"EMPOWERING TEACHER COMPETENCE TO PROMOTE SOCIAL ENTREPRENEURSHIP IN EUROPEAN SCHOOLS"
2020-1-HU01-KA201-078610
C/5 JOINT STAFF TRAINING AND C/6 BLENDED MOBILITY OF SCHOOL LEARNERS IN ZONGULDAK, TURKEY

"Basic of Human Centered Design"

PAYDAS Education, Culture and Art Association

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23/02/2023

HCD has been a very popular topic in recent years.

It is a design style that provides quality in many fields such as

businesses, education, health, marketing and public relations, engineering, architecture.

??? ??? ???

WHAT IS HUMAN CENTERED DESIGN (HCD)?

Human centered design has its roots in semi-scientific fields such as ergonomics, computer science and artificial intelligence. The echoes of this past can be noted in international standards such as ISO 9241-210, "Ergonomics of human-centered system interaction" which describes human centered design as "an approach to systems design and development that aims to make interactive systems more usable by focusing on the use oft the system and applying human factors/ergonomics and usability knowledge and techniques".

ISO 9241-210 specifically recommends six characteristics:

▸ The adoption of multidisciplinary skills and perspectives

▸ Explicit understanding of users, tasks and environments

▸ User-centered evaluation driven/refined design

▸ Consideration of the whole user experience

▸ Involvement of users throughout design and development

▸ Iterative process.

*ISO 9241-210:2019: Ergonomics of human-system interaction

HOW?

▸ Such engineering based approaches address well the **needs** of the users of tools since tools have predetermined functions.

▸ The use of "personas" and "scenarios" as a basis for design can provide greater opportunities for facilitating interaction, imagination and learning .

▸ **Determining design requirements** and **defining design concepts** based on what is known about the people involved, and what is known about the **environment** in which the interaction takes place, can help widen the affordances for interaction, play and learning. Further, specifically targeting emotional engagement during the design process can lead to even more elaborate interaction opportunities.

HOW?

- Today's human centered design is based on the use of techniques which **communicate, interact, empathise and stimulate** the people involved, obtaining an understanding of **their needs, desires and experiences** which often transcends that which the people themselves actually realised. Practised in its most basic form, human centered design leads to products, systems and services which are **physically, perceptually, cognitively andemotionally intuitive.**
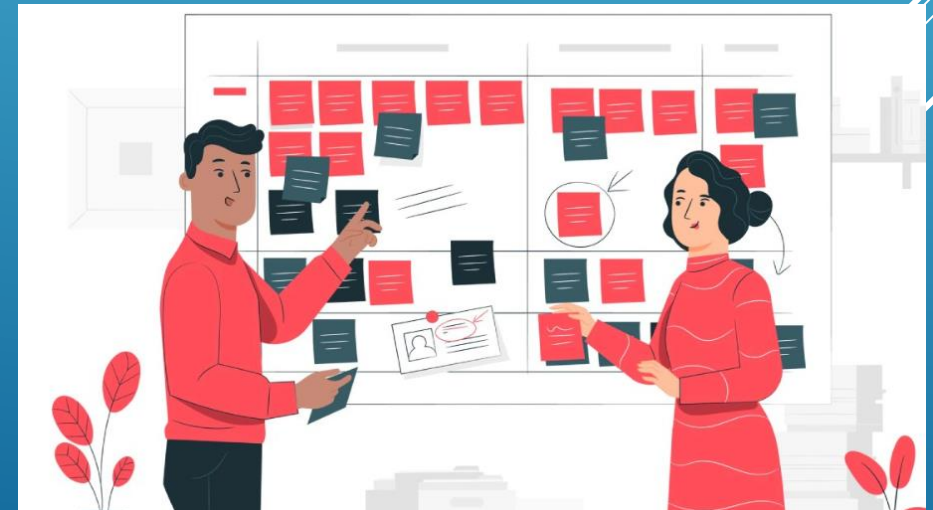
WHO?

- Well-known brands such as Armani, Apple, Facebook, Ferrari, Instagram, Google, IKEA, Nokia and Phillips have led the way. Choosing and rescaling technologies to fit people's needs has been the trick in many cases such as Apple, while focusing on emotional engagement.

THE HUMAN CENTERED DESIGN PYRAMID

As summarised by the model, human centered design consists of a series of questions and answers which span the spectrum from the physical nature of people's interaction with product, system and service to the metaphysical.
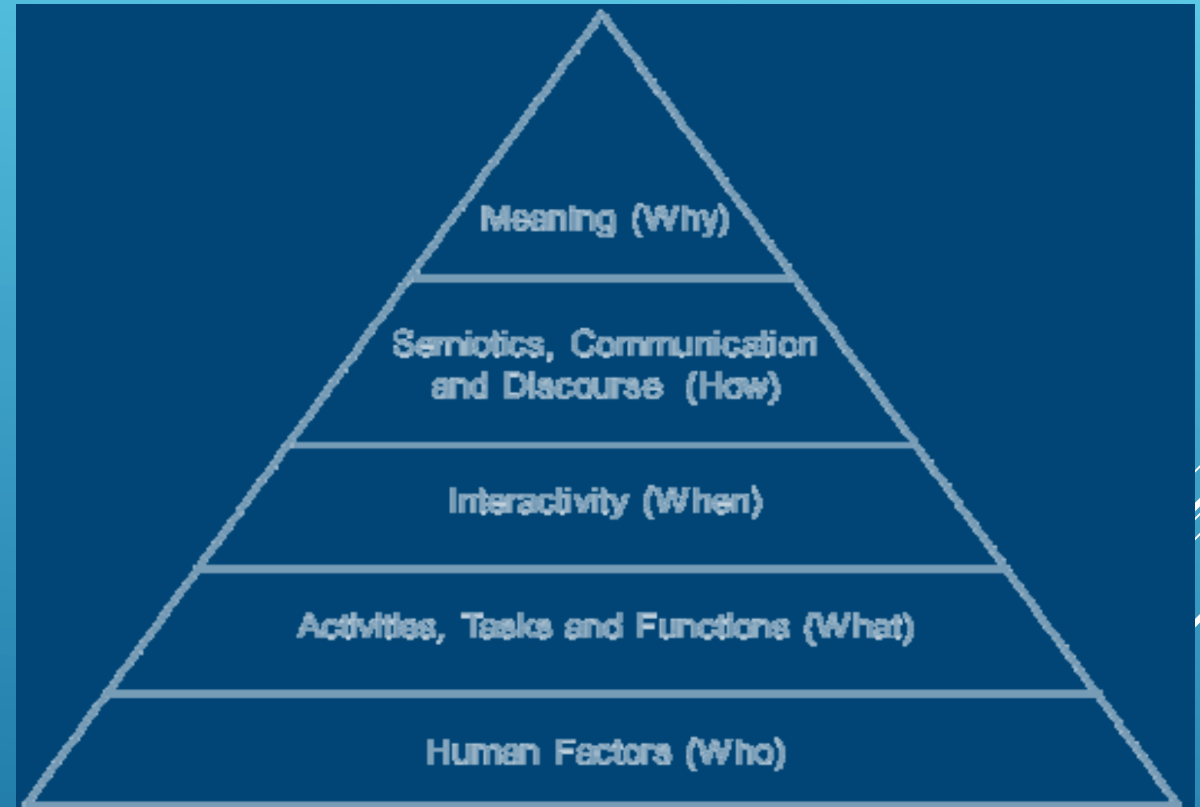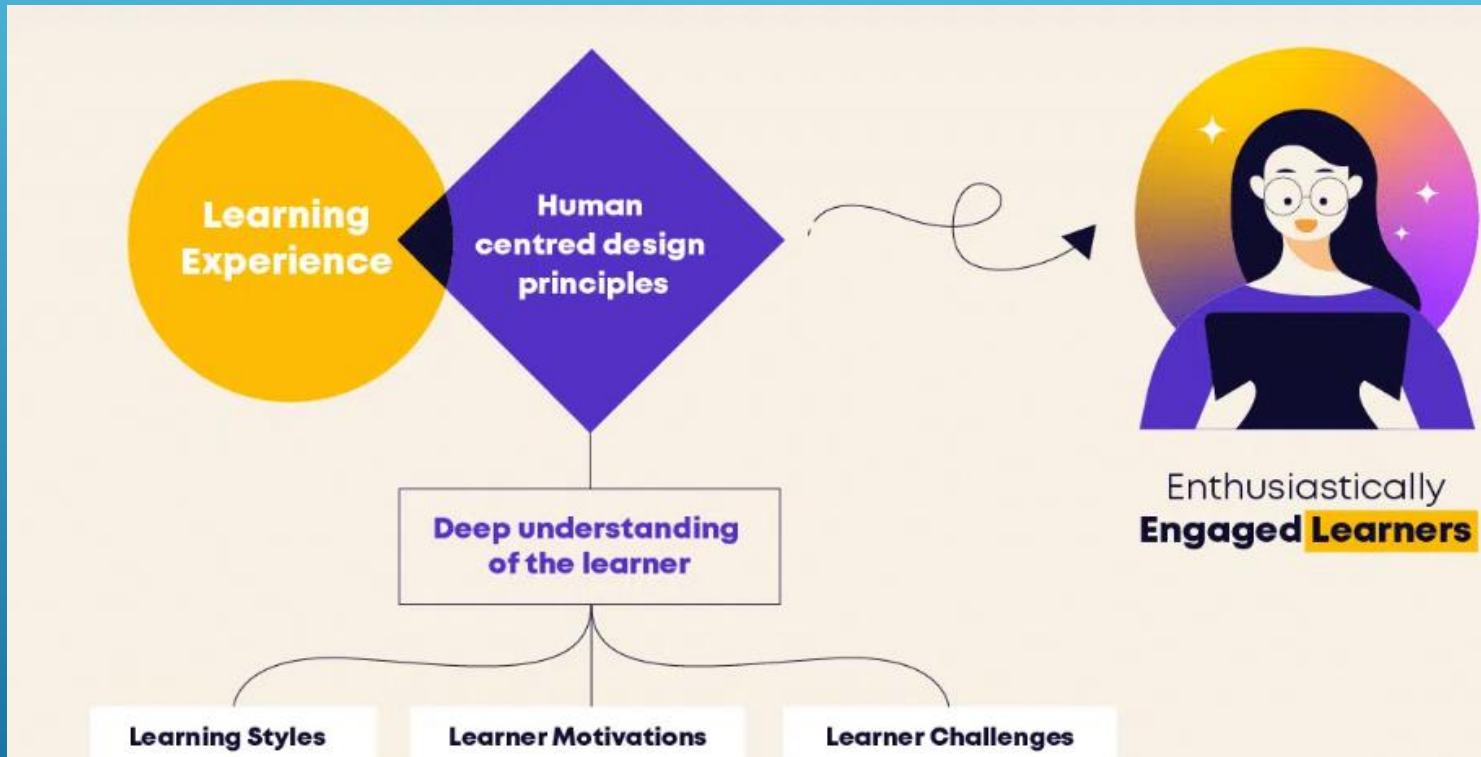
THE HUMAN CENTERED DESIGN PYRAMID-2

- Designs whose characteristics answer questions and curiosities which are further up the pyramid would be expected to offer a wider range of affordances to people, and to embed themselves deeper within people's minds and everyday lives.

- In particular, a product, system or service which can introduce a new meaning into a person's life would be expected to offer ample opportunities for commercial success and for brand development, as historic examples such as Ferrari sports cars or Apple Ipods seem to suggest.

Deep understanding of learners is at the core of HCD for learning experiences
in the field of education.

A 5-step human-centered design process

The five main steps in the human-centered design process are:

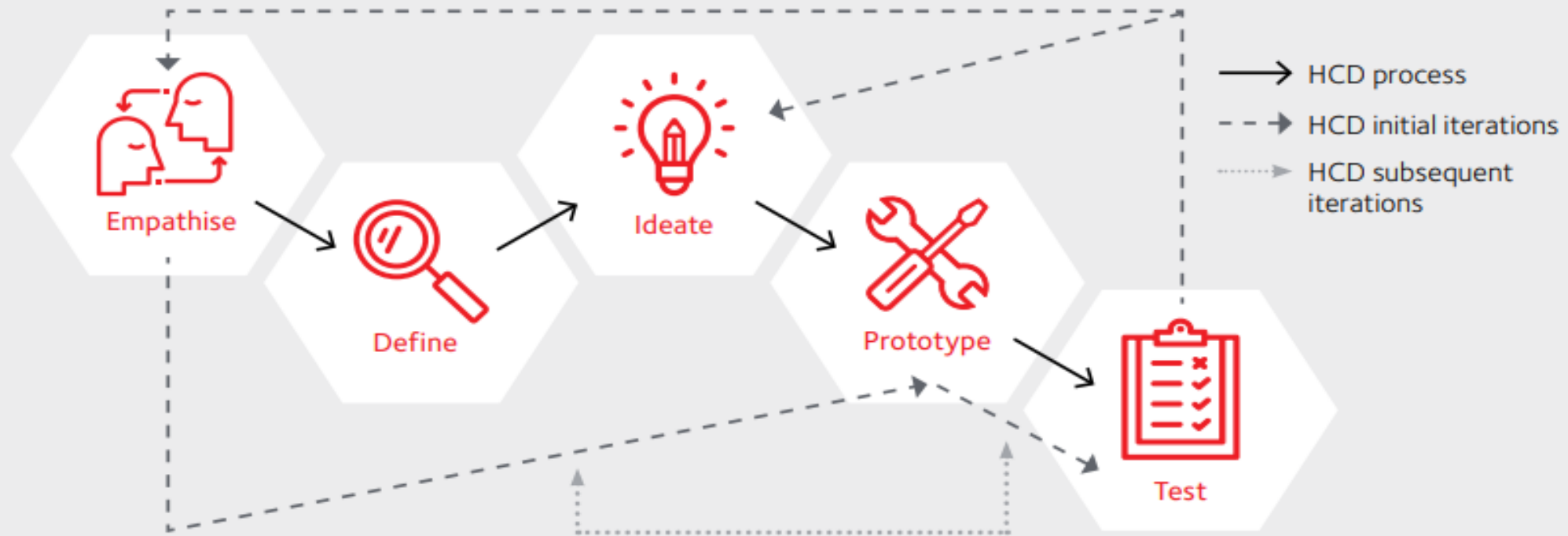1. Empathise   2. Define   3. Ideate   4. Prototype   5. Test

Empathy is seeing with the eyes of another, listening with the ears of another, and feeling with the heart of another.

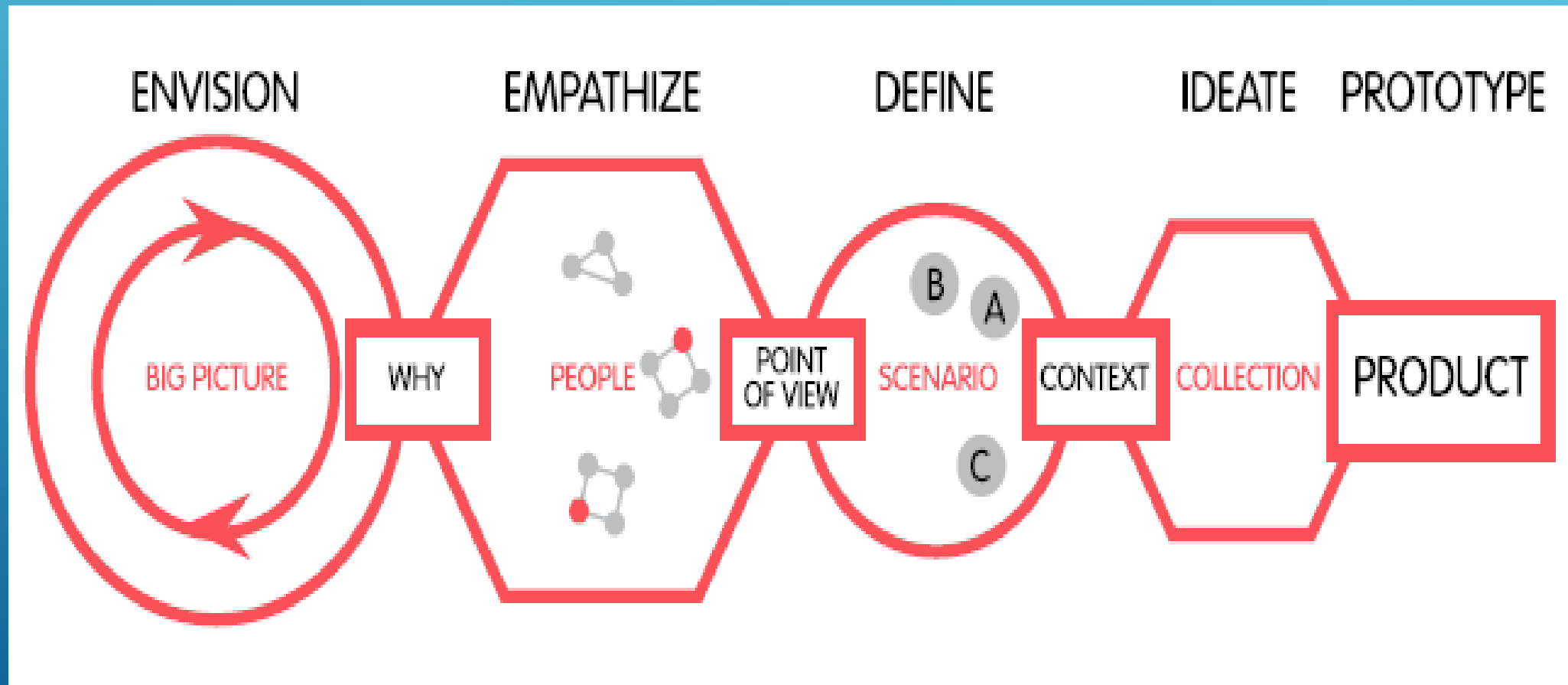*Alfred Adler, World Renowned Philosopher and Psychiatrist*

ISHIKAWA DIAGRAMS (ALSO CALLED FISHBONE DIAGRAMS, HERRINGBONE DIAGRAMS, CAUSE-AND-EFFECT DIAGRAMS) ARE CAUSAL DIAGRAMS CREATED BY KAORU ISHIKAWA THAT SHOW THE POTENTIAL CAUSES OF A SPECIFIC EVENT.
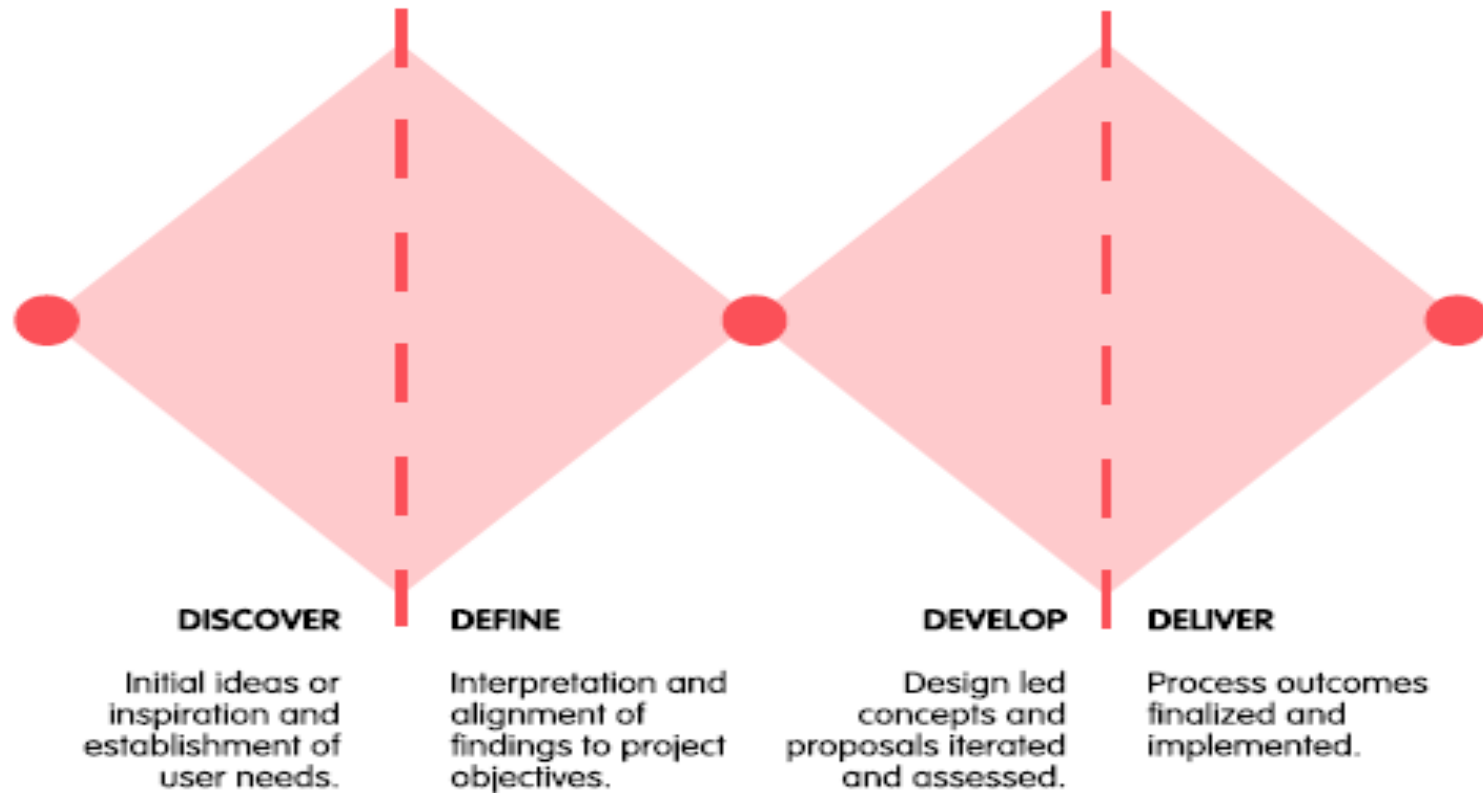
THE DOUBLE DIAMOND DESIGN PROCESS

(adapted from the Design Council 2005)

HUMAN CENTERED DESIGN TOOLS

- Today's human centered designer is a relatively transparent figure who does not impose preferences on a project, but who instead stimulates, conveys and translates the will of the people. The toolbox of human centered design techniques grows continuously, sometimes by borrowing from fields such as psychology or sociology and sometimes instead by defining new approaches which emerge from design practice.

- Human centered design tools can be classified based on their intended use. The most basic form of tool consists of facts about people such as anthropometric, biomechanical, cognitive, emotional, psychophysical, psychological and sociological data and models.

HUMAN CENTERED DESIGN TOOLS-2

- A partial list of some of the tools which are most frequently deployed by human centred designers includes:

- **Facts Regarding Humans and Society**

- Anthropometric data sets and models

- Biomechanical data sets and models

- Psychophysical data sets and models

- Cognitive data sets and models

- Emotional data sets and models

- Psychological data sets and models

- Sociological data sets and models

- Philosophical data sets and models

Capture of Meanings and Needs (Verbally based)

- Ethnographic interviews   - Questionnaires

- Day-in-the-life analysis   - Activity analysis

-   Cognitive task analysis   - Conceptual landscape

-   Think aloud analysis   - Be your customer

- Customer journey   - - Personas   -

- Extreme Users

- Scenarios

HUMAN CENTERED DESIGN TOOLS-4

▶ **Capture of Meanings and Needs (Non Verbally based)**

- Game playing
- Cultural Probes

- Visual journals
- Error analysis

- Fly-on-the-wall observation
- Customer Shadowing

- Body language analysis
- Facial coding analysis

- Physiological measures
- Electroencephalograms

HUMAN CENTERED DESIGN TOOLS-5

▶ **<u>Simulation of Possible Futures</u>**

- Word concept association   - Role playing

- Focus groups   - Co-design

- Experience prototype   - Real fictions

EXAMPLE: ROLE PLAYING + IMPLEMANTION OF IDEAL DESIGN PROCESS (LEARNING BY DOING)

Topic: HDC for students

THANK YOU.

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