Carel Jansen

Introduction

Using a U-turn construction in information design

1. Theory, research and practice: A crucial threesome

It has been 34 years now since Karen A. Schriver, fellow editor of this journal, published a groundbreaking article on our then emerging field (Schriver, 1989). In that publication, still highly relevant in 2023, she defined Document Design, as the field was then usually called, as "the theory, research and practice of creating comprehensible, usable, and persuasive texts." She pointed out that document designers – we would now say information designers – often did an excellent job of developing creative and effective solutions to local communication problems. But at the same time, Schriver emphasized that document designers were far from always able to address global problems that transcend organizational and international boundaries. With some emphasis, she wrote, "It is only through addressing the global issues that document design will become a powerful and respected discipline." It was – and still is – obvious that this requires research based on sound theory building. That is why Schriver highlighted the diversity of disciplines where theories relevant to information designers are developed and tested: from cognitive and social psychology to cultural studies, from discourse analysis to rhetoric & composition, and from human factors to typography & graphic design.

In my 1999 inaugural address as full professor at the University of Nijmegen, I argued for the institutional integration of Information Design as a discipline in its own right. Building on the crucial relationship between theory, research and practice advocated by Schriver, I proposed the concept of the U-turn construction. The path from problem analysis to generalizable solutions should lead along what is available in terms of relevant models and theories. Uniqueness is not the issue here, either at the level of specific models or theories or at the level of disciplines that can be consulted (Jansen, 1999).

As early as 1999, it was clear that Schriver's list of relevant theories should be expanded rather than restricted. Examples might include the polyphony theory of French linguist Ducrot, which proved to be of great value for policy documents, publications by Landa and Wheatley & Unwin in the field of operations research that provided guidelines for systematically improving government forms and instructional texts, and the politeness theory of Brown & Levinson that proved to be highly relevant for creating effective business texts. To give some more recent illustrations from health communication: when it comes to possible contributions of information designers to campaigns to discourage smoking, or to encourage people to get vaccinated against HPV or COVID, for example, one can think of the Extended Parallel Process Model (EPPM,

for fear appeal messages), introduced by Kim Witte (Witte 1992, 1998) or the Entertainment Overcoming Resistance Model (EORM, for narrative persuasion), introduced by Moyer-Gusé (2008).

This eclectic approach does not mean that it is always easy to find the most convenient theory or model in the literature and then immediately give it a practical translation. Theories do not always lend themselves to this. And just as importantly, there may be gaps in the available theoretical work. Then it is mainly up to the research specialists in our field to fully complete the U-turn construction. Not only must relevant theoretical knowledge from various disciplines be gathered and used to develop a solution to a practical information design problem. The effects of applying the developed solution should also be investigated experimentally and, where possible, new theoretical knowledge whose importance extends beyond the practical problem at hand should be developed. Experimental validation of solutions methods and the potential generation of new theoretical insights enhance our discipline's robustness.

When testing a theory, it cannot be ruled out that the predictions turn out to be incorrect in the specific situation of the information design problem at hand. This, too, may be an important outcome. It may contribute to the refinement or even rejection of the theory in question.

2. The U-turn construction

Figure 1 depicts the U-turn construction. The dotted line indicates that in Information Design, the path back from test to theory can perhaps not always be followed, but that in research in our field that path should be taken whenever possible.

One example where the U-turn construction was used relates to the designing and testing of a new type of communication tool for educating people from different backgrounds about an important health issue: the prevention of diabetes. Since the first decade of the 21st century, a group of health communication specialists at the University of Southern California led by Mel Baron has been developing so-called fotonovelas: booklets that portray a dramatic story using photographs and small captions. Early experiments performed in the USA suggest that fotonovelas may indeed be effective in
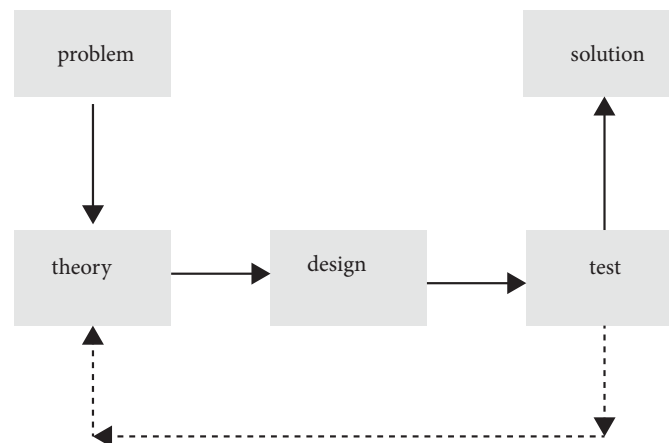
Figure 1.
U-turn construction in
Information Design

health communication, especially for readers with a low level of literacy (Unger et al., 2009; Unger et al., 2013). In 2017, Ruth Koops van 't Jagt and her colleagues at the University of Groningen translated one of these foto-novelas, *Sweet temptations* (about diabetes issues) into Dutch. This resulted in the fotonovela *Zoete verleiding*. In collaboration with Baron and his colleagues, Koops van 't Jagt then conducted an experiment with Dutch readers with different levels of literacy to compare the effects of the fotonovela *Zoete verleiding* on knowledge and behavioral intentions with those of a traditional health brochure. The findings showed that the fotonovela outperformed the brochure, independent of the literacy level of the readers.

Koops van 't Jagt also evaluated several of the hypotheses proposed in the EORM on possible mecha-nisms underlying narrative persuasion. To this end, she measured a number of variables that, according to the EORM, would be relevant to the effects of the story told in the fotonovela. The data collected, however, did not support any of the EORM-based hypotheses (Koops van 't Jagt et al., 2018).

Of course, one study is too few to draw definitive conclusions about the value of a theoretical model, in this case the EORM. But this study does make clear that the EORM need not always lead to correct predictions and that more studies are needed to examine other possible paths to favorable outcomes from reading stories with a health message. This completes the U-turn construction in this case: There was a practical problem, namely dia-betes education is not always effective, especially among people with a low level of literacy. To solve that problem, a team of information designers specialized in health communication used a theoretical model, the EORM. Then, based on that, as well as on earlier work in the field, a new document was designed, namely the Dutch-language fotonovela *Zoete verleiding*. The effects of that fotonovela were tested, and also a number of hypotheses

arising from the theoretical model that had formed the starting point. The fotonovela proved to be successful, but at the same time the results showed that the hypotheses from the theoretical model were not supported.

A solution to a difficult problem in health com-munication had been created and was found to be effective. The fotonovela used in this study, along with previously developed similar photo stories, could serve as an example of how information designers in health communication can target people with different literacy levels. But because the experiment was designed so that hypotheses from the underlying theoretical model could also be tested, the relevance of this study went further. No support was found for the theoretical model that was applied, suggesting that more research is needed before it can be truly embraced by information designers who want to use persuasive stories as a communication tool.

3. The U-turn construction in this issue

In this issue *of Information Design Journal*, the U-turn construction is also recognizable, albeit perhaps less explicitly at times. The triangulation between theory, research and practice is especially evident in the two arti-cles coauthored by Maria dos Santos Lonsdale, editor-in-chief of this journal. In her new book *Information Visualisation: From Theory, to Research, to Practice… and Back* (Lonsdale, 2022), Lonsdale argues that theory, research and practice should have equal weight, work in synchrony and as a continuum. The book's subtitle, *From Theory, To Research, To Practice… and Back*, suggests that the relationship between these three elements in our field should resemble that in the U-turn construction.

In 'The Effectiveness of Visual Instructions in Memorizing Chinese Semantic Radicals for Beginners', Tian Tian, Maria dos Santos Lonsdale and Vien Cheung discuss a number of related studies on the effective-ness of visual instructions in memorizing semantic

components of Chinese characters. Not only did the researchers find that color-coded illustrations significantly increased the accuracy of memorizing the meanings, shapes, and positions of these components, they also report that their findings are in line with cognitive load theory. The authors rightly assert that their study contributes to knowledge in the field of information and instructional design and that their findings of the effect of integrated illustrations on memorizing could be added to the current Information Design literature.

The article entitled 'Testing the effectiveness of a supportive digital information tool for patients recovering from bowel surgery, their surgeons and nurses' by Maria dos Santos Lonsdale, Mathew Baxter, Qinxin Yao, Luwen Yu and Stephen Chapman discusses an interactive mobile app that the authors developed for patients recovering from bowel surgery, their surgeons, and their nurses. The study highlights the superiority of the app over print and tablet versions. In the last part of the article, the authors call for more attention and time for the design of health care apps to ensure they are user-centered and tailored to the patient's illness and needs. But first and foremost, these apps must be based on solid research and theories, as the authors maintain. Instead of detailing how precisely this study contributes to theory building, the authors highlight the methodological relevance of their research, emphasizing the benefits of the multi-method approach they applied. In this way, the authors make an important contribution to our field beyond solving a specific information design problem: in the authors' words, "a multi-methods is key if we want to generate valid and reliable results as well as tailor-made outputs."

Nadia Menad, in her article 'Combining common heuristics sets for a new exhaustive usability evaluation of e-learning interface design', also focuses on methodology rather than on theory building. Based on existing heuristics, a new usability questionnaire is proposed for evaluating e-learning interface design. In addition, two different evaluation methodologies are illustrated, and a quantitative rate, *Usability Percentage*, which complements the usual qualitative data provided by this kind of evaluation, is proposed. As the author argues, this study was not only intended to serve as a source for future work on improving e-learning websites, there was also a more far-reaching goal: to provide an evaluation tool that can be widely used by specialists in our field.

In 'How visualisations with typography are used in Persian and English corporate identity logos', Amir Hossein Pormehr Yabandeh, Hossein Abeddoost and Ziba Kazempoor focus on the paradigmatic relationships between visual signs and writing in Persian and English logos. Drawing on De Saussure's theory of language, the authors make a distinction between paradigmatic and syntagmatic relations between visual forms and letters, in this case in logos. Comparing six Persian examples with their English counterparts, the authors claim that the paradigmatic relations differ. In the English logos mostly only one letter is changed to include a visual component, while in the Persian logos usually more than one, if not all letters are affected by visual elements. As the authors state, their work opens a new path for comparative studies of logo design that focus on identifying similarities and differences in paradigmatic and syntagmatic relations as proposed in De Saussure's language theory. In this way, the authors point to another important theory that information designers can benefit from.

4. To conclude

I close this editorial with an eighty-year-old aphorism by the social psychologist Kurt Lewin: "There is nothing so practical as a good theory" (Lewin, 1943). This observation is still relevant, even or perhaps especially so, for a still-evolving and at first glance primarily practical field like ours.

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