the groups worked on writing, in order to publish the text on the project's website.



**Figure 1:** VTS activities in museum



**Figure 2:** Brainstorming phase

### 3.4 Publishing the captions

The project ended with the creation of a website on which participants could submit their texts for publication [13]. On the website, the VTSItalia project team described the project and collected all the student's captions, divided into two sections, according to the museum to which the artefact belongs: Etru and Muciv. Both the museums provided the images needed to complete the artifact files with all the information, so that all the material could also be accessed remotely: it is possible to use these texts in class - for example - or by visitors on-site, using sticker QR codes designed for the purpose, linked to each artwork described.

## 4 Results

The outcomes of the activity were provided by the evaluation of the skills obtained by the participants, through an ex-post test, and the quality of the project, assessed through an anonymous satisfaction questionnaire.

### 4.1 Competence assessment

As research in the US context has shown, since the first experiences with the VTS, it is a useful educational method providing strategies to learn how to learn, transferable to other contexts [14]. To assess the impact of the use of the VTS method on participants, the project team implemented an evaluation using the *VTSkill grid* [15], calculating the percentage of students who showed improvement in the degree of development of each individual competence; results are presented in Table 1.

**Table 1:** VTSkill grid evaluation results

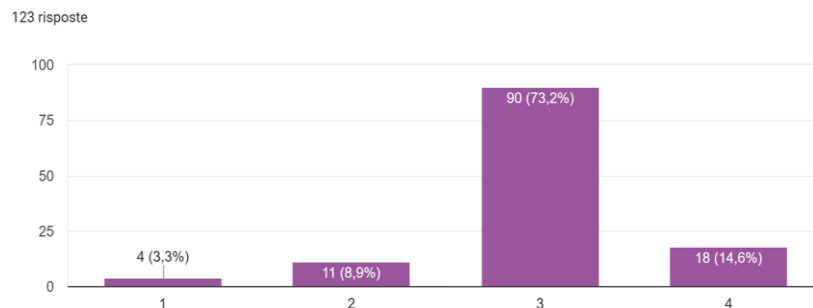
	Participants		Control group	
Critical thinking	24/105	23%	6/66	9%
Observation	47/105	45%	18/66	27%
Linguistic expression	-	-	-	-
Inference ability/ Problem solving	21/105	20%	6/66	9%

As the table shows, the competence in which the project participants have the greatest increase is the ability to observe: almost half of the project participants improved their performance at the end of the project (45%). Furthermore, the difference in performance with the control group is significant. Concerning critical thinking and the ability to make inferences, the scores go hand-in-hand, as the two skills are closely related. There is an increase of around 20% and a significant difference in performance compared to the control group (9%). In linguistic expression ability, there are no differences in scores between ex-ante and ex-post tests. These results have observational-descriptive value, since the variables considered are conditioned by numerous other parameters that cannot be isolated.

## 4.2 Qualitative assessment

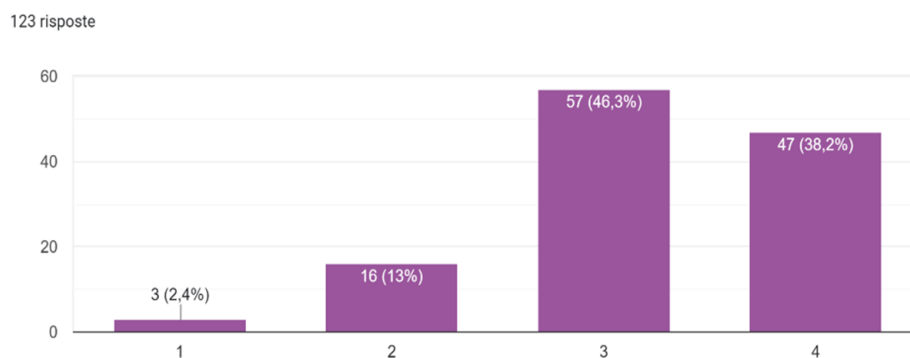
To assess the participating students' perception, a satisfaction test was administered at the end of the activities: 123 students responded to the questionnaire. The overall assessment of the project was as follows: 47 students described it as "interesting", 37 described it as "beautiful" and for 18 participants the project represented "cultural enrichment"; 7 students rated the project as "useful"; 14 students gave other ratings. Through their open-ended responses, the students demonstrated that they fully grasped the project's objectives, and that they embraced the reasons that prompted the project team to use the VTS for the implementation of the activities [16]. Other data from the qualitative evaluation are described by the graphs (Figures 3 and 4), that show the answers related to project appreciation in terms of improvement of skills and involvement in teamwork; in the graphs 1 corresponds to "not at all" and 4 to "completely".

Have you gained more awareness in approaching a work of art?



**Figure 3:** *The vast majority of the students feel that, thanks to the project, they approach art with more awareness*

Did the relational climate within the group make you feel participating and involved?



**Figure 4:** *For most of the students, the project allowed them to feel involved*

Overall, the evaluation was positive, and the answers provided useful tools for improving the offer, through the participants' opinions on the number of encounters, the works they considered of most interest, and what they would like to observe when in the museums.

## **5 Conclusions**

The analysis of the evaluation results and the enthusiasm of the participants confirmed that the project was well received. Designed to bring secondary school students closer to their local museum institutions, the project demonstrated that this is possible, through the organisation of engaging activities that make students feel an active part of the experience. Moreover, in 2024, the VTSItalia Association will conduct an ex-post evaluation of the expected long-term results in relation to the project's objectives regarding new habits and behaviour of the participants. Both the participating students and those involved in the evaluation as a control group will be contacted in order to verify that the expected impact is indeed confirmed in the long term. “*Pensa a voce alta*” can represent a replicable good practice and, in a future perspective, can be re-proposed in different contexts, as it adapts to the host reality, the collections and the target audience. Starting from the feedback we got, we are also improving the project, in order to propose a programme that will be even more effective for high school students working with cultural heritage.

## **6 Declarations**

### **6.1 Acknowledgements**

The authors are responsible for the design and realization of “*Pensa a voce alta. Confrontarsi al museo con le Visual Thinking Strategies*”, VTSItalia Association members Martina Antonini and Alessandro Franceschini collaborated on the project as facilitators and Francesca D'Angelo managed the documentation. Maria Chiara Ciaccheri, with her valuable training, and Fabrizio Nenci, curating the website, also contributed to the project. Andrea Valiante and Donato Quarta supported the team with the communication and documentation. The project was realised with the support of Etru - National Etruscan Museum of Villa Giulia and Muciv - Museum of Civilisations, thanks to the directors Valentino Nizzo and Filippo Maria Gambari, who passed away in 2020, and whom we would like to remember in this article. A special mention goes to Vittoria Lecce and Gianfranco Calandra for their fundamental collaboration, and to the teachers who coordinated the project with the schools.

### **6.2 Study Limitations**

“*Pensa a voce alta*” was born thanks to the funding of a public tender. While this is a strength, it also limited the organisation of the project within a specific time frame: the project underwent several postponements that did not allow the start of activities to coincide with the beginning of school. It would be advisable - for a future repetition - to manage the timetable further in advance of the start of the activities. The VTSItalia Association is also aware that the analysis of the evaluation of the results three years after the presentation of the project could be partial due to possible lack of responses from former students, now outside the school system.

### **6.3 Funding source**

“*Pensa a voce alta. Confrontarsi al museo con le Visual Thinking Strategies*” was implemented thanks to the funds obtained by the VTSItalia Association with the award of the regional call “*Bando delle Idee - Vitamina G*” promoted and financed by the Lazio Region (*Direzione Regionale Cultura, Politiche giovanili e Lazio Creativo della Regione Lazio*).

## 6.4 Informed Consent

The students who participated in the project took part in research activities aimed at evaluating the effectiveness of the activities carried out. All students over 18, and all parents of students under 18, were informed of the objectives of the research and adhered to it by signing an informed consent. They also consented to the publication of the photographic images taken during the activities by signing a release form.

## 6.5 Competing Interests

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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