

Describing Creativity in Design Across Disciplines

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Describing Creativity in Design Across Disciplines

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Describing Creativity in Design Across Disciplines

- the coding scheme
- findings from 5 different disciplines
- comparative remarks

Describing Creativity in Design Across Disciplines

The research questions:

- How can the creativity in the dataset be described?
- What is the variation of creativity between the data sets?

Describing Creativity in Design Across Disciplines

Identified datasets:

Junior Industrial Design

Graduate Industrial Design

Mechanical Engineering

Choreography

Entrepreneurship

Theoretical Framework

Mel Rhode's 4Ps:

(1961)

Person

Product

Process

Press

Theoretical Framework

Mel Rhode's 4Ps

(1961)

Person



Characteristics

Product



Outcomes

Press



Context

Process



Operations

Treffinger's COCO model

(1988)

Theoretical Framework

Mel Rhode's 4Ps

(1961)

Person



Cropley & Cropley's 6Ps

(2010)

Personal Properties

Personal Motivation

Personal Feelings

Product



Products

Press



Press

Process



Processes

Describing Creativity in Design Across Disciplines

Personal Properties

Personal Motivation

Personal Feelings

Products

Processes

Press

Describing Creativity in Design Across Disciplines

Personal Properties

Personal Motivation

Personal Feelings

Products

Processes

Press

Personal Properties are

described as

tolerance of ambiguity,

open-mindedness,

flexibility,

independence,

non-conformity and

inner-directedness

(Cropley & Cropley 2010).

Describing Creativity in Design Across Disciplines

Personal Properties

Personal Motivation

Personal Feelings

Products

Processes

Press

Personal Motivation is the core attitude of self-discipline and motivation of creative people (Cropley & Cropley 2010).

Describing Creativity in Design Across Disciplines

Personal Properties

Personal Motivation

Personal Feelings

Products

Processes

Press

Personal Feelings are the pleasure in finding a novel solution, excitement when facing uncertainty, optimistic way of looking to problems, desire to do more and enjoying the challenge (Cropley & Cropley 2010).

Describing Creativity in Design Across Disciplines

Personal Properties

Personal Motivation

Personal Feelings

Products

Processes

Press

Product is the “production of original and useful work”

(Williams, Ostwald & Askland 2010).

It is “novel, elegant, seminal and germinal” and it is considered as the final outcome of the design process (Cropley & Cropley 2010).

Describing Creativity in Design Across Disciplines

Personal Properties

Personal Motivation

Personal Feelings

Products

Processes

Press

Process involves
conceptualizing a situation
broadly,
asking unexpected questions,
making remote associations,
seeing unexpected links,
restructuring problems,
generating solution criteria and
communicating to others

(Cropley & Cropley 2010).

Describing Creativity in Design Across Disciplines

Personal Properties

Personal Motivation

Personal Feelings

Products

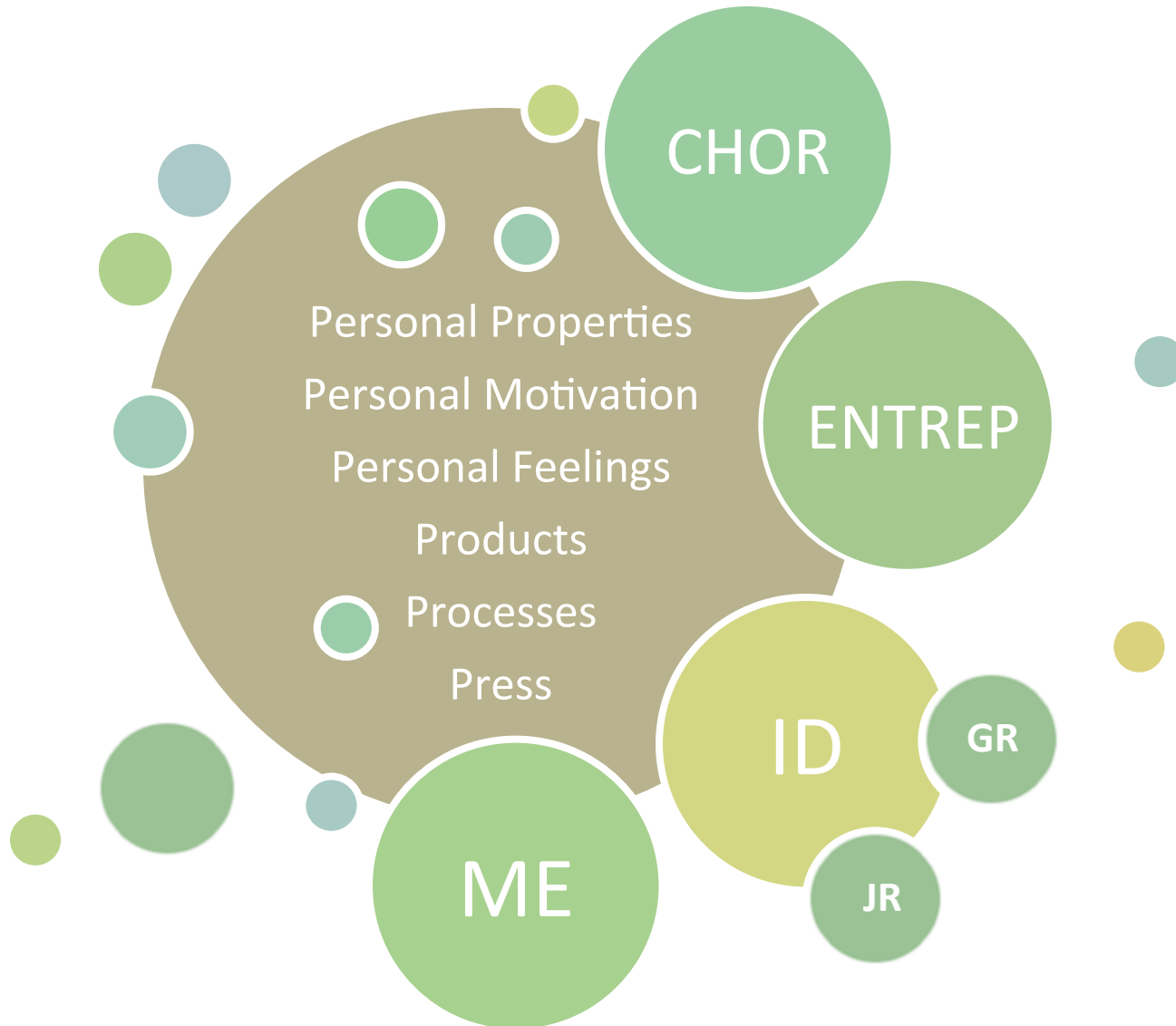
Processes

Press

Press refers to environmental factors; how the brief is structured, initial description of problem space, time management, interaction with instructor and clients.

Describing Creativity in Design Across Disciplines

Coding Scheme & Datasets



Describing Creativity in Design Across Disciplines

Industrial Design Junior

Personal Properties

“You're the designer. Which, which do you think?”

Sheryl IDJR, meeting 2, p4.

Personal Feelings

“It just brought the office more live and it made it a more fun and enjoyable environment” Addison IDJR, meeting 5, p1.

Industrial Design Junior

Process

“I wanted the form to be able to define the structure.”

Addison IDJR, meeting 3, p2.

“So I started out just like everybody else looking at current perches and stools that are out there” Addison IDJR, meeting 3, p1.

Product

“...I wanted to create a form that was interesting and different... But you can sit on it. It has different heights. It's lower here. It's taller in the back. It's still pretty stable. You can sit on it this way” Addison IDJR, meeting 5, p1.

Industrial Design Junior

Press

“When you're presenting, too, that's another thing you can say, ‘Listen, it's, ah, say you wanted to, to look at – you looked at the competitive products and, ah, you didn't want another ‘me, too’, like you want something original.’ ” Todd IDJR, meeting 1, p5.

“I'd put together a schedule working back from Thursday or Friday.” Adam IDJR, meeting 2, p8.

Industrial Design Graduate

Personal Properties

“I think they really want us to scare them with crazy, wild ideas, so don’t be afraid to let yourself go wild and crazy in your ideations, okay.” Mylie – Dan IDG, meeting 1, p20

Personal Motivations

“don’t be afraid of challenging social norms, okay” Simon IDG, meeting 1, p2.

“That’s a good way to think and a good way to design.” Eva IDG, meeting 3, p8.

Industrial Design Graduate

Process

“So you did an empathic research, taping your joints and putting Vaseline in your glasses so you could – what was it like?” Allison-Julian IDG, meeting 1, p1.

Press

“I really appreciated having the multiple interviews and the in-depth interviews that you did.” Allison-Julian IDG, meeting 1, p12.

Industrial Design Graduate

Product

“So my concept ... for these people who have special needs, like they have to detect the smell on their clothes, even it’s very, uh, little, tiny smell, like the smell of sweat, smell of cigarettes and the smell of humidity and the smell of pet” Eva IDG, meeting 3, p2.

Mechanical Engineering

Product

“The electrical components aren't gonna be actually on the assembly because we don't want any components or batteries being near an explosion because that could cause it to be dangerous.” Cap Team ME, meeting 1, p2.

Press

“Okay. Before we go further, we have a unit that's not fully assembled, and we have a unit that's not functional. Do you really wanna go on at this point?”
Bap Team ME, meeting 2, p2.

Mechanical Engineering

Process

“After going through our design and tweaking that a little more, we realized, um, having the shaft locker mounted to the, um, non-rotating plate would cause a problem” Cap Team ME, meeting 1, p4.

“could you shave some weight out of it by doing a structural analysis” Prop Team ME, meeting 3, p7.

Describing Creativity in Design Across Disciplines

Choreography

Personal Feeling

“Loved your opening... you have these gestures that I’m really enjoying” Anita CHOR, meeting 1, p1

“I really like your music, I really like your costumes”
Anita CHOR, meeting 1, p2

“Love the entrance again and the back and forth stuff there” Anita CHOR, meeting 2, p1

“The way her pelvis drops under as she comes down is just gorgeous” Anita CHOR, meeting 3, p13

Describing Creativity in Design Across Disciplines

Choreography

Product

“I think that the skirts have potential. I feel that the long skirt with the music that has been composed for you takes me to a Martha Graham era and that’s not bad” Anita CHOR, meeting 1, p3

“I really wanted to see more movement in her because I thought that was really cool” Anita CHOR, meeting 2, p3

Choreography

Press

“there were some moments where I felt like the movement was calling for just a little bit more suspension”

Claire CHOR, meeting 2, p 1

Process

“I don’t know, for some reason I didn’t feel like it should be somebody else at the end. It just didn’t – I had – I think I had”

Claire CHOR, meeting 2, p 7

Describing Creativity in Design Across Disciplines

Entrepreneurship

Process

“look into the market and see what our competitors are doing” ENTREP, Tumbler Team, p2

“we interviewed a lot of construction companies that said this is a huge problem” ENTREP, Tool Team, p6

Press

“And no issue with fraud or theft on, on this deal?... So what happens if I'm riding the bike and the tire blows?”
ENTREP, Cruiser Team, p8

Entrepreneurship

Product

“our preproduction fixed costs would be about, um, \$12,520.00. And that includes a prototype, the plastic injection molded – molding, which would cost about \$10,000.00” ENTREP, Tumbler Team, p3

“it’s estimated there's a \$1 billion of lost equipment each year, and in the year 2013, they’ve estimated that construction and tools, ah, budgets will increase 70 percent in 2013.” ENTREP, Tool Team, p2

Describing Creativity in Design Across Disciplines

Variations across the datasets

	IDJR	IDGR	ME	CHOR	ENTREP
Personal Properties	+	+		+	
Personal Motivation	+	+		+	
Personal Feelings	+			+	
Product	+	+	+	+	+
Press	+	+	+	+	+
Process	+	+	+	+	+

Variations across the datasets

Personal Properties

	IDJR	IDGR	ME	CHOR	ENTREP
Personal Properties	+	+		+	

- IDJR: in the clients or instructor as statements to the students
- IDGR: associated with the instructors helping encourage the students' ideas
- CHOR: associated with giving emotive feedback to students

Variations across the datasets

Personal Motivation

	IDJR	IDGR	ME	CHOR	ENTREP
Personal Motivation	+	+		+	

- statements being given to the students to motivate them from either their instructor or the client

Variations across the datasets

Personal Feelings

	IDJR	IDGR	ME	CHOR	ENTREP
Personal Feelings	+			+	

- IDJR: students and sometimes the instructor and clients show feelings mostly related with liking or not liking the product
- CHOR: more prevalent and apparent in the ways the instructors were providing feedback to students in emotive ways

Variations across the datasets

Product

	IDJR	IDGR	ME	CHOR	ENTREP
Product	+	+	+	+	+

- the other most prevalent in the data analysed, and was used in describing the novelty or creative ideas in the designed product

Variations across the datasets

Press

	IDJR	IDGR	ME	CHOR	ENTREP
Press	+	+	+	+	+

- mainly identified in the environment the instructor was providing to the student, either in the feedback, motivation and encouragement they were providing directly to the student or
- in the way they set up and influence the design brief

Variations across the datasets

Process

	IDJR	IDGR	ME	CHOR	ENTREP
Process	+	+	+	+	+

- the most prevalent in all five data sets analysed
- involved a lot at looking what competitors were doing
- identified in the ways the students would describe the creative processes used to come up with their ideas.

Variations across disciplines

ID

- the instructors guide the students
- students are still in the phase of learning
- the instructor and students are working collaboratively
- the instructors are more interested in the process, in 'how' the project is solved

ME

- the instructor asks questions about technical requirements
- not much learning during the classes
- students are expected to know or have solved things already
- the instructor is more interested in if the product is actually working and functional

Variations across disciplines

CHOR

- the instructors are supportive and encouraged by the student's work
- they are interested in working with the student to develop their choreographies
- the instructors and students seem to be on an equal level

ENTREP

- always talking about the final facts and the truth, without any alternatives or possibilities

Conclusion

Most studies to date on creativity in design have focused on industrial design students or professional designers. Few studies have looked at creativity across disciplines. By analysing data from more diverse disciplines this research hopes to advance discussions on characterising creativity in design, which will be of use to both professional designers and also inform design educators.

Thank you

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