

# Sci-Stories in Design: Guidelines for Curricular Inscription and Dissemination Through Visual Narratives



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**Abstract** This article aims to present a set of guidelines for the curricular inscription of invisible stories—empirical knowledge, life experiences, professional and pedagogical practice—of Design professionals, lecturers, and researchers, with a role in the history of Portuguese Design, shortening as much as possible, the scientific findings from the corresponding curricular frameworks. It is intended to revert this matter into a pedagogical context, permeating several Curricular Units, in coordination with the faculty thus creating new pedagogical contexts for the students who take part in these Units. A series of workshops in different Design Faculties were conducted to understand the engagement of the students and the degree of empathy they were able to establish with the different topics through visual representation exercises. This reactivation and inscription of these testimonies, from the voice and experience of several design professionals and researchers, aims to connect the current generation of design lecturers, students, and professionals with Portuguese design. To achieve this, we propose two dissemination approaches: (i) learning methodologies will be put into practice aimed at exploring new visual repertoires that offer a critical look to the new generation of design students on the inheritance of knowledge, and intellectual assets, through visual representation; (ii) conceiving a digital archive to increase outreach and perpetuate knowledge. The guidelines proposed will inform new solutions for the dissemination, inscription, and reactivation of knowledge (shaped by memories and experiences) as curricular or extracurricular modules, using visual narratives as a communicational interface.

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## 1 Introduction

This study introduces itself as an extension of the outcomes obtained at the conclusion of the Science and Technology Foundation (FCT) funded project, “Wisdom Transfer (WT): towards the scientific inscription of individual legacies in contexts of higher education reform and Art and Design research (2018–2021)” [1]. Successfully completed in January 2021, this project aimed to lay the foundations for a paradigm shift in the reactivation of knowledge-relevant contributions that academics and practitioners in art and design, can provide on their own behalf. A golden generation that reflects a “sense of school” that remains alive to this day in the foundations of Art and Design education in Northern Portugal [2]. As John Berger would say, “a people or a class which is cut off from its own past is far less free to choose and to act as a people or class than one that has been able to situate itself in history” [3].

Accordingly, one of the main focuses of the R&D project Wisdom Transfer relied on the relevance and urgency of integrating these results into the curriculum. To fulfil this goal, several actions of scientific and institutional dissemination were carried out, such as journal publications and conference participation (national and international), exhibitions, lectures and seminars, as well as a set of curricular initiatives, in several design courses, such as the Faculty of Fine Arts—University of Porto, School of Design-Polytechnic Institute of Cávado and Ave and Lusófona University, Porto.

### 1.1 Aims

It is considered of utmost importance to continue this work, replicating the dissemination model to improve the preliminary pedagogical model to, on the one hand, provide a quicker integration of the project research outcomes into the curricula and, on the other hand, obtain from these experiences crucial data for research itself.

These are the main purposes of this study:

- Map, inscribe and disseminate the untold stories and local memories from Design professionals, following on the work carried out in the Wisdom Transfer project and articulated with ongoing research projects. Part of this generation is ageing, which increases the urgency of recording all this information, otherwise it will be irremediably lost if it is not legitimised and activated in the present.
- Integrate the previously selected and organised data, into curricular frameworks of Design education, promoting in-depth research of case studies, in higher education institutions.
- Connect the contemporary Design community to its foundations, recovering history in an era of cancel-culture, simultaneously joining a global debate

on the subject. The creation of an online digital archive, integrating scientific/pedagogical/artistic research findings, will enable design students, lecturers, and practitioners to engage with their predecessors through direct, integrated, free and global access to information.

It is intended to revert this approach into the pedagogical context, either in curricular or extracurricular environments, promoting the ongoing collaboration between researchers, and their corresponding research units, faculty and students. The reinforcement of these relationships, the creation of new pedagogical contexts and the consequent creation of an open access digital archive will contribute to the invigoration of the relationship to the community, academic and non-academic, bringing science closer to the public.

It is important to bear in mind that the foundations of Design education in Portugal were strongly based on international references. This invisibility of Portuguese Design could be explained by: (i) the need to acquire international expertise after four decades of a regime of censorship; (ii) the allure for alternative approaches to design practice; or (iii) the number of Design lecturers educated abroad.

Different authors and researchers in Design, and related fields, have been reactivating these memories and experiences, whether in (i) the first person: Mendonça [4], Santos [5], Howard's Personal Views Series (2003–2013), Bártolo et al. [6] and Cruz [7]; (ii) industry-related: Cunca [8]; or (iii) within a historical context: Fragoso [9] and the Errata Design doctoral research project by Isabel Duarte, FBAUP.

However, there is a clear lack of a collective framework that gathers, documents, and compiles all these memories and testimonies, thus mapping out the practices of Portuguese Design from its origins, framed in both time and space. As pointed out by Adamson et al. [10] "knowledge is always fragmentary (...) and only comes into its own through the unexpected challenges, confirmations, elaborations, and unsettling that result from encounter".

Several reference models are currently in place, under international contexts, such as AIGA Design Archives and The University of Brighton Design Archives, dedicated to British design, and twentieth century design global organisations such as the Design Council and ICOGRADA, or RMIT Design Archives (RDA) in Australia, all of which are committed to the completion of projects, exhibitions, and doctoral research in design.

## 2 Methodologies

It is important to begin by introducing the methodologies that precede the ones conducted specifically for this study, considering the relevance of the previously collected data within a research project.

In the framework of Wisdom Transfer data was collected mainly through ethnographic interviews [11] carried out by the project researchers under the use of an interview script with open-ended questions [12]. Foreign experiences, international

relations, learning and personal experiences as students and/or lecturers, social and political awareness, were some of the questions addressed in the interviews.

These testimonies focused on a period of two decades, gathering a selected group of Art and Design professionals who attended the School of Fine Arts of Porto (ESBAP) between 1960 and 1980, a period of political turmoil in Portugal, and were mostly of biographical nature. Most of the selected interviewees represented an important, and sometimes a leading, role in the history of ESBAP.

Forty-two interview sessions were held during a period of one year (2018–2019), predominantly at the homes and studios of the interviewees, allowing for a direct and indirect ethnographic observation of displayed memories, daily habits and workplaces. These sessions were video recorded, single audio recorded and photographed. Besides the importance of recording data to assist research, it also allowed for the creation of a fund of resources [13], crucial to dissemination. This fund would feed a future design archive, enabling the inscription, perpetuating the local history of Art and Design, and relating data directly to the younger generations of designers and future designers.

Ethical considerations in this research project guided both research design and practices. These principles include voluntary participation, informed consent, anonymity, confidentiality and dissemination of results [14].

Subsequently, the transcriptions of the interviews, the notes from direct and indirect observations and the university records were cross-referenced. The following analysis conducted by the team researchers allowed for the recovery of a set of curricular practices in Art and Design under this period [15], analyse the circumstances behind the birth of higher education design in Portugal [16] and provided us crucial information for the workshops conducted within several design courses from several universities aiming to find the most effective and direct approach to insert scientific research outcomes into design curricula.

## ***2.1 Outcomes Dissemination Under a Curricular Context***

Several dissemination approaches were conducted, simultaneously, during the two-year period of the Wisdom Transfer Project, with the purpose of studying the most efficient way of not only presenting and communicating but also inscribing the research findings. A set of seminars, exhibitions, lectures, and workshops were conducted with the assistance of both researchers, lecturers, and corresponding design departments. All these events were filmed and photographed, and all the outputs documented.

The seminars and the exhibitions were open to the public, evolving not only researchers, faculty, and students but also the entire community, allowing for a wider range of communication. The five seminars conducted, gathered a group of three of the interviewees, moderated by a related theme guest, offering an informal talk about their life, their pedagogical and artistic experiences, shared between the panel of interviewees, in time and space.



**Fig. 1** Preparatory meeting between FBAUP students and Wisdom Transfer research team ID+@PINC—UPTEC

Although sometimes difficult to guide the group conversation, due to the enthusiasm and eloquence of our guests, we found that the collective model of interviewing triggered a set of memories that complemented data retrieved from the previous and individual interviews.

The seminars, the exhibitions and the lectures conducted in academic context, were welcomed and appreciated by the corresponding community and the public, however, although the impact was intense, it was brief.

Three workshops were conducted, under an extra-curricular model, at the Faculty of Fine Arts—University of Porto (FBAUP), School of Design—Polytechnic Institute of Cávado and Ave (IPCA), Barcelos and Lusófona University, Porto (ULP). All workshops followed a visual representation approach to address exploring new visual and narrative repertoires. The students were challenged to develop a critical and personal understanding of what this collected testimonies represent both to the inference of knowledge and intellectual asset (see Fig. 1).

All workshops were available for design students at their corresponding university. Commitment was the main requirement. Inspired by our interviewees’ testimonies, collaborative work was promoted to create a studio environment thus fostering the exchange of ideas. The extra-curricular model allowed bringing together a multi-disciplinary group with different profiles and backgrounds. The fact that this model was optional and with no curricular evaluation, allowed for a more informal and motivated atmosphere.

The first one, held at FBAUP, was entitled “The narrative possibilities of illustration in trans-generational dialogue”. This workshop intends, through illustration practice and the creation of illustrated narratives, the implementation of effective and affective engagement strategies between students and former Art and Design lecturers and researchers, already retired, through the creation of illustrated and visual essays. The proximity between generations finds a territory of dialogue and empathy through the practice of illustration, since it offers various narrative possibilities of representation of both the real and symbolic world, that when guided by the partial and particular perspectives of the universe of each of the interviewees and

**Fig. 2** Illustration by Joana Coelho for the artist Puri Fontes. Workshop “The narrative possibilities of illustration in trans-generational dialogue” FBAUP 2019



students, finds its creative, communicative, and social, differentiating potential. Each stage of this project included 16 students from FBAUP, attending the degree course in Communication Design and the specialization course in Illustration.

This workshop was divided in two different moments. The first one was “The illustrated portrait”. The portrait is chosen for its historical nature in the visual representation of a person’s identity. The fact that it is illustrated allows each student to explore aspects such as honouring, making public or valuing a set of scientific, pedagogical and artistic experiences of former lecturers and researchers, considering that the participants are mostly unaware of those portrayed. (see Fig. 2) The retired lecturers and researchers are assigned to each student and the collected corresponding information is made available (biography, video interview, images, among others).

After a period of research and individual acknowledgement, by each student, of the universe and particularities of each interviewee, there is a first gathering of the physical and non-visible elements considered to be defining of the interviewee. (see Fig. 3).

The second moment was called “Illustrated visual essays/narratives”. Setting out from the graphic/artistic, biographical archives or the interviews conducted within the scope of the project, each student performed several illustrated narrative essays. The aim was to explore new visual repertoires that provide a younger critical look on the heritage of knowledge and intellectual value offered by this past generation, through narratives that essentially rely on visual signs. Each participant developed visual narratives that result from the individual analysis, translation, and interpretation of the information provided from each interviewee’s archive. The illustrated artefacts, produced by each student, are based on the narrative possibilities of this archive, composed by the interviewee’s knowledge and experience in an academic context, the work developed outside the academy, and any other stories revealed during research. (see Fig. 4).



**Fig. 3** Workshop “The narrative possibilities of illustration in trans-generational dialogue” conducted by Rui Vitorino Santos at FBAUP 2019



**Fig. 4** Workshop “The narrative possibilities of illustration in trans-generational dialogue” conducted by Rui Vitorino Santos at FBAUP. Risograph printing from the “Illustrated visual essays/narratives” 2020

The second workshop, held at ULP in 2019, was entitled “Typographical essays as a contribution to the transfer of transgenerational knowledge”. Conducted by Cláudia Lima and Eliana Penedos-Santiago (both lecturers and project researchers), proposes the creation of a visual narrative, with a strong typographic component, based on the reading and interpretation of the testimonies provided by the project. The typographic/calligraphic poster was intended to visually represent a specific quote from one of the interviewed artists as a means of identifying its author, for the creation of a visual narrative. (see Fig. 4) The reduction of the narrated story to a quote, or a set of quotes, was a task assigned to the student leading the participants to a deeper knowledge of these Portuguese artists and designers life and careers (Fig. 5).

The last workshop, held at IPCA and conducted by Nuno Duarte Martins and Pedro Amado (both lecturers and project researchers), was entitled “Procedural pattern interpretations of the work of António Quadros Ferreira”.

The workshop was conducted with a sample of voluntary student participants from the Graphic Design degree at the School of Design of the Polytechnic Institute of Cávado and Ave (IPCA), in four two-hour weekly sessions by the end of 2019.

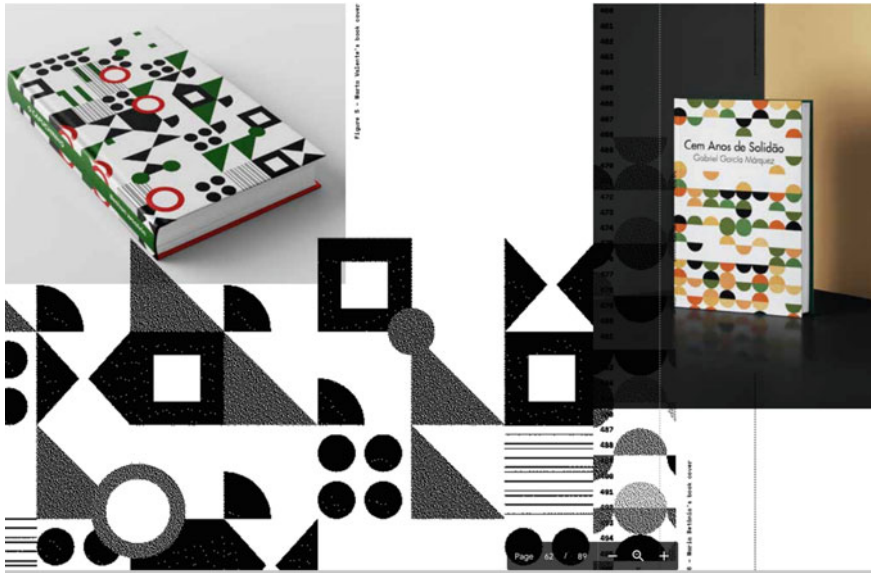
**Fig. 5** Poster by Bruna Pires on the artist Isabel Cabral. Workshop “Typographical essays as a contribution to the transfer of transgenerational knowledge”, ULP 2019



The aims of the workshop were two-fold. On one hand, within the scope of the research project, it aimed to introduce and discuss the visual heritage of the work of António Quadros Ferreira (AQF). On the other hand, to introduce students to the fundamental concepts of functional programming for Graphic Design, with the Processing language.

During the sessions, the students revealed a total unfamiliarity with the work of AQF. A workshop that addressed both these issues was designed. The workshop was organized into four sessions, held during an extra-curricular period, for all interested students who voluntarily signed up. In the first session, participants were introduced to a specific set of AQF's work from the early 1970s. Having presented and discussed the algorithmic origin and computational process of the creators' work, participants were introduced to the programming language in the second session. In the third session, students started translating a personal interpretation of the AQF's language in their visual algorithmic process in Processing to design a book cover of their choice. The fourth and final session was held to supervise the work in progress and to help solve the technical issues and debug the code for them to be able to tweak and fine-tune and submit their designs autonomously in the following two weeks. (see Fig. 6).





**Fig. 6** Book cover by Marta Valente. Workshop “Procedural pattern interpretations of the work of António Quadros Ferreira”

Carrying out these workshops, as a way of creating knowledge and empathy between generations, within the academic institutions, confirmed the relevance and urgency of retaining and using, in the universe of higher education, the scientific, pedagogical, artistic, and human capital of its teaching and research community. Labelling is only the first action to valorise this heritage [17].

The outputs from these sessions were diverse. This methodological process allowed for all participants, lecturers, researchers, students, and corresponding institutions, to gain in-depth knowledge about this particular design research project findings. Empathy, free-will personal commitment, and engagement between the players were crucial to the success of this experiment. As a result, we gathered a set of visual narratives in the form of drawing, visual narratives, typographic essay, and algorithmic representation.

These initiatives and the corresponding outputs were presented in a final exhibition entitled “Threads of a Legacy” that took place on May 13<sup>th</sup> 2021 in the Casa Comum, University of Porto. The engagement between the students and the project outcomes, through the workshops, was immediately recognised by researchers and participants once compared to the other dissemination events, such as seminars, exhibitions, and lectures. Once this program ended, we started a detailed analysis of the aforementioned initiatives, namely the workshops. Some informal interviews and subsequent focus group sessions were held with lecturers, researchers, and students. According to all participants the workshops were the most efficient model of dissemination and

more importantly of curricular integration. The involvement, commitment and motivation implied in this initiative is determinant to achieve effective communication and perpetuate knowledge once compared to more passive dissemination models such as seminars, lectures, or exhibitions. This allowed us to outline a preliminary, integrated, and short-term curricular model, to be future tested and compared to the extra-curricular one.

An open access digital archive will also be considered as a crucial and expanding component of this dissemination study and thus enhance the reach and broadcasting capacity of research, involving students towards the mapping of Portuguese Design: influences, purposes and inspirations.

### 3 Integrated Modules Guidelines

One of the most significant factors for the success of these initiatives will imply the direct and indirect involvement of students and lecturers with active and ongoing scientific research projects, duly articulated and adapted to the year and curricular unit concerned, a task for which the contribution of the corresponding lecturers will be of the utmost importance.

These are some of the procedures that can be considered when translating design research findings into a curricular model:

- Collecting information from previous projects, unpublished interviews, and related data yet to be collected, combining ethnographic methods and interviews carried out in places with which our protagonists can establish ties of familiarity. This methodology will allow us to study our players based on qualitative methods (detailed observations, unstructured or semi-structured interviews and document analysis) [18].
- (i) Analyse content in context, (ii) organise and (iii) catalogue. Combine content analysis methods by cross-referencing existing records and new material to be collected with future expansion of research on the topic. Additionally include affinity diagrams, an inductive method in which qualitative research data is relationally separated and organised, combining observations and interpretations from research without ever neglecting data [18].
- Ongoing interviews with archivists and curators from different institutions, with particular focus on the area of Design, to understand the multiple possibilities of an online digital catalogue, such as the use of sources, a look at history, design processes or documentation of one's practices.
- Conduct a series of usability tests supported by iterative evaluation research methods [18].

### 3.1 *Proposal for a Build-In Module on Design Research*

These short built-in modules aim at a continuous input of scientific research results within the pedagogical structure of an Art and Design course. They have a multi-disciplinary adaptability nature to the hosting curricular units and aim, beyond the scientific inscription, within the curricular plan, to collect the educational results, disseminate them and reintegrate them into scientific research.

**Duration.** According to the experiences previously conducted, the average time necessary for its implementation will be 12 h of contact, time that can be adapted according to the time allocated to each curricular unit. The average time expected for the autonomous work will be 18 h.

**Learning outcomes—knowledge, skills and competences to be acquired by students.** (i) Establish a direct relationship with the Portuguese Design history concerning its origins, influences, purposes and inspirations, going through not only the published materials, but also integrating the invisible experiences and stories through the active participation of design research and researchers in the teaching–learning process. (ii) Explore new visual repertoires that offer a critical and fresher look over the inheritance of knowledge that essentially rely on visual representation. (iii) Explore an imagery discourse adequate to the needs of visual communication. (iv) Contribute to map the Portuguese Design: influences, purposes and inspirations, in a time of cancel-culture.

**Curricular content.** The curricular contents of this integrated curricular module seek the consolidation of an active historical heritage through its curricular reactivation in Art and Design, by means of an integrated modular learning environment. This particular module employs an inclusive method intended to relate the current generation of designers with Portuguese Design, through education.

The proposals will address the main areas covered by the course in Communication Design, such as: multimedia, new media and digital cultures, editorial design and typography; illustration; photography and audio-visual studies and practices; history and critics of design or visual culture studies. The research projects, already finished and ongoing, within ID+, the Research Institute in Design, Media and Culture, will contribute as catalysts for these initiatives.

The module will be organised under the form of four fundamental sessions, organised in accordance with the hourly distribution of each hosting unit:

- Establish access to the collected material from completed and ongoing Design research projects and the research team involved.
- Explore the scope under the hosting unit's contents and tools as a visual representation of exchange, cross-learning, identity, heritage and intergenerational dialogue.
- Interpret/translate life stories through visual representation determined by the curricular nature of the welcoming unit. This session includes the completion of the final project which may be carried out individually or in groups.

- Assert the legacy and knowledge of past generations as an active archive of utmost importance, to current and future generations, through the production and subsequent integration of the final projects into the online digital catalogue.

**Learning Methodologies.** The proposed teaching methodologies aim at the contextual and transversal analysis of previously collected, and still to be collected, data under the scope of scientific research projects in Design. Conceptual mapping offers the necessary support to data compilation and visualisation, establishing and breaking connections with several milestones in Portuguese Design history, promoting its expansion beyond the current guidelines, to its dissemination and inscription. The curricular framework for the integration of scientific research in Design will allow the pedagogical model to become a part of the scientific model.

Each module combines the following methodologies during the lecture time in the classroom:

- Historical and conceptual presentation and discussion of relevant references.
- Presentation of the research carried out by the research team: material collected and findings available. The collected material can be characterised by a set of interviews in audio-visual support and transcribed in text documents, audio recordings, existing records provided by the university, etc.
- Whenever possible the interviewees directly involved in the research project, will be invited to attend one of the sessions to provide a greater proximity to the sources of information.
- Resource and coordination of the research topic with the available tools at the welcoming unit.
- Accompanied elaboration of individual or group practical activities.
- Carry out a final project.
- Presentation and discussion of results.
- Dissemination of the outcomes by means of their publication in the online digital catalogue, thus effecting the relationship between generations towards fostering empathy, the sense of belonging and promoting an active dialogue between scientific research and the pedagogical agenda. The relationship with the community, equally important, can be established through exhibitions and publications.

## 4 Discussion and Future Research

The results obtained from the workshops conducted during the first stage of the project revealed that these models of scientific dissemination, through the integration of the research findings in higher education activities, providing a closer articulation between scientific research and the pedagogical framework.

Given the significant number of researchers teaching in higher education, these short-term models with immediate application aim at being replicated in other research domains of Human and Social Sciences. These models allow for a closer

relationship between the teacher/researcher and the students, blending different knowledge domains within the educational institutions.

On the other hand, they provide a framework for the creation of new solutions for dissemination, inscription and reactivation of knowledge, often in the form of personal memories and experiences, within a curricular environment.

And the fact that they are designed with the ability to blend in, in a flexible and adjustable way to each running curricular unit, enables the preservation of the curricular structure and avoids bureaucratic constraints that often compromise the relationship between information and time. These are models of participatory design that simultaneously disseminate and study, under the form of applied research, scientific-pedagogical methods and approaches.

The next step will be to put these modules into practice and carry out a set of surveys addressed to students, lecturers, and researchers. These questionnaires should inform the researchers about the depth of the relationship established between the students and the information, apprehension rates and the capacity to represent a critical look on the research topic through a visual narrative.

It also will be very important to understand the lecturers' vision on the method once compared with the ongoing methodologies refined over time for teaching models of semester and annual nature, feeding into the current debate of "open pedagogy" in the classroom. Lastly, it is important for researchers to understand how this pedagogical input can feed back into scientific research, creating links and establishing an intellectual proximity that can benefit and enhance scientific dissemination. After analysing and comparing the results obtained from the extracurricular experiences previously performed, the focus groups should be repeated in order to improve and adapt the pedagogical model to the different research streams in Art and Design.

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