

A PHYSICAL AND EMOTIONAL JOURNEY INTO THE DESIGN PROCESS

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1. Introduction

The Politecnico of Milan's IDEActivity Center was invited to take part as a proactive player in CREA, The International Conference on Creativity and Innovation, contributing the results of the research it has conducted on the topic of creativity for innovation through Design.

The event had a duration of only 90 minutes, during which the research group tried to condense the typical phases, concepts and techniques of the design process for an audience of professionals from a field, such as the field of creativity, that though somewhat different, is akin and shares many contact points with Design. As IDEActivity Center researchers, designing a specific training plan targeted at consultants/trainers who work in the field of creativity and of its pertaining tools and methods posed an exciting and multifaceted challenge, providing an important opportunity for exchange during which to forcefully and effectively demonstrate the high added value the design approach can contribute to the process of creativity in any field of application.

The research conducted by the IDEActivity Center focuses on the synergy between various creativity techniques and the typical tools employed by Design. As a result of this research, a method and supporting toolkit have been developed to guide project design towards innovation. The features of this Design-based methodology [Cross 2011] are: personalization and flexibility of the creativity tools; Human Centered approach and co-design. These aspects enable collaborative actions aimed at identifying and solving problems through the direct involvement of users.

2. Experience and action learning

Our first in-depth consideration focused on the dynamics linked to the transmission of information and learning. How do they work on a scientific level, and how can they be managed on a practical level?

To this end, it seemed useful to begin our considerations on the basis of E. Dale's learning pyramid (also known as the Cone of Experience) and Kolb's experiential learning cycle. These models incorporate various theories pertaining to didactic planning and learning processes, according to which more information is retained from what we do, rather than from what we hear, read or observe (Dale) and the transformation of information into knowledge is a result of action plus reflection on the action, sharing of perceptions and application of what understood to practice (Kolb). This may seem obvious, but already the great ancient philosophers and spiritual masters, such as Confucius, Lao Tzu, Aristotle, Socrates and Cicero were familiar with these ideas when teaching to adults. They considered learning as an active process of research and not as a merely passive activity. They were, indeed, the first to introduce techniques to actively involve learners into the learning process.

By 500 B.C. Confucius had already stated: "Tell me and I forget; show me and I remember; involve me and I understand." Aristotle once said "for the things we have to learn before we can do them, we learn by doing them".

Dale's and Kolb's research is in accordance with what already highlighted by the ancient philosophers and is certainly very close to the design approach promoting the "Learning by doing" practice. In *Assessing for Excellence*, Grant Wiggins points out that to really understand an idea a learner must be able to carry out a variety of performances involving such idea. Understanding is the ability to explain the idea, master evidence to support it, find examples, apply it to new situations, generalize about it and represent it in new ways. In essence, the kind of learning that leads to understanding is learning by doing. Currently, we speak about this in terms of "Experiential Learning" and "Action Learning". As the name suggests, experiential learning involves learning from experience. One of these theories was proposed by psychologist D. Kolb. According to him, this type of learning can be defined as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combinations of grasping and transforming experience".

Many proponents of Action Learning see Kolb's experiential learning cycle as its theoretical base [Lessem 1991], [McGill and Beaty 1992], [McLaughlin and Thorpe 1993], [Mumford 1994]. Despite the views held by the proponents of this school of thought, others like, for example Revans disagrees with the choice of Kolb as a theory base. Revans defines Action Learning as a means of development, intellectual, emotional or physical that requires its subjects, through responsible involvement in some real, complex and stressful problem, to achieve intended change to improve their observable behaviour henceforth in the problem field [Revans 1982]. The essence of this approach is in Revans' idea: "There can be no learning without action, and no (sober and deliberate) action without learning".

In Kolb's [1984] experiential learning cycle (see fig1-b), action, reflection, theory and practice are of equal importance. In Action Learning, for proponents of this school, the starting point for learning is action [McLaughlin and Thorpe 1993]. Members reflect on experience with the support of others, followed by further action, in order to change -rather than simply repeat- previous patterns. Action Learning enables learning in each stage of the experiential learning cycle [Bunning 1992], [McGill and Beaty 1992].

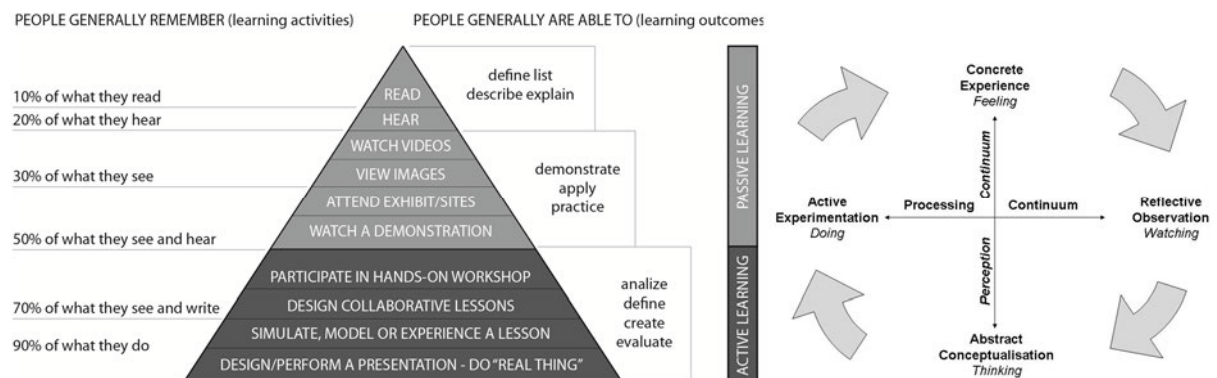


Figure 1. Left: Cone of experience by E. Dale, right: Kolb's experiential learning cycle

According to Dale's research, as illustrated in the Figure 1a, the least effective method (on top) implies prior knowledge of the information presented through verbal symbols, that is, by listening to the words pronounced. The most effective methods (on the bottom) involve experiential learning experiences, such as hands-on or in the field experiences, and especially intentional experiences aimed and linked to the real world.

The further down the pyramid we proceed, in fact, the more effective the learning method becomes. This suggests that the involvement of learners in the didactic process reinforces the acquisition of information and the consolidation of knowledge.

"It reveals that "action-learning" techniques result in up to 90% retention. People learn best when they use perceptual learning styles. Perceptual learning styles are sensory based. The more sensory channels possible in interacting with a resource, the better chance that many students can learn from it.

According to Dale, instructors should design instructional activities that build upon more real-life experiences" [Anderson 2005].

The theory proposed by Kolb takes a more holistic approach and emphasizes on how experiences, including cognitions, environmental factors, and emotions influence the learning process.

Kolb's cycle presents learning as the reiteration of first experiencing something, reflecting on that experience and sharing perceptions of the experience, checking these perceptions against theory that helps to explain what happened, applying what is thus understood to practice, and experimenting with new ways of thinking and working and being that the new force to generate a new learning cycle. The cyclical model of learning consists of the 4 stages: Concrete experience (or "Do"), Reflective observation (or "Observe"), Abstract conceptualization (or "Think"), Active experimentation (or "Plan") (see fig. 2a).

Given the complexity and volume of information to be transmitted in a short timespan, we found referring to the questions from Dale's cone of experience and Kolb's experiential learning cycle tools useful in providing the most adequate response to the specific training requirements of this event: What kind of learning experience do you want to provide? What and how many senses can students/participants use to learn this instructional material?

To answer these questions, we designed an event drawing from both Action Learning [Davies et al. 2013] and Experience Learning with the aim of developing creative skills within the training. Such research has identified the following key-factors: a flexible use of space and time; the provision of adequate materials; a playful and/or game-based approach; emotional involvement of participants. The role of performances might be useful for: the creation of a fictional space, the role of imagination, and interactional creativity [Iacucci et al. 2002]. In this perspective in particular three roles of performance in the design systems might be underlined: exploring, communicating, and testing.

Therefore, our fundamental objective was to offer an activity based on the concept of experiential learning of the Design process, designed to involve participants both emotionally and physically. Consequently, according with the idea that knowledge is continuously gained through both personal and environmental experiences [Kolb 1984], it was important from the very beginning to consider the environment as an integrating part of the experience: a vehicle for the training itinerary able to effectively support the learning process. This means not only managing the space, but also proactively managing communication, as well as the decision to include non-verbal language as an alternative to spoken word. The event designed by IDEActivity featured the emotional involvement of participants, a dynamic use of space, and non-verbal representation.

2.1 Emotional involvement: *Theatre of silence*

Throughout the day, our brain naturally follows an alternating pattern of high and low attention levels. These cycles last about 90-110 minutes, and are strongly connected to "the basic rest-activity cycle" (BRAC) which was discovered some time ago through sleep research [Kleitman 1963].

In general, our brains struggle to constantly maintain a high level of attention. Research published by LaBerge in 1995 seems to indicate that high levels of attention may be achieved for a maximum of 10 minutes or less, therefore allowing the brain to constantly reassess its priorities and, consequently, to refocus on a new object of attention.

Considering this characteristic, it is logical to structure the activity so as to alternate moments of concentration and moments of light mental relaxation.

In fact, any time a new notion is acquired, there is a physical need for the time to process the information and create a new meaning, which will later be internalized.

The training activity we were tasked with was by its own nature rife with meanings and new information, to be processed and/or associated on the basis of prior knowledge by a group of international participants with different social and cultural backgrounds, within a limited amount of time.

Silence was selected as a key-element meant to favour moments of individual consideration: the down-time required for participants to assign meaning and relate the new data to their prior knowledge, facilitating the consolidation of the newly acquired information. Reflection is a crucial part of the experiential learning process, and like experiential learning itself, it can be facilitated or

independent. Dewey wrote that "successive portions of reflective thought grow out of one another and support one another", creating a scaffold for further learning, and allowing for further experiences and reflection [Kompf and Bond 2001]

Albert Einstein once said, "I lived in solitude in the country and noticed how the monotony of a quiet life stimulates the creative mind."

Silence was an important strategic element during the experiential learning process, acting on multiple levels, both creating the basic tapestry of the environment and fostering freedom of transition between moments of attention, assignment of meaning, and pre-consolidation of the information.

Our decision to create a both physical and experiential and emotional itinerary was dictated by the close connection linking emotions to the learning process. Emotions drive attention, create meaning, and have their own memory pathways [LeDoux 1994].

2.2 A dynamic use of space: *Scenography of movement*

The physical and emotional involvement of participants [Douglas 2013] constituted the second key element in the activity, affecting our decision to incorporate music, theatricality and rough prototyping.

Our objective was to create a new, shared language, catered to the environment in which we were performing: a wordless language in which the repetition of specific gestures and sounds set the pace for each activity and/or stopover, and whose fluctuations and interpretation acted as extremely important instruments for communication and the involvement of participants. The communication levels achieved during silence were designed as part of the environment, and favoured extremely high levels of concentration to be maintained throughout the activity.

Greenough, a pioneer in enrichment studies, says that experience determines which synapses are shed or, more important, which are retained. This forms the "wiring diagram" upon which subsequent development builds [Begley 1996].

«Interaction designers, for example in IDEO and the Interval Corporation, have devised and participated in theatre-like performances to give birth to and develop ideas for approaching design problems. These performances, which may involve other participants such as clients or users, aim to explore unknown territory rather than communicate known proposals. So they must have at least some unscripted, spontaneous elements» [Koppett 2001].

The environment of the training event was expressly created as a sort of parallel world in which participants were invited to enter as spectators and leading players: a foreign and peculiar setting to be explored and become comfortable within. The itinerary we proposed was a physical and experiential pathway that traced the phases of the design process through stopovers, at which participants were invited to take part in increasingly involving activities.

2.3 Non-verbal representation: *Visual thinking*

The learning process requires the active participation of the subject [Mayer 2000]. The brain selects what information is relevant and then organizes this data in a mental representation, integrating it with prior knowledge to produce a single model.

Visual and verbal information, with their own distinctive characteristics, are key elements in the learning process. This is a multimedia-based process as it requires both systems. In his theory of multimedia representations, Schnotz [2001] discriminates between external representations (images and texts) and internal representations (mental images or models). While the formers can only be graphic (images) or descriptive (texts), the latter can simultaneously assume both natures. The learning process differs depending on the type of external representation it employs.

In processing a text, the brain firstly elaborates a mental representation of its superficial structure. Secondly, it outlines a propositional representation of its semantic content and finally, it elaborates a mental model of the subject. These processes are guided both by the sensory information perceived and by our prior knowledge.

Diversely, in processing an image, we firstly perceive, elaborate, and create a visual representation of it, which is subsequently reinterpreted semantically (providing meaning to the image); finally, we construct a mental model of the subject.

Adhering to one of the principles in Mayer's guidelines, which states that learning increases when words are associated to images – as the resulting integrated mental model is richer in information to be accessed at a later stage – we established Visual Thinking as our third key element in the training activity. Visual Thinking is the tool through which concepts, information and ideas are translated into images, words and/or the intervening connections, so as to transmit them in a manner that simplifies and improves the comprehension and internalisation of their contents.

Images - the typical mode of expression employed in Design, as opposed to other fields – act as the tool enabling the organization of information, fostering learning throughout the process. Together with words, images constitute a constellation of symbols created by man to communicate. Words and images can convey the same information; however, while images non- arbitrarily reflect the appearance of the object they represent, words have no likeness to the content they refer to. In other words, images represent; words describe.

In a well-known experiment conducted by Shepard, each subject was presented with 600 photographs, and subsequently with a pair of two images including one that had been previously viewed among the photographs. The final mean error value was attested at a mere 1.5%. When the same experiment was conducted using phrases rather than images, the final mean error value rose to 11.5%.

Therefore, the image system is distinctly superior in terms of long-term memory. This supports the idea for which, to foster the long-term retention of the information supplied during the activity, it is sensible to employ Visual Thinking, and to favour communication through images, specifically images referring to concrete objects, rather than verbal communication.

Many of the tools linked to the visual sphere, such as drawing, sketching, mapping etc., date back to the initial teachings of Design – therefore they can be ascribed to the specific tools of the Design process. To demonstrate the power and potential of this mode of expression to participants, we set off from Shepard's experiments to devise a test comparing "images vs. text" which forcefully confirmed the power and immediacy of images also with regard to creative thinking.

Despite the various differences in interpretation, experts agree that image generation, construction and combination are fundamental elements within the creative process.

The data we have seen and reported thus far demonstrates:

- the importance of creating, manipulating and combining mental images within the creative process;
- the fundamental role played by visualization, particularly when stimulated, in both creative discovery and problem solving, even in every-day life scenarios.

There are really only three tools that we'll need to become great at solving problems with pictures: our eyes, our mind's eye, and a little hand-eye coordination. I call these our "built-in" visual thinking tools.

3. The CREA case study

The proposed activity is actualized through highly experiential training regarding the Design process, which synergistically employs the typical and renown tools of Design along with specialized tools expressly crafted and personalised for the event by the IDEActivity Center.

The following case study presents the experience conducted by researchers from the IDEActivity Center of the Politecnico of Milan, Department of Design, during the CREA International conference on Creativity and Innovation, a training and resource-sharing event focused on creativity.

The activity's main objective was demonstrate how, through a Human-Centered approach, the Design process - whose language is based on different forms of communication, and which makes use of specific tools that are integrated into the creative process- represents a high added value and essential element in achieving innovation.

Recognizing the need to undertake a different path from conventional training, we chose to emphasize the types of communication employed by design by presenting an event that allowed participants to delve deeply into the most significant stages of the design process. Theatricality and scenography became the experimental elements through which to convey the importance of perceiving the process as a complete path.

For this purpose, using the data reported in the introduction to this paper, we set up an actual pathway through which to walk (see fig. 2a). The participants were guided across the physical setting representing the IDEActivity methodology (see fig. 2b) so as to understand and internalize the method's stages through multisensory experiential involvement. Environment effectively and significantly affects the way mental images are shaped by providing additional information in the third dimension, enabling a deeper understanding of what is being conveyed.

To stimulate the construction of mental images, which are closely linked to sensory and emotional perception, IDEActivity relies on the diversification of communication methods, alternating various elements.

Silence was used as the key of the entire event - silence as a way to achieve deep concentration, reaching a holistic realm, but which in fact was not absolute. The silence was rhythmic, its beat set by sounds that connoted specific moments (for example, the beginning and end of each activity).

Therefore, our objective during the portrayal/path was to collectively create a shared language both through sounds and through mimicry. Setting off from the results of scientific research demonstrating that non-verbal forms of communication and physical and emotional involvement favour the interpretation and internalization of an experience on multiple levels, we chose to develop the training itinerary as follows: *theatre of silence*, *scenography of movement* and *visual thinking*.

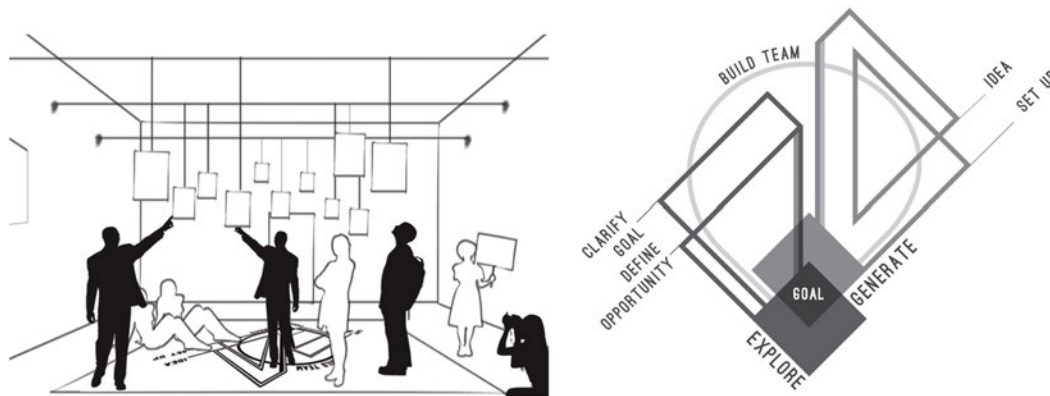


Figure 2. Left: event setting sketch of, right: IDEActivity method

Silence and physical movement were important in creating the environment and maintaining high attention levels throughout the itinerary; the music effectively and pragmatically supported and accompanied the operative movements; the light focused attention on specific points of interest, and the images involved the emotional and sensory perceptions of participants.

The interactions among participants and with us were therefore left to mimicry and visual language. The power of images is especially key in the first half of this experimental training; the second phase is more experiential and emotional, and calls for the "spectator"/participant to accept a challenge on multiple levels, being prompted to express him/herself and communicate through non-verbal methods.

Another way to communicate with the participants was the use of our activity cards, which provided participants with the only available guidelines for each activity. This technique is included in the toolkit developed by the IDEActivity Center.

Once the objective has been clearly identified and the potential target areas and opportunities have been determined, the next step in our method is to design a series of cards, inspired by the IDEO Method Cards, that are used to facilitate the creative session. These cards follow the conceptual structure of the IDEO cards, but are substantially different as they are non-generic and specifically catered to each creative session and to the specific objective of the project.

How is this learning experience structured? The entire experiential pathway sets off from the three-dimensional rendering of the IDEActivity method, which is divided into two main areas: Explore and Generate. Participants can walk among the toolkit cards that are projected in the specific area of the path in which they are employed. This approach allows participants to mentally construct a comprehensive three-dimensional image of the process, depicted as a path, and to visualize the creative techniques and tools pertaining to each phase of both the Explore and the Generate areas.

The IDEActivity toolkit Cards contain a series of guidelines expressly crafted to facilitate the use of a number of techniques both renown and specifically catered to the project, which are personalised depending on the individual project's requirements.

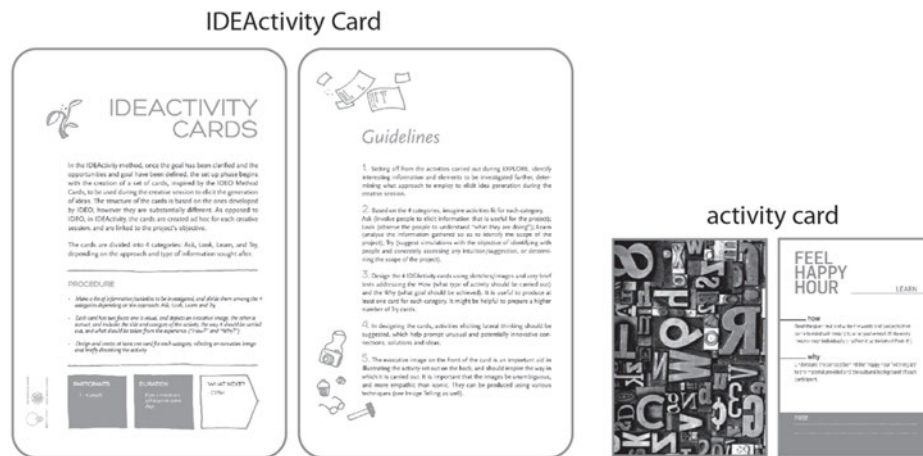


Figure 3. Left: IDEActivity Cards, toolkit excerpt, right: activity card

For the CREA training event, we proposed a simplified yet exhaustive version of the Design process, focusing on three different phases that were spatially represented as stopovers along the itinerary:

1. researching and identifying final users (Clarify goal phase, within the Explore area)
2. observing and prototyping evident and latent needs, to define potential opportunities (Define opportunity phase, within the Explore area)
3. generating and prototyping ideas to come up with new solutions (Idea phase, within the Generate area).

Each phase/stopover was linked to a card from the IDEActivity toolkit and presented with an Activity card. Both are preparatory tools fostering both the design process and the involvement/stimulation of participants. For the opening activity, we designed a very simple yet highly effective test to clearly demonstrate the function of non-verbal communication (Visual thinking) to the participants (trainers and consultants specializing in creativity) who usually prevalently employ verbal language during brainstorming sessions to communicate and collect and represent information or ideas.

The activity comparing "images vs. text", was carried out in complete silence. The participants were divided into two groups: the first group was provided with a moodboard containing evocative images, while the second group received a descriptive text. Both the moodboard and the text addressed the same topic, and shared the objective of eliciting the association of key-words, concepts and ideas during an equal and predetermined amount of time.

Using post-it notes during their brainstorming sessions, the two groups –obviously working separately - were able to generate ideas based on the internal associations they derived from the images or text. Upon comparing the two groups' outputs (written on individual post-it notes), it became evident that the group provided with the moodboard had produced a significantly higher number of ideas, which were also superior in quality to those generated by the group using the text.

This surprising result can be traced back to the intrinsic characteristics that typify these two individual forms of communication, which lead inputs to be processed differently.

As previously explained, texts are more reflective and at times articulate: linguistic expression can lead to a more "pondered" consideration of the topic, while images are more immediate, entering into an instantaneous dialogue with the viewer. Images bypass the "barrier" of linguistic interpretation, which naturally leads consideration of the subject to be more pondered and generally less immediate and instinctive.

The first phase/stopover of the activity, the research portion (researching and identifying final users), followed this initial test. This phase was conducted by integrating two different tools: the mindmap (Buzan and Buzan 1993), and the moodboard, which are typically employed among creativity tools and in the Design process respectively.

Combined, these tools result in a map featuring key-words and evocative images whose overall interpretation conveys all the information required during subsequent phases, simultaneously providing tangible expression to the previously determined value of "images vs. text".

As the above paragraph describes in detail, this mode of (re)presentation allows every nuance – which when approached exclusively through key-words (the typical language employed by consultants) may often go undetected– to be grasped "at a glance" and in a highly concise manner.

While maintaining an essentially visual approach, we also introduced participants to a tool contained in the IDEActivity Toolkit which the Design process employs habitually, but which most of the attending trainers were not familiar with: Personas (Personas card within the IDEActivity toolkit). To facilitate understanding of this tool and its strategic importance in identifying the final user, we made use of three-dimensional cardboard cutouts and images sorted with the Empathy Tool. Structured around the use of these instruments, the activity allowed participants to be actively involved, conveying and internalizing the importance of the exploration phase in preparation for the idea generation phase.

By conveying the key steps in the process through different forms of sensory involvement, the transmission of these concepts is facilitated, increasing participants' individual processing of the information. By stimulating sensory perception to different, alternating and complementary degrees, the scope of the information that can be conveyed is extended.

With this in mind, advancing to the second phase of the itinerary, the group is invited to take part in an activity in which active participation is key. One of the steps in determining a project's potential scope requires the user's needs and demands to be identified through direct observation of the behaviours adopted in specific situations. To demonstrate the importance of the user observation phase, we chose to have participants experience two techniques: Role Play and Expert Observation derived from the User Centered approach. After staging a scenario portraying a real-life situation, we used the activity cards to assign one group to perform a specific series of actions, while the other group was asked to identify any pertaining issues through observation.

To aid in this task, we provided participants with a guideline for observation, and also chose to employ arrow-shaped cut-outs to pinpoint critical matters: the decision to tangibly highlight issues is essential as it makes learning more interactive and is linked to the learning by doing approach.

After collecting the issues identified by participants on the aforementioned arrows – which represented the two types of users previously identified during the personas activity – we suggested a final co-design activity. Smaller groups were formed and provided with a series of raw materials, with which they produced "rough prototypes" to tangibly visualize the issues identified previously through observation, and test the validity of the solutions suggested.

The "rough prototyping" draws from "the silent game" proposed by Habraken and Gross, which it reinterprets for the purposes of this project. The use of tangible resources (string, cardboard, Styrofoam, scotch tape, etc) within an atmosphere of complete abstinence enabled the involvement of participants on multiple levels and through multiple sensory perception. By manipulating and assembling materials to visualize ideas three-dimensionally, as is custom within the Design process, the participants were able to assess the quality of their idea and immediately ascertain its success with the group. The silence posed a creative challenge, giving way to constant reinterpretation throughout the prototyping activity in order to continually re-establish priorities and achieve a collective product.

In this sense, the absence of spoken word constituted an excellent deterrent against expressing judgement, a factor that can be highly inhibiting within the design and/or creative processes. The activity enabled the groups to achieve a significantly higher quantity and quality of prototyped solutions in relation to the allotted timespan.

4. Conclusion

The IDEActivity Center research team is been working for years on creativity and design methodologies for innovation. The research carried on by the Center relies on a consistent part of experimental work. Activities are designed and crafted exploring thoughtful variations, learning from them, and modifying the practice accordingly [Pedler et al. 2005]. The activity presented in the paper features a constant alternation between different types of communication: iconic, objective and

behavioural. As the event unfolded, participants displayed a gradual change in attitude, shifting from an initial state of confusion and curiosity to constantly increasing involvement and collaboration. The training experience clearly demonstrated the value of identifying alternative forms of communication as a stimulus prompting a constant reinterpretation of messages both received and expressed. The emphasis placed on sensory perception through silence enabled participants to achieve a fast and in-depth understanding of the Design process, providing a setting for the individual consideration required for learning. Reflection is crucial to balance action and learning in the action learning process [Cho and Egan 2009, 2010]. Reflection creates learning grounded in past and current experiences, and makes action and learning stronger [Reynolds 2011]. Through reflection learners can convert tacit knowledge into explicit knowledge and improve their thinking and solutions. To this regard, the performance of the event greatly surpassed the expectations of the IDEActivity Center.

As we had speculated, the multisensory experience allowed participants' in-depth understanding of the Design process by virtue of the very involvement of all their senses. By rousing the emotional sphere and stimulating unconscious language (emotions and feelings), the process of curiosity, learning and understanding was made all the more effective. Ideally, "action" in action learning is not the goal, but should be the means by which learning is achieved [Rooke et al. 2007].

«The affective side of learning is the critical interplay between how we feel, act, and think. There is no separation of mind and emotions; emotions, thinking, and learning are all linked» [Jensen 1998]

The role of emotion and feelings in learning from experience has been recognised as an important part of experiential learning [Moon 2004]

The specific aspects whose value proved even more substantial than had been speculated are physicality, silence and movement. Physicality, which was expressed in terms of relating to the space and to others, amplified the participants' involvement and heightened the emotional value of the training experience fostering extremely high levels of attention throughout the activity. The creation of a customised physical environment facilitated time-management and provided a visual and experiential dimension to the design itinerary. Moving through the space within the pathway proved a highly effective method for fixing the various stages of the activity – and therefore of the Design process – into the minds of participants.

To balance action and learning in the action learning process, reflection is employed. Reflection is "the process of stepping back from experience" [Coghlan and Brannick 2005] to process what the experience means, with a view to planning further action. The silence acted as an extremely important element of contrast, also becoming a very powerful tool in support of learning and creativity. It allowed participants the freedom to make time for personal consideration ("down time"), a requirement in pre-consolidating the information acquired at each stopover in the itinerary. It also constituted an element of challenge, favouring the creativity required by the constant need to provide reactions and interpretations to what was being built in collaboration with a partner and in complete silence.

It emerged during the debriefing phase that the language of Design, integrated with creative techniques, provides a wider key for interpretation, activating a greater number of stimuli.

When guided by an in-depth knowledge of the entire design process, which the mental image constructed around it can provide, these stimuli are essential to the generation of innovative ideas.

The training event tested confirmed the validity of Action Learning and Experiential Learning as an effective processes creating synergy between Design and creativity methods. Based on the idea that learning is the process whereby knowledge is created through the transformation of experience.

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