Design Innovation: Research-Practice-Strategy.

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This paper explores the development of two joined MA/MBA programmes sharing a research component. The aim will be to engage students with research problematics proper to design but which at the same time go to fuel a truly theoretical perspective as well as practical enactment of the design process. The paper begins by analyzing the current situation of educational programmes in business as well as design schools. It then proposes to look at design theory and research as new approaches to innovation in both design and management based disciplines. It addresses what lies behind such terms as "design thinking" or "abductive reasoning" to propose an educational programme geared towards making the design process explicit.

Keywords: Thinking; Research; Process; MA/MBA Programme

Introduction

This paper explores the development of two joined MA/MBA programmes sharing a research component. The aim will be to engage students with research problematics proper to design but which at the same time go to fuel a truly theoretical perspective as well as practical enactment of the design process. Design research declines itself through three sequential semester long modules that progressively have students engage in ever complex methods and research practices proper to design. Moving from the basics to intermediate and finally advanced approaches, students will gain a thorough understanding of how research informs the designer's problem solving skills and risk taking approaches. Simultaneously they will engage in theoretical and practical exercises aimed at pushing the frontiers of strategic innovation in their respective fields. At the end, we hope that innovation will result from the balance between research, practical application and strategic insight in a holistic, systemic framework. Research emerges here as an intrinsic component of the design process.

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Reinventing Business Models for Education

The impetus for the development of dual MA/MBA programmes with a high innovation focus comes from recent critiques of business education, as well as the rise in importance of educational models advocating a "design thinking" approach. According to MBA education critiques, there is a need today to move away from traditional function and discipline based models which do not foster a holistic, systemic approach to problem solving. Datar et al. write that:

> *The MBAs current repertoire of tools and techniques is inadequate. Instead, they must master a new set of skills: the ability to find and frame problems; collect, synthetise, and distill large volumes of data; exercise creativity and imagination; and develop, test, and revise ideas (Datar et al 2010:94).*

There is a need to focus on knowing, doing, and being, but also to develop new thinking models. Traditional knowledge imparted in the classroom must be completed with practical, hands-on training in project- bound or workshop-like settings. Moreover, students must become self-aware and develop empathy as a means to develop both their leadership skills and their understanding of the world at large.

Today's MBA students typically fail to process large volumes of information effectively. They feel uncomfortable when faced with ambiguous, open-ended problems. They lack knowledge of creative techniques that would enable them to think outside of the box. This is in part due to educational approaches that have privileged a quantitative, discipline based focus as opposed to a more qualitative, trans- or multi-disciplinary one. The importance given to finance in MBA curricula has played an important role in developing mathematical models that advocate highly structured but also highly abstract curricula. These have recently proven to be untrustworthy, unstable and ultimately out of sink with reality. Consequently, business education is currently looking to develop new methodologies to breach the gap with real-world situations.

Reinventing the MBA

Reinventing the MBA today entails developing new curricula that focus on "Integrative Thinking" skills, "Experiential Learning" programmes and a "Leadership" focus (Ibid). The authors of this essay believe that this can be achieved by developing a "Design as Strategy" approach. This needs to be integrated at all levels of the MBA curriculum and alternate hands-on training in design practices with business knowledge and know-how. Research emerges as a key element of this approach. Students need to learn how to carry on research as a preliminary and in tandem to complex analysis of data. Indeed, educational programmes today often fail to teach students how to engage with research as a means to understand "wicked" problems and resolve them. MBA programmes have typically rested on the case-study approach as a problem solving method. However, while confronting students with a series of issues proper to everyday management, case-studies do not necessarily foster in-

depth analysis towards the solution of problems. Rather, they call for immediate answers, often derived from theories learned in class, to what are often complex dilemmas that require hindsight, distance and new insights to resolve.

Design research methods demand a holistic approach to problems as well as an understanding of the complexity inherent to all human endeavors. Design research is by definition pluri-disciplinary. It involves an understanding of the multiple facets proper to human experience, from neurological insights to ergonomic understanding and ultimately anthropological appreciations. Obviously, this list is non exhaustive as the complexity inherent to each and every one among us, and to design itself, exceeds these disciplinary boundaries.   However, proper to design is a holistic approach to the end user which neither engineering, with its focus on technological know-how, nor business, with its complex marketing approaches, can provide. While design also involves an understanding of materials and technology common to other disciplines involved in the production process, a user-centered approach is typical of design alone.

Interesting to design research is that this very peculiar trait to it exceeds disciplinary boundaries. Students need to engage with and learn to solve problems from a variety of point views. Moreover, problem solving can only be based on a careful understanding of the problematic at hand based on in-depth research. All design that does not engage in a real, holistic assessment of the problematic it seeks to resolve, might fail in its purpose. For this, however, design must be understood as being part of a creative process that accompanies the development of products or services from the beginning through a series of steps or project – and not as mere styling. Moreover, the design process encompasses research but goes beyond it by adopting specific thinking attitudes.

Design Thinking – What is it?

The term "design thinking" has gained momentum in both the more specialized literature on design as in business journals. We have taken design thinking to stand here for a method for innovating and creating value based on the way designers think as they work. As such it comprises a set of practices that designers engage in as well as cognitive approaches and a certain mindset. It is useful to understand what we mean by "design thinking" in order to understand our approach with respect to design research.

According to a recent article by Hassi and Laakso, design thinking practices are related to concrete activities or tangible ways of doing (Hassi and Laakso 2011).   The term "Design Thinking" is itself unclear and hides a variety of practices more or less defined. From a business perspective, "design thinking is "a method for innovation and creating value" while for designers it's just a way of doing (Ibid:54). Neither definition is exclusive of the other – they are complementary. However, when taken separately, they both fail to elucidate what constitutes the underpinnings of the design process. For Hassi and Laakso, the design thinking approach is based on a three-dimensional

framework where a set of practices interact with cognitive approaches and a specific mindset (Ibid: 57-59). These can be summarized in the table below.

PRACTICES	COGNITIVE APPROACHES	MINDSET
• HUMAN-CENTERED APPROACH • THINKING BY DOING • VISUALIZING • COMBINATION OF DIVERGENT AND CONVERGENT APPROACHES • COLLABORATIVE WORK STYLE	• ABDUCTIVE REASONING • REFLECTIVE REFRAMING • HOLISTIC VIEW • INTEGRATIVE THINKING	• EXPERIMENTAL & EXPLORATIVE • AMBIGUITY TOLERANT • OPTIMISTIC • FUTURE-ORIENTED

Table 1: Common elements of Design Thinking as portrayed in management discourses[†]

Hassi and Laakso are particularly interested in the way in which management has appropriated itself the design approach. However, they clearly indicate that such an approach has been written about and reflected upon at least since the 1960s and the ground-breaking works of thinkers like Herbert Simon and Donald Schön. As such, design processes and methods are very much part of a system thinking approach shared with other sciences such as engineering or communication. What then differentiates a design approach from other ones?

If we are to follow Tim Brown's definition of design thinking, the difference here is the user centered focus and the reiterative process that characterizes design problem solving (Brown 2009). For Brown, design goes through three stages: inspiration, ideation and implementation (Ibid:16). Key here is design's character as "fundamentally an exploratory process" (Ibid). However, Brown's approach is essentially a management one axed on questions of desirability, viability and feasibility. Designers' skills are put to the service of business and asked to provide better and more pertinent solutions. Such skills include practices, cognitive approaches and a mindset that are not only proper to design, but which have come to define it lately.

Moving away from Brown by reflecting upon Herbert Simon's contribution to the science of management, Richard J. Boland Jr. argues that management itself should be considered from a design perspective (Boland 2004). He writes: "management is designing" in that it uses different levels of narrative as a means to act upon the world (Ibid:106). Language emerges as key here. How do we translate between different ways of knowing so as to clearly engage with the world through projects and methods? For Simon, Boland argues,

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[†] Adapted from Hassi and Laakso 2011:59.

The way we narrate the story of our experience to ourselves and others as we engage in a sequence of events, gives meaning to the problem space we construct and the calculations we make of it (Ibid:107).

We are essentially dealing here with a "sense-making" approach where, to use Simon's characterization of a manager's activities, we engage in "intelligence, design and choice" (Simon cited in ibid:108). Design for Simon is a holistic approach to problem solving, a methodological approach, not a specific discipline.

Boland identifies two narrative levels linked to Simon's characterization that can be of use to management. The former level conforms to the rational man of economic theory. In such an approach, "intelligence recognizes a need for intervention, design makes alternatives available for consideration, and choice select the best (satisficing) ones" (Ibid:109). The latter level is close to Karl Weick's theories on sense-making. Design here shapes "things while engaged with others in the flow of action and the producing of outcomes that are surprising" (Ibid: 111). For Boland this entails a cybernetic system based on "a phenomenological appreciation of human action" (Ibid).

Such an approach requires that one arrives at solutions only after having participated in and fully lived an experience. Thus no clear end-goal to the design process can be enunciated from the start, as the goal can only be identified a posteriori. This requires incredible openness as well as alertness with respect to one's environment. It also requires an experiential and explorative mindset as well as tolerance for ambiguity as indicated above. This approach seems to us more pertinent when talking about design.

Design Thinking – How can we capitalise on it?

We believe that the term design thinking can be easily replaced by "design theory" and "design research". Unlike in more established disciplines, there is a tendency to diminish the theoretical underpinnings to design processes in design schools. Similarly, while a specific approach to research is currently taught, often research per se is not put forward as a discipline specific endeavor. This is even more so from the perspective of outside observers who do not recognize the theoretical and methodological approaches proper to design in general.

In a recent treatise on the philosophy of design, Stéphane Vial describes design methodology as encompassing five steps: analysis; problem formulation; conception; design; explanation (Vial 2010:72). As no formulation or identification of a problem without prior research is possible, analysis bases itself on research. For Vial, "to design is to engage in a project. To engage in a project implies pre-meditating something" (Ibid:73). Premeditation requires a constant engagement of the designer with his environment as a means to identify the salient problems he needs to address. Moreover, while design is always engaged with industry and the market, designers need to consider these as means towards developing value and not goals in themselves. Consequently, the designer constantly needs to assume "a moral position" (Ibid:51).

Vial is not alone in claiming that design is a project with a research component. Designer Gabriele Pezzini similarly defines the design process as

one that ultimately requires formulating a project based on observation and analysis. In all production, he states,

> *we have … the process of a project. The process of a project means trying to unite or reunite distinct forces and combine their actions and qualities in order to discover another force, a force that can give each of them another form or another dimension within the single body resulting from their contact (Pezzini 2010).*

We are dealing here with a creative process embedded in a project and leading to the discovery of something new through the transformation of an existing reality. In his everyday practice, Pezzini re-transforms everyday objects through a reformulation of their functions and meanings borne out of research and analysis. His aim is not necessarily to produce, but to propose new ways of being.

Pezzini provides us with a basic "to-do list" on how to begin reformatting our approach to the world. A project, he argues, demands "observation, analysis, reflection, experiment, practice, intuition, manual skills, courage, magic" (Ibid). While the list might seem to imply a linear projection, in reality the process described should be understood as an iterative one whereby the designer constantly moves back and forward between reflection, experimentation, intuition and so forth until he reaches a final solution . Moreover, the items listed might seem obvious. However, the question is how to proceed, from an educational perspective, so as to create a new vision as well as a new practice in students.

Pezzini's approach echoes Bruno Munari's, a visionary in the field of design whose experience harkens back to the 1950s. For Munari, once again, design is a creative process, a problem solving endeavor and a project (Munari 2010). The steps involved in any creative process are various but always begin by identifying and circumscribing a problem, breaking it down into its constituent components, researching and analyzing the data pertinent to the issues at hand (Ibid:35-62). It is only at this stage that the designer can engage in creative thinking and practice, identify the materials and the technology adequate to the ideas that he/she is developing, experiment, develop new models, and test them in order to arrive at the most appropriate solution. Like for Pezzini, this is not a straightforward, linear endeavor, but an iterative one. The "methodological schema" provided by Munari is, as he states, "elastic" (Ibid: 60). Even if the schema has a progressive logic to it, it is up to the designer(s) to indicate the order of intervention and the iterative process proper to the various stages. Indeed, the designer(s) may continuously question the pertinence of the proposed solutions and hence move back and forth along Munari's ideal set of steps.

Vial, Pezzini or Munari are, each in their own way, describing both mental and practical processes that while complementary to them are quite different from standard educational models in business schools. The fact that they are becoming increasingly popular outside of design schools (as well as within them) signifies that we are facing a paradigm shift within business education. However, we could also be facing the development of a paradigm proper to design not merely as professional practice but more widely as a discipline with a theory and a methodology proper to itself. While design theory and research exist since a long time, the current interest in theoretical and methodological

issues might be seen as a shift in the preoccupations facing designers as a community. These preoccupations are not only of a theoretical and methodological character, but also respond to questions proper to a real ethics and sustainability of production.

In the 1970s, Thomas Kuhn defined a paradigm as "some implicit body of intertwined theoretical and methodological belief that permits selection, evaluation and criticism" (Kuhn 1970:16-17). Accordingly, paradigm shifts occur when new models emerge to guide scientific research and hence transform mainstream theoretical approaches or lead them unto new paths of inquiry. We believe that business education needs to identify and develop such a paradigm shift. The need to perceive concepts differently, to reframe our approach to complex systems, is a reality that we must reckon with and which requires new pedagogical methods. Rather than simply focus on passing on knowledge, then, it is necessary to develop thinking methods that will generate new knowledge. Moreover, these methods need to lead us to better solutions not only for business but for humanity and the planet as a whole.

Such an approach, however, is not only pertinent to business education. The recent appropriation by business of a "design thinking" model has simultaneously lead design educators to question what it is that design schools teach. Are we teaching students to make something or to develop a deep understanding about the very process of "making"? While mere aesthetic considerations when talking about design are surpassed since at least the Bauhaus movement, it is often the end product rather than the process leading to it that is talked about, fretted upon and ultimately displayed. The design process is still shrouded in a misty fog of subjectivity. It is here that an understanding of the research that goes into design might come in handy. Yet, research here cannot be divorced from the entire process leading to the creation of something new and/or innovative. Ultimately, the design process needs to be made explicit.

It might be pertinent at this point to briefly cite Charles S. Peirce and Michael Polanyi, two philosophers who both attempted to develop a non-Cartesian approach to knowledge. In a recent article, Phil Mullins argues for a link between Peirce's notion of "abduction" and Polanyi's idea of "tacit knowing" (Mullins 2002:198). For Peirce,

> *abduction… is any reasoning of a large class which the provisional adoption of an explanatory hypothesis is the type. But it includes processes of thought which lead only to the suggestions of questions to be considered, and includes much besides* (Peirce cited in Mullins 2002:200-201).

Abductive thinking which, as noted above, is a specific cognitive approach of designers, is largely instinctual as it rests on the "spontaneous conjectures of instinctive reason" (Peirce cited in Ibid:202) and is closely linked to man's deep seated beliefs and habits. Abductive thinking proceeds through "guessing" and "musing" to ultimately challenge our deepest convictions. While it is not possible here to engage in a full debate about the nature of abduction, may it suffice to link this to Polanyi's "logic of tacit knowing" whereby human knowledge proceeds by bringing together different elements via "a subsidiary awareness of them" (Polanyi cited Ibid:208). This is part, Mullins argues, of "both ordinary

perception and conception and the complex theoretical conception involved in scientific discovery" (Ibid:209).

Key for our argument is the transition from tacit to explicit knowledge and the underlying premises of abductive thinking as applied by designers in their everyday practices. It is by combining a set of distinct practices, cognitive approaches and a mindset that Hassi and Laakso were able to arrive at a coherent definition of "design thinking". We argue that, while concrete practices are easily observed and reproduced, it is the cognitive approaches that are at the core of the design process that need to be made explicit. An understanding of these approaches can help us develop coherent pedagogical programmes that change the mindset of participants at the same time that they instill a new way of looking at things.

Design – How can we integrate it?

How then can we use design's theory and research approaches as new pedagogical tools applicable across all disciplines? Following up on the above discussion, an understanding of design's cognitive approaches coupled with design's hands-on educational methods can begin to provide some answers. John Thackara writes that "formal education is already crippled by too much content and too little time to think"(Thackara 2005:135). He follows in this Ivan Illich's call for less schooling (Ibid:136). For Thackara,

> *The new mantra is* learning to learn*: a range of skills –and the capacity to use them effectively – that will equip us to understand abstract concepts and complex systems and how to live among them and improve them (Ibid:137).*

We believe that design is particularly well equipped with introducing students to a set of techniques on learning how to learn. These address, namely, the capacity to stop and think, play with ideas, before settling on a solution. A basic capacity to "play" is intrinsic to the design process. Play implies exploration and the reformulation of existing meaning. In Roger Caillois's terms, it requires a sense of freedom, uncertainty, lack of immediate productivity and fiction even though these need to be set in a given framework and follow at least a minimal set of rules (Caillois 1967:43). Obviously, however, play is not enough. The designer needs to engage with his/her environment in order to define the salient elements that need to be addressed. This requires the analytical capacity to identify and bring forth such elements to begin with.

When we look at design from close up, there is something of the *bricoleur* in designers. Recent views of design as a "tinkering" process seem to uphold this view. The "tinkerer", like the *bricoleur*, plays with different - one could say disparate - elements in order to produce something new. For Claude Lévi Strauss, the *bricoleur* is the pre-scientific, one could almost say, the pre-Cartesian man who avails himself of everything at his disposal in order to make sense of the world. In The Savage Mind, he identified the *bricoleur* as

> *adept at performing large number of diverse tasks…. The set of the 'bricoleur's' means… is to be defined only by its potential use or, putting this another way and in the language of the 'bricoleur' himself, because the elements are collected or retained on the principle that they 'may come in*

always handy'…. They each represent a set of actual and possible
relations; they are 'operators' but they can be used for any operations of
the same type (Lévi-Strauss 1966:17-18).

The image of the *bricoleur* conveys Pezzini's idea of the creative process: a remolding of what exists in order to create something new. At the same time, it renews with Peirce's discussion of abductive thinking and beliefs-habits. For Lévi-Strauss, the *bricoleur* begins by engaging in a retrospective reflection. He looks at what is in order to conceive possible, new assemblages. As a result, the *bricoleur* engages "in a sort of dialogue" with the materials at his disposal "to index the possible answers which [these] can offer to his problem" (Ibid:18). Furthermore, "he speaks not only with things… but through the medium of things" (Ibid: 21). This is akin to a form of poetry for Lévi-Strauss – and the design process for us.

To stop to think and play with concepts, ideas, material objects leads to the forming of new narratives. Through the design process, the designer aims at making sense, producing meaning. He does this by engaging with multiple intelligences, plural approaches that give him added insights into the environment he/she is exploring. However, once a narrative or a set of narratives begin to take shape, the need emerges to filter the data accumulated and the ideas that have been developed in order to assess what is pertinent and what isn't. It is at this point that a shift might and should occur, a turning around of what was into what might become.

Here, the idea of the *bricoleur* fits well with Carlo Ginzburg's outline of a research paradigm based on the decipherment of signs or clues – what Ginzburg terms "traces" (Ginzburg 2010). A narrative emerges always from a reading of the traces we observe in our environment. For Ginzburg, this capacity to infer the whole from a set of discrete signs is a fundamental characteristic of being human (Ibid:243). It is a qualitative approach based on a "subjective" reading of the data available. As such, it is not only characteristic of a designer's approach but proper to the social sciences and a number of disciplines privileging qualitative understanding. Such an approach starts by an inquisitive look at what is, often from a micro standpoint, in order to decipher what might be at a macro level. Again, we fall within the ambit of Peirce's characterization of abductive reasoning. However, unlike in Peirce's formulation, we are able to describe in more concrete terms how this resembles the designer's approach. Like detectives, designers identify the salient elements of their quest for meaning in order to provide solutions to the problems at hand.

Therefore, teaching design theory and research implies leading students unto the path of discovery, on the one hand, and of rediscovery, on the other hand. By looking at things differently, learning to unlearn so to speak, students reach a different understanding of their environment. That is why the concept of play is key here: to play implies a level of freedom akin to the one children display when interacting together – freedom to move beyond known assumptions to imagine the (im)possible. As noted above, however, play must be accompanied by a strong analytical reflection about our environment and what we do, how we do it and why. Following Latour's understanding of technology's embeddedness in social practice, we believe this is valid for both inanimate as animate entities and requires an understanding of the way the

inanimate and animate interact together‡. The complexity inherent to these interactions can perhaps be made explicit through Deleuze and Guattari's idea of a rhizome and the inter-relationships implied thereby (Deleuze and Guattari 1980). Finally, reflection, exploration, understanding are all pathways to new ways of doing. Knowledge is gained not simply through passive learning but through practice. Experimenting, just like playing, is essential to this process as it contributes to developing a framework whereby to arrive at new knowledge.

The Dual MA/MBA Model

The difficulty of any educational programme lies precisely in how to instill in students the capacity to break free and invent new ways of doing. Perhaps, if we look at education not as something static but as an interactive form of apprenticeship whereby students integrate knowledge both explicitly through classical learning methods and implicitly by means of more experimental ones, we might develop new insights for pedagogical approaches. In this spirit, we have developed an educational programme that places students in situations where they need to simultaneously engage in knowing, doing and being via a heavy focus on experimenting, making sense and shifting/turning around their points of view. The set of dual MA/MBA programmes we present here operate on both a vertical and horizontal axis to integrate innovative business know-how, theoretical and hands on approaches in design, and design research methods. Students will be trained to comprehend and perceive abstract concepts and complex systems differently and to apply successfully advanced skills in, for example, meta-cognition, aesthetics and art, manual skills, personality and social theory, affect and emotion, to their projects. They will have to progress through several levels going from the exploration of an existing problematic to new solutions via special workshops integrated into their classes by cohorts. They will learn how to think differently, play, make sense of their experiences, filter ideas, shift their views and finally turn the problematic around to find innovative solutions together.

The table below exemplifies the various steps students will be helped through. Horizontally, they will attend management, design and research courses that will integrate process methodologies with new management models in order to understand "what is". Subsequently, students will look at process more closely by exploring how knowledge is produced and innovation managed. Here, they will engage in specific research techniques geared to design problematics. The focus is on "what could be". Finally, they will look at complexity theory and explore issues proper to strategy both in the management field and with respect to advanced planning and concept evaluation in design to identify "what should be". At the end, students should be able to develop new innovative products and services.

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‡ We are here referring to Bruno Latour's incorporation of technology and technological products as agency bearing elements within any social configuration (Latour 1991). We suggest to enlarge the concept of actant to any inanimate object interacting within a social configuration.

Management	Design	Research	Focus
New management Models	Process	Process Methodology	What is
Innovation & Process Management	Planning	Physical, Cognitive, Cultural HF, Ethnographic Research Methods	What could be
Complexity Management & Strategy	Strategy	Applied Research	What should be
Professional/Thesis/Degree Project			Product/Service

Table 2: Planned Dual MA/MBA Programme Structure for Design Theory and Research or Fashion Concepts with Design & Management (L'Ecole Parsons à Paris/Paris College of Art).

As students will progress from "what is" to "what could be" and to "what should be", they will go from an understanding of process to planning to strategy from both a business and a design perspective in a wholly integrated curriculum. The progression is meant to develop an understanding of design as a holistic approach to problem solving through a project based and integrative thinking approach. The focus is on design first as process so as to develop an approach of design as strategy subsequently. Management is a key component of the programme as here design emerges at the end as a core competency to manage complexity; develop process-oriented problem solving approaches; focus on a user-centered model; and develop socially and environmentally responsible values in a truly collaborative effort.
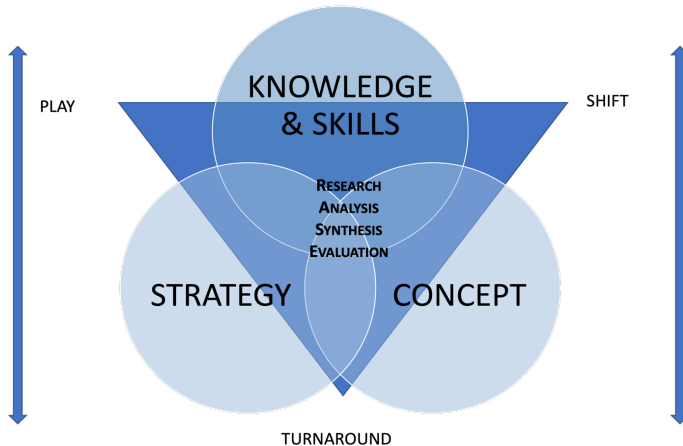
Table 3: Modelisation of Learning Processes for the Dual MA/MBA
Programmes (L'Ecole Parsons à Paris/Paris College of Art).

At the same time that it seeks to have students progress from one stage to
the other, the programme adopts an iterative approach whereby it asks students
to question their thinking processes and their work, and to challenge themselves
at any point in time by continuously testing the solutions they have arrived at.
As indicated in the diagram above, the programme has students start by
generating knowledge, move on to think strategically and plan accordingly, and
finally develop new concepts. Throughout, research, analysis, synthesis and
evaluation accompany the design process that leads to the emergence of new
solutions in an iterative way. We find here Pezzini's and Munari's problem
solving, project based design process coupled with Peirce's and Polanyi's
thinking modalities. Students play with ideas, turn them around to ultimately
shift both mindsets and viewpoints. The process, moreover, is group lead as
creativity can emerge only through the constant challenging of ideas in a social
context -- hence the need to constantly check solutions against an existing
reality.

Conclusion

Whether we look at business or design schools today, we observe that the
term "Design Thinking" has been appropriated at various level without a real
understanding of the underlying premises of design theory and research[i§].
From the vantage point of management, design still incarnates a subjective,
undefined notion of creativity. Managers still experience difficulties, by and
large, to apprehend design from more than a subjective "I like" standpoint.
While this is not true of everyone, it is still sufficiently true to raise the issues of
what do we mean by "design". Similarly, design schools still pay too little
attention to the strategic power of design and focus more on the "doing" of
design than the "thinking" about it. Moreover, designers shun management
skills as not pertinent to their discipline and not valorizing for their know-how.
The dual MA/MBA programmes we propose here want to break away from
such stereotypical views to integrate fully a design based theoretical and
research approach into management and vice versa. Design emerges as a full
discipline worthy of contributing value to business and society just as much as
engineering or management itself might. Finally, we believe that adopting a
design theory and research approach can help business, engineering and art &
design schools develop integrative curricula that address current problems with
education in these fields.

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§ A quick look at the most recent listings of Business Week relative to D-
Schools shows the disparity in programmes and pedagogical approach of the
various business and design schools cited.

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