




Anne-Flore Cabouat

 MASTER'S STUDENT
 VISUAL DESIGN & COGNITION

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Education

- 2022 – 2024 **UNIVERSITÉ PARIS CITÉ, LEARNING PLANET INSITUTE**, Paris.
Master AIRE – Learning sciences track. *AIRE: Approches Interdisciplinaires de la Recherche et de l'Éducation (Interdisciplinary Approaches in Research and Education).*
Program curriculum: Learning theories, cognitive & developmental psychology, research methodology, AI & digital tools for education, educational program design.
- 2006 – 2008 **ÉCOLE SUPÉRIEURE D'ART ET DE DESIGN**, Amiens.
Bachelor of Fine Arts (DNAP) - Graphic design
- 2003 – 2006 **ÉCOLE SUPÉRIEURE D'ART ET DE DESIGN**, Reims.
Initial cycle - Object design
- 2002 **LYCÉE VAN GOGH**, Ermont.
Baccalauréat Série S - Option Mathématiques

Research Experience

- 2023 – 2024 **INRIA AVIZ TEAM, LISN, UNIVERSITÉ PARIS SACLAY**, Gif-sur-Yvette.
M1 & M2 Internships, 1 year total (6 months each). *Developping a psychological scale measuring the perceived readability of data visualizations.*
RESEARCH WORK—Literature review, study design and implementation (expert and crowd-sourced surveys, cognitive interviews), data analysis (qualitative coding, Exploratory Factor Analysis, Item Response Theory), scientific communication (article writing, poster design, oral presentations).
PUBLICATIONS—See below pp. 2-4.
ADDITIONAL ACTIVITIES—Remote student volunteer at VIS 2023, participation to Fête de la Science 2023 with INRIA mediation team.

Professional Experience

2013 – 2022

STUDIO ÉMERGENCE, Paris. *Pedagogical communication consulting & design.*

Co-founder, general manager, art director.

ROLE—Operations and team management, business analysis, user need assessment, solution design, project management, art direction, graphic design.

EXAMPLE PROJECTS:

- ▶ *Naval Group*: Modular pedagogical kit for guided visits of the Nantes-Indret site across multiple audience profiles.
- ▶ *L'Oréal*: Quality management documentation kit: glossary, booklet on supplier relationship management, interactive reference guide for technical documentation, and promotional material for internal distribution.
- ▶ *Pôle Emploi*: Pedagogical and instructional design for HR workers training on a new employee grading system.
- ▶ *Orange*: Decision tree visualization of procurement processes for specifiers and purchasers.
- ▶ *AstraZeneca*: Pedagogical and instructional design to introduce the role of the Regulatory Affairs Department to non-experts.

2009 – 2022

FREELANCE, Paris & Bruxelles.



Trainer and graphic designer. *Presentation design.*

TRAINING & COACHING—Presentation design: adult training and individual coaching (Clients: Ferrero, BNP, L'Oréal, Centre des Jeunes Dirigeants...)

PEDAGOGICAL DESIGN—Training programs and learning material creation for presentation design and mind mapping trainings.

GRAPHIC DESIGN—Creation of visual identities, print and digital communication media (Clients: small businesses, associations, individuals)

EXAMPLE PROJECTS:

- ▶ *École Française de l'Heuristique*: Design and LMS implementation of e-learning courses to complement our "Powerful presentation" training.
- ▶ *Peekinmotion*: collaborative project to create informative videos from our personal travels—watch on  Vimeo.
- ▶ *Élodie Mielczacreck*: Infographics "Langue et corps de bois"—see on  Slideshare.
- ▶ *Institut Français de Madrid*: Layout for French training booklets *Parlez-vous interculturel ?* and *Visions de l'autre*.

Publications

PUBLISHED PAPERS

Anne-Flore Cabouat, Tingying He, Florent Cabric, Tobias Isenberg, and Petra Isenberg (2024).

“Position Paper: A Case to Study the Relationship between Data Visualization Readability and Visualization Literacy”. In: *CHI 2024 - Workshop Toward a More Comprehensive Understanding of Visualization Literacy*. O'ahu (Honolulu), United States. URL:

<https://hal.science/hal-04523790>.

In this position paper we argue that improving visualization literacy evaluation tools is important for defining and understanding the concept of readability in data visualizations. Only with reliable

and relevant measures can we assess how a potential factor affects a readers performance; accordingly, only with appropriate measuring instruments can we start to investigate the tight web of interactions between individual characteristics, features of the visual design, and reading tasks requirements. As we slowly progress in our understanding of how people process information from data visualization, and based on these improved tools and other developments, we can further develop theoretical foundations in data visualization.

Florent Cabric, Margrét Vilborg Bjarnadóttir, Anne-Flore Cabouat, and Petra Isenberg (2023). “Open Questions About the Visualization of Sociodemographic Data”. In: *2023 IEEE Workshop on Visualization for Social Good (VIS4Good)*. 2023 IEEE Workshop on Visualization for Social Good (VIS4Good), pp. 16–20. DOI: [10.1109/VIS4Good60218.2023.00010](https://doi.org/10.1109/VIS4Good60218.2023.00010).

This paper collects a set of open research questions on how to visualize sociodemographic data. Sociodemographic data is a common part of datasets related to people, including institutional censuses, health data systems, and human-resources files. This data is sensitive, and its collection, sharing, and analysis require careful consideration. For instance, the European Union, through the General Data Protection Regulation (GDPR), protects the collection and processing of any personal data, including sexual orientation, ethnicity, and religion. Data visualization of sociodemographic data can reinforce stereotypes, marginalize groups, and lead to biased decision-making. It is, therefore, critical that these visualizations are created based on good, equitable design principles. In this paper, we discuss and provide a set of open research questions around the visualization of sociodemographic data. Our work contributes to an ongoing reflection on representing data about people and highlights some important future research directions for the VIS community. A version of this paper and its figures are available online at osf.io/a2u9c.

PUBLICATIONS UNDER REVIEW

Anne-Flore Cabouat, Tingying He, Petra Isenberg, and Tobias Isenberg (2024). “PREVis: Perceived Readability Evaluation for Visualizations”. In: *IEEE VIS 2024* (under submission).

We developed and validated an instrument to measure the perceived readability in data visualization: PREVis. Researchers and practitioners can easily use this instrument as part of their evaluations to compare the perceived readability of different visual data representations. Our instrument can complement results from controlled experiments on user task performance or provide additional data during in-depth qualitative work such as design iterations when developing a new technique. Although readability is recognized as an essential quality of data visualizations, so far there has not been a unified definition of the construct in the context of visual representations. As a result, researchers often lack guidance for determining how to ask people to rate their perceived readability of a visualization. To address this issue, we engaged in a rigorous process to develop the first validated instrument targeted at the subjective readability of visual data representations. Our final instrument consists of 11 items across 4 dimensions: understandability, layout clarity, readability of data values, and readability of data patterns. We provide the questionnaire as a document with implementation guidelines on osf.io/9cg8j. Beyond this instrument, we contribute a discussion of how researchers have previously assessed visualization readability, and an analysis of the factors underlying perceived readability in visual data representations.

OTHER ACADEMIC PUBLICATIONS

Anne-Flore Cabouat, Tingying He, Petra Isenberg, and Tobias Isenberg (2023). *Pondering the Reading of Visual Representations*. Talk at Journée Visu 2023. URL: <https://hal.science/hal-04240900>.

We follow a theoretical approach to define the concept of reading visualizations. In the past, researchers often assessed readability based on the cognitive processes at work during an individual's engagement with a visual representation. The commonly used term "reading" in these studies, however, often lacks consistency: sometimes it refers solely to the extraction of textual information, while in other instances it is limited to the interpretation of visual signals such as patterns, color gradients, or object sizes. We argue that there exists a gap in the literature for a comprehensive, unifying definition of reading that would potentially broaden the horizons of design spaces and analytical frameworks in our field. To address this issue, we discuss models of reading text and how they can potentially relate to visualization reading.

NON-ACADEMIC PUBLICATIONS

Frédéric le Bihan and Anne-Flore Cabouat (2014). *Présentation design*. Alision. 238 pp. ISBN: 979-10-92184-13-6.

Les présentations sont devenues incontournables en entreprise. Conduire une réunion, présenter un rapport, vendre une prestation, animer une conférence ou une formation... autant de situations dans lesquelles vous devez convaincre vos interlocuteurs et marquer des points. Pour éviter d'assommer votre public de PowerPoint indigestes, soyez préparé comme un pro. Pas à pas, ce livre vous accompagne pour réaliser rapidement des présentations dont on se souviendra longtemps. Grâce à des outils qui ont prouvé leur efficacité comme la carte heuristique, mais aussi de nombreux exemples de diapositives en couleur, vous allez : - Clarifier les objectifs de votre présentation et faire le tri dans les informations que vous devez communiquer - Préparer un scénario simple et structuré pour un exposé fluide - Réaliser un diaporama design impactant, élégant et mémorable - Prendre la parole avec assurance et facilité. À vous de jouer !