Empathy Expression And Development In Industrial Design Education

By: **Fabio Andrés Téllez**

Abstract

Empathy has been recognized as a fundamental ability to generate social cohesion, to facilitate conflict resolution, to foster collaboration, and to inhibit aggression. In the Design field, this ability is considered essential for designers to acquire a deep understanding of the users in order to develop products, services, and experiences that meet their needs. As a consequence, this research proposal aims to understand how empathy is expressed and developed by students in the context of an industrial design studio, through the understanding of its methodological, pedagogical and curricular conditions. The lack of literature exploring this phenomenon calls for a theory-building methodology such as grounded theory. In order to triangulate what students say, do, and make, this study proposes the use of semi-structured interviews applied to students and faculty members, participant observation of the design studio, and collection of students' portfolios (i.e. artifacts created by the students in the studio). The analysis of these data will provide evidence of students' expressions of empathy for the user, as well as evidence of the factors that might foster the development of this ability in an industrial design studio.

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EMPATHY EXPRESSION AND DEVELOPMENT IN INDUSTRIAL DESIGN EDUCATION

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ABSTRACT

Empathy has been recognized as a fundamental ability to generate social cohesion, to facilitate conflict resolution, to foster collaboration, and to inhibit aggression. In the Design field, this ability is considered essential for designers to acquire a deep understanding of the users in order to develop products, services, and experiences that meet their needs. As a consequence, this research proposal aims to understand how empathy is expressed and developed by students in the context of an industrial design studio, through the understanding of its methodological, pedagogical and curricular conditions. The lack of literature exploring this phenomenon calls for a theory-building methodology such as grounded theory. In order to triangulate what students say, do, and make, this study proposes the use of semi-structured interviews applied to students and faculty members, participant observation of the design studio, and collection of students' portfolios (i.e. artifacts created by the students in the studio). The analysis of these data will provide evidence of students' expressions of empathy for the user, as well as evidence of the factors that might foster the development of this ability in an industrial design studio.

KEYWORDS: *empathy, empathy decline, human-centered design, design studio, design education, grounded theory, qualitative research*

INTRODUCTION AND PROBLEM DEFINITION

Empathy, the capacity to feel, recognize and understand other people's emotional and mental states, is considered one of the most important abilities for interacting in the social world. It provides the individual with the capacity of taking another's perspective in order to better and more deeply understand his/her thoughts, feelings, and circumstances, and to act accordingly. This ability has been directly associated with prosocial behavior—to act in a way that is beneficial to other people and society as a whole—and inversely correlated with aggression and narcissism. It is considered a trait of emotional intelligence, a precursor of healthy human relations, and a catalyst for civic engagement. In the Design field, empathy is considered an essential ability for acquiring a deep understanding of the users and, in turn, to develop products, services, and experiences that meet their needs. Through empathy, designers can move beyond their egocentric worldview and gain sensitivity towards the users, to relate to their experiences, and to demonstrate respect for them by recognizing and understanding their cognitive, emotional, physical, social, and cultural conditions. Thus, empathy can be considered an instrument to respectfully identify and satisfy people's needs through design, to solve interpersonal differences through mutual understanding, and, in sum, to improve the quality and fluidity of human relations (Baron-Cohen & Wheelwright, 2004; Gerdes et al., 2011; Howe, 2013; Partnership for 21st Century Skills, 2003; Kouprie & Visser, 2009; Dandavate et al., 1996; Carroll et al., 2010; IDEO, 2011; Wiggins & McTighe, 2005; Liem & Sanders, 2013).

However, there is empirical evidence that points out a decline in empathy since the year 2000 among American college students. Konrath and colleagues (2011) conducted an analysis on 72 samples of students (N=13,737) who completed the Interpersonal Reactivity Index-IRI (a test frequently used to measure empathy) between 1979 and 2009, and found a significant decrease in Empathic Concern and Perspective Taking—two of the four components of the IRI—since 2000. In terms of percentiles, this decline means that, whereas the average student in 1979 could be located at the 50th percentile of the distribution of EC or PT, the average student in 2009 could be located at the 26th percentile of EC and the 33rd percentile of PT, which "represents a 48% decrease in EC and a 34% decrease in PT" (Konrath et al., 2011, p. 186).

Even though this decline in empathy cannot be generalized to the entire American population (since the studied samples correspond exclusively to college students), given the

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importance of this ability, this situation calls for attention and intervention. In the Design field, this represents the opportunity to examine at what extent empathy is effectively being fostered through design education, and to explore how empathy emerges throughout the design process in order to identify the factors that foster or hinder its expression and development.

RESEARCH QUESTION

This paper synthesizes the researcher's dissertation proposal to study the described phenomenon in the context of an undergraduate Industrial Design studio, which aims to answer the following research questions:

1. Under what conditions do students' expressions of empathy for users emerge and develop?
    1.1. What attributes of the project definition can be associated with students' expressions of empathy?
    1.2. What design methods can be associated with students' expressions of empathy?
    1.3. What pedagogical aspects can be associated with students' expressions of empathy
2. What aspects of the students' performance evidence their empathy for users?
    2.1. What attributes of design solutions provide evidence of students' empathy for users?
    2.2. Besides these attributes, how do students express their empathy for users?

WHAT IS EMPATHY?

The term *empathy* can be defined as the "ability to recognize other people's personality, emotional condition, beliefs and desires in order to make sense of, predict and anticipate their behaviour" (Howe, 2013, p. 9), and as the "ability to identify what someone else is thinking or feeling and to respond to their thoughts and feelings with an appropriate emotion" (Baron-Cohen, 2011, p. 16).

These definitions comprise two components: an affective and a cognitive response. The former refers to the unconscious recognition of another person's emotional states and the physical and emotional involuntary reactions triggered by those. The latter refers to the conscious process that allows the subject to understand and predict another person's feelings, thoughts, and behaviors through a cognitive process of taking another person's perspective (Goldstein & Michaels, 1985; Howe, 2013; Gerdes et al., 2011; Baron-Cohen & Wheelwright, 2004).

Additionally, decision-making is also considered a component of empathy, associated with the cognitive response. In this context, it can be defined as a subject's coherent reaction towards another person, after feeling and understanding his/her thoughts, feelings and circumstances. This means that an inappropriate response triggered by another person's emotional state does not count as empathy (Baron-Cohen, 2011).

EMPATHY IN THE DESIGN FIELD

In accordance to the above definition, in the Design field, empathy is said to be present when the designer approaches the user and is able to gain an understanding of his/her thoughts, feelings and circumstances. This attention paid to the user is consistent with the tenets of different approaches to design, such as User Centered Design, Human Centered Design, or Empathic Design, which aim to develop new design solutions (i.e. products, services, experiences, systems) through a process that allows designers to acquire a cognitive and an affective understanding of the user, by gathering, analyzing, and interpreting information from his/her life. This allows the designer to gain insights into the user's life, and can reveal the user's need and desires in order to incorporate them into the design solution (Liem & Sanders, 2011; Steen, 2012; Postma et al., 2012; Suri, 2003; ISO, 2010; IDEO, 2011).

Empathy can also be found in the Design Thinking model proposed by the D.School (2010), where this ability is put as the first step of a human-centered design process, and where it is considered a fundamental characteristic of the designer's mindset. This model invites the designer to get to know the users, understand what they think, feel, need, and want, and to focus the design activity on them (D.School, 2010; Carroll et al., 2010; Plattner et al., 2012; Melles, et al. 2012).

TEACHING EMPATHY IN THE DESIGN STUDIO

Assuming that empathy is being incorporated as part of the skills that designers acquire throughout their higher education (a question that is addressed by the research study herein proposed), this would probably occur in the design studio, which plays a central role in introducing the students to the design culture and in conserving and transmitting the values of the design profession (Crawford, 2013; Salama, 1995).

The design studio is considered the "backbone" of most design programs around the world (Salama, 1995) and is characterized by the development of design projects with a constant interaction between the students and the instructor. For Brown & Adler (2008), this system is an example of a social learning environment, where students learn from the guidance of an established practitioner—who comments on and critiques their work—and from the feedback they receive from their fellow classmates (Anthony, 1991).

According to Goldman and colleagues (2012), this learning environment has the potential to foster empathy in students when the implemented design process is human-centered, since "they begin to move beyond egocentric views of the world and no longer design based on their own needs, desires, experiences or preferences (...) [but they] actively seek solutions to problems that meet the needs of others" (Goldman et al., 2012, p. 16).

THEORETICAL PERSPECTIVE

The purpose of this study to understand the expression and development of empathy in the specific context of design education, and the nature of the research questions herein presented, suggest the adoption of a naturalistic paradigm. This paradigm conceives multiple socially-built realities, values the interaction between the researcher and the phenomenon as a source of insights, acknowledges the researcher's values and theoretical positions, and praises the role of interpretation in the process of inquiry (Groat & Wang, 2002).

METHODOLOGY

The scarcity of literature that explores empathy in the context of design education suggests the use of a theory-building methodology to answer the proposed research questions. Consequently, this study will implement Grounded Theory, which is defined as a "systematic inductive, comparative, and interactive approach to inquiry" (Charmaz & Henwood, 2010, p. 241) that aims to build "middle-range theories"—applicable to real-world situations—based on empirical observations (Oktay, 2012).

This research strategy is characterized by using an approach to the studied phenomenon that is free of preconceptions, and an iterative process that comprises three main actions: Data Collection, Coding, and "Memoing". These actions allow a progressive construction of theoretical ideas that evolve into a more structured theory (Groat & Wang, 2002).

Additionally, Grounded Theory is characterized by the study of phenomena in their natural contexts, the use of interpretation and finding of meaning to analyze data, the focus on the respondent's viewpoints, the use of multiple techniques to answer the research question, the holistic view of the context of study, the prolonged and intense contact with the studied phenomenon, and the role of the researcher as a "measurement device" (Groat & Wang, 2002; Denzin & Lincoln, 1998).

STUDY SITE AND PARTICIPANTS

This study will be performed in the undergraduate program of Industrial Design at the College of Design at North Carolina State University, and specifically in the fourth year studio that applies human-centered design methods. This scenario provides a semester-long human-centered design experience to up to 18 college students majoring in Industrial Design, and who are taught by a faculty member who guides their learning process through a series of projects, desk critiques, general critiques, and presentations. This setting was selected according to the following considerations:

- Design studios have the potential to foster empathy because they transmit the values of the design profession.
- A human-centered approach also has the potential to foster empathy since it invites the student to take the user's perspective.
- Design studios are long enough to allow a prolonged engagement and a persistent observation of the site, which favors the study's trustworthiness (Guba, 1981).
- The participants (college students and their instructor) are mature and mentally developed enough to adequately respond to interviews that explore their behaviors in the studio.
- As a PhD student at the College of Design at North Carolina State University, the researcher has open access to this context.

DATA COLLECTION, ANALYSES, AND INTERPRETATION

Following the proposed methodology (Grounded Theory), this study proposes data collection through semistructured interviews applied to the students and the professor, participant observation of the studio sessions, and revision of student portfolios (collection of the artifacts produced in the studio). These techniques provide a detailed view of what students and the instructors say, do, and make, in coherence with Elizabeth Sander's model to access people's experiences (Sanders, 2002).

In Grounded Theory, the process of data analysis (coding and memoing) starts early, occurs concurrently with the process of data collection, and is iterative. This process will start with the transcription of non-textual data (e.g. audio recordings), the coding of these transcriptions and field notes, and the production of analytical memos that allow the researcher to undertake an initial interpretation. Once theoretical saturation has been reached (when the data provides no further information) the emergent concepts will be classified in categories and more theoretical memos will be written with a more general and complete interpretation. These last two steps will provide the structure and content for the emergent theory aimed at answering the research questions.

EXPECTED RESULTS

The study herein proposed aims to add to the body of knowledge regarding design education and design research. By answering the proposed questions through the selected methodology, this study proposes to define some pedagogical, curricular, and methodological conditions required in an industrial design studio to foster the expression and development of empathy in the students. This study sets out to identify some of the attributes of a design solution that can be associated with the students' expression of empathy. Ultimately, the aim of this study is to provide design educators with empirically based knowledge to assess and adjust their practices

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in order to continue fostering this fundamental and apparently declining ability.

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