Drawing Information in the Classroom: The Brazilian Participation in the Data Collection of the International iSquare Project

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Abstract

This poster presents the perspective of Brazilian scholars from the Federal University of Paraíba as they participated in the data collection phase of the collaborative, international iSquare research project, based at the University of Toronto, Canada. It discusses the origins and theoretical fundamentals of the study in which scholars from twelve countries investigated graduate students´ visual conceptions of information, using the draw-and-write technique. The poster enacts a methodological innovation, since arts-informed, visual methods are rare in Information Science. The team from Brazil discovered sociocultural factors that influence students´ visual conceptions about information, and these can be compared to other iSquares from around the world. The poster justifies the iSquare approach as an investigative and pedagogical method, providing students and educators with a multimedia, playful, and spacious means to engage the concept of information in the classroom. As an example of arts-informed, visual research the poster includes many striking examples of the original data set drawn by participants.

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1   Introduction

This poster is about research in-progress. It reports the experience of Brazilian participants in the data gathering stage of the international iSquare research program, based at the Faculty of Information, University of Toronto, Canada. Utilizing arts-informed, visual methods (Prosser & Loxley, 2008) the iSquare study explores: a.) how people visualize the concept of information; b.) how the visual conceptions of visual information differ across communities; c.) how the images relate to definitions of information expressed in words (Hartel, 2014).

Scholars from Australia, Brazil, Croatia, England, Finland, Ghana, Iran, Malaysia, Russia and Taiwan took part in this Canadian initiative. The goal of the research was to generate a global, visual conception of information and to better understand differences in the images between countries and continents. The Brazilian team was based at the Federal University of Paraíba (UFPB) and represented the country of Brazil and South America. Visual data (drawings of information) were collected from students of the Masters and Doctoral Programs in Information Science during the second term of 2014.

2   The iSquare Research Program

In the iSquare data gathering protocol, students draw their conceptions of information on a 4" by 4" piece of white paper, using a black pen. The activity occurs in a classroom environment and subjects have 10 minutes to complete the exercise. The activity produces a piece of visual data coined an "iSquare," a neologism formed by the junction of the terms "information" and "square". The protocol has been in use since 2011 and has proved effective as a way to:

a)   introduce the students to a complex topic;
b)   accommodate a large variety of learning styles and intelligences;
c)   complement the academic literature about information, leading to live class discussions and generating a bespoke collection of images that can be used throughout the semester. (Hartel, 2014b)

As a methodological innovation, the iSquare project is the first substantial arts-informed, visual study in information studies. In the academic environment, conceptions of information are traditionally presented in the form of texts or words to the neglect of images. Activities that involve drawing are applied successfully in other fields of knowledge, deepening reflections on the topic of celebrities (Gauntlett, 2005), teaching (Weber & Mitchell, 1995), economics (Budd, 2004), and many other matters. Art theorist Sandra Weber´s (2008) argues for the benefits of visual approaches; she asserts that images are more accessible than the academic discourse; capture things that are hard to express in words; communicate more holistically; evoke stories and questions; and call attention to other ways of knowing. For Hartel (2012), the visual research enables epistemological and methodological complexity in information studies both by means of the objectivity bias (it represents the world objectively with no interpretation) and the subjectivity one (as a social construction, being an ambiguous and polysemic cultural and social artifact).

In the research with the UFPB students, the research protocol was adapted to local circumstances in Brazil by translating the English text on the data gathering instrument to Portuguese. One side of the white piece of paper is used for drawing; and its back is a place for a brief textual comment about the illustration and a few demographics about the participant (Figure 1).

Figure 1. Front and back of the iSquare data gathering instrument
Source: Research data.

For consistency black ballpoint pens were given to the students, thereby limiting the drawing to a monochromatic image. To maintain reliability across the international study, all materials used were standardized and sent by the support team of the iSquare project in Canada to other contributing countries. In conjunction with the research protocol, close attention was paid to the ethical principles for data collection as approved by the Office of Research Ethics, of the University of Toronto. Following the ethics protocol, the privacy of participants, informed consent, and right to withdraw were respected.

2.1   Data collection procedures for Brazilian iSquares

The process of data collection in Brazil took place during the second term of 2014, with the Master´s and Doctoral students of at UFPB. All international collaborators were asked to collect between 30 and 50 iSquares. In Brazil, a total of 36 iSquares were generated from three courses: Information, Cognition and Knowledge; Information and Communication Technology; and Information and Patrimony.

After receiving the standardized material, the interventions were scheduled with the professors of each course. In each session, expressions of astonishment, curiosity and entertainment by the students corroborated the innovative nature of the iSquare enterprise. Students were surprised that a drawing was requested as a means to think about information; they asked, "Do you really mean it?". On occasion, there were objections and insecurities from students, such as, "I am not good at drawing [...]". Another thoughtful participant expressed: "[This is a seemingly] simple question [What is information about?], but a crucial one for information studies [...] what information means to me, it may not mean the same for you".

Each student produced a unique drawing that, along with the others, generated a diverse collection of iSquares, which reflect their learning experiences and the Brazilian sociocultural context. Different ways or natures of information and varied metatheories of information characterize the Brazilian students´ informational scenario. For example, the cognitive perspective is represented in some drawings of information placed in the mind by means of pictures of brains or heads with thought bubbles. (Figure 2).
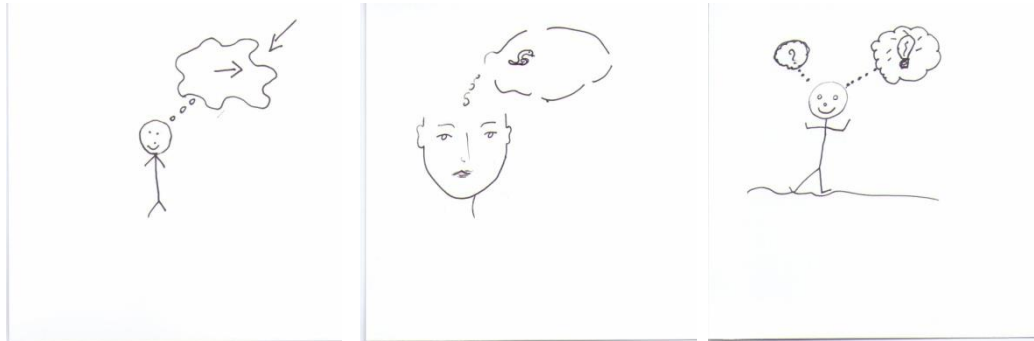

Figure 2. iSquares representations of a cognitive perspective
Source: Research Data.

Other representations reflect the communicational and sociocultural (or sociocognitive) view of information, indicated by figures of two or more people talking and elements which are external to the human brain (Figure 3).

Figure 3. iSquares representations of a sociocultural metatheory
Source: Research Data

There are still those who emphasize the objective viewpoint of information, and thus they corroborate Buckland (1991) pertaining to the idea of information as "thing", whose depictions are full of books, documents and technologies (Figure 4).

Figure 4. iSquares representations of information as objective
Source: Research Data.

The relation between information and emotions was also displayed in some iSquares; this is not surprising because information and emotion, together, are intrinsic to personal development (Gonsalves, 2015) and leisure (Hartel, 2003) (Figure 5).
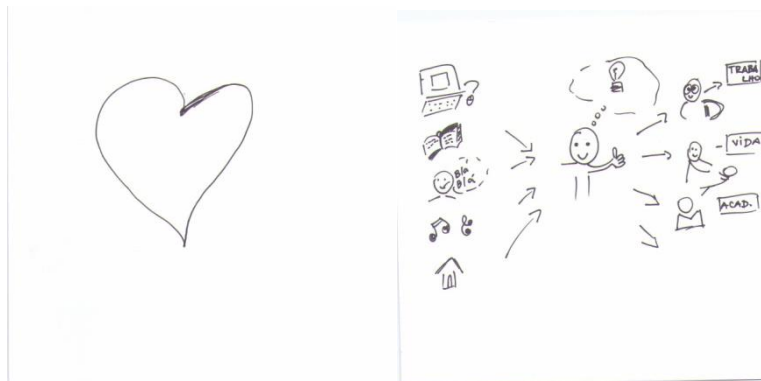

Figure 5. iSquares representations of emotion
Source: Research Data.

Other students expressed information as symbols, such as lines in parallel and dollar signs (Figure 6).
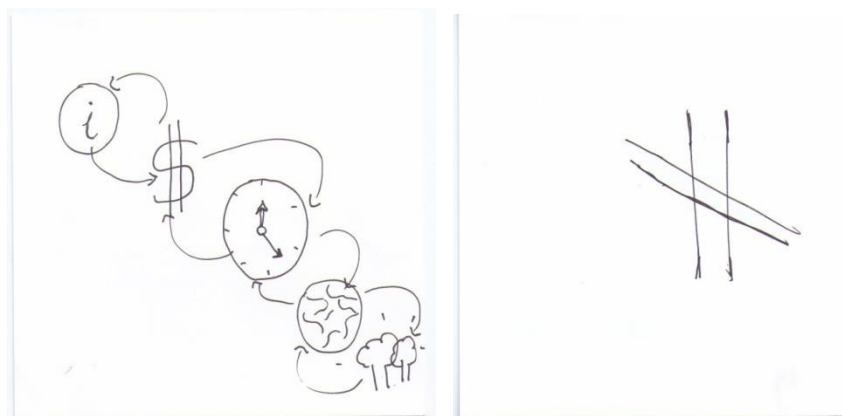

Figure 6. iSquares representations of symbols
Source: Research Data.

The dynamic, abstract and somehow mysterious nature of information appears in astounding patterns that comprise circles, dots and lines (Figure 7).
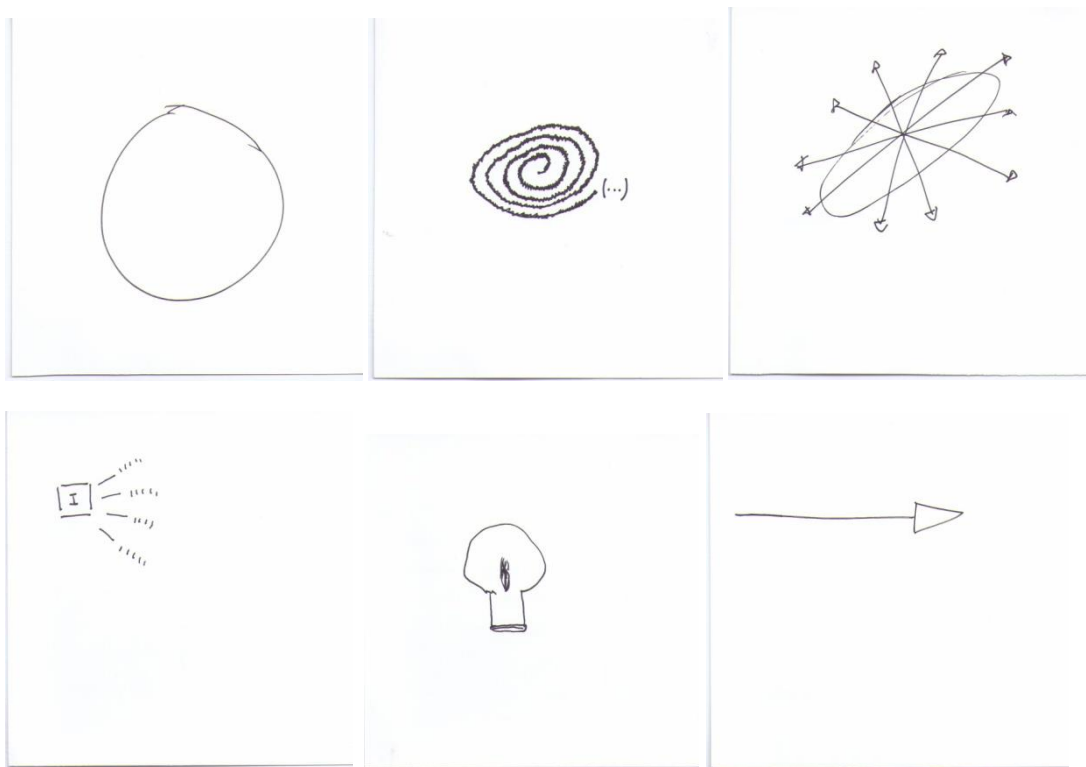

Figure 7. iSquares representations
Source: Research Data.

3   Conclusion

Reflecting on the classical, crucial, basic question "What is information?" or on the use of arts-informed, visual methodology, which is still little explored in the information studies, the iSquare project calls the Brazilian researchers´ to the idea that:

> The existing gap of a commonly acceptable definition of information is not, in any way, a justification for neglecting the importance of pieces of research in search of a definition, or possible definitions which can guide more specific domains of the information studies. Even more important is that no study should avoid the clear establishment of how this fundamental concept is understood or recur to a casual, common-sense, badly defined, however captivating explanation of the meaning of information. (Schroeder, 2011, p. 377).

Though the analysis of the entire international data set is still underway, it is already possible to notice great benefits for information studies. In Brazil, the iSquare project provides insights into how sociocultural factors influence the Brazilian students´ conceptions on information, and how these can be compared to other realities worldwide. The project has a digital platform, placed on the project website (www.iSquares.info) where it is possible to follow the research project.

As a pedagogical strategy, the iSquare activity can be adapted to different circumstances or objectives. Students may be asked to draw other central concepts of information studies, such as "data" and "knowledge", providing comparative reflections. The activity can still be carried out at the beginning and at the end of each semester, so that possible changes of the information conception can be analyzed

over time. Students can also use other visual materials such as photographs, paintings, collages and digital formats.

The informational environment is frequently entertaining, dynamic and highly visual, suggesting that students and educators should benefit themselves from different approaches, and they can use multimedia and playful resources for outlining the information concept both inside and outside the classroom.

4   References

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