



DESIGN MANAGEMENT INSTITUTE

ARTICLE REPRINT

**Design  
Management  
Review**

# Educating Designers for Broad Roles in Organizations

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Reprint #07183CON10

This article was first published in *Design Management Review* Vol. 18 No. 3

**The State of Design Management Education**

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# Educating Designers for Broad Roles in Organizations

by Chris Conley

*Companies are looking to designers for talent in such fields as marketing, strategy, product management, and research and development. Chris Conley posits a five-part framework for applying design expertise across the spectrum of issues related to managing a business. He also offers a curriculum structure and course content that cultivate the skills needed to succeed in these broader roles.*

As they become increasingly aware of design as a necessary organizational competence, large companies are creating executive positions of design and innovation, and searching for the talent to fill them. These executive roles establish a connection between the design function and the executive suite: Finally, the seat at the table! But this should not be confused with design expertise playing a broader and more leveraged role in the organization. The vice-president-of-design function, in fact, only maintains the limited role and influence those with design expertise are able to play in a company. As long as design is associated primarily with the function of development, it can only enjoy a lower or higher



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profile—it can't necessarily affect initiatives outside development.

An alternative is to disperse design expertise throughout the organization—in other words, have designers enter product management, marketing research, and strategy groups. By filling a variety of roles in an organization, designers can seamlessly employ design thinking and activities as insiders rather than as outsiders. In the strategy group, for example, the normal process of due diligence on an acquisition target might include ethnographic research of the company's customers and provide fundamental insights about the strength of a company's offer in the marketplace. Visualizing the evolution of the merged

companies' offerings pre-merger could provide a visceral feel for whether the deal should be pursued and if so, what a road map of the future could look like post-merger.

However, in my experience with hundreds of designers and general managers in organizations large and small, I have seen a clear gulf between design expertise and how it is applied throughout an organization. First of all, designers simply do not enter general managerial paths in corporations. The design manager role, defined conventionally as the management of the design function in an organization, is often a terminal role for designers. The result is that further career advancement can be achieved only by moving to a higher-profile design management role in another organization.

It doesn't have to be this way. There is actually a huge opportunity for designers to become *general managers*. Was that a collective cringe I heard? Rather than see *general manager* as a less influential position than it may sound, designers need to see it for the opportunity it actually is. General management is not where professionals go when they want to stop having an impact—it is the place they go when they've shown they know how to make things happen. In addition, design offers core competencies that lead to more-productive action compared with the overly analytical expertise that is common to the MBAs that populate general management roles currently.<sup>1</sup>

### **Design's core competencies**

Some can't imagine how design's competencies could be relevant in businesses in which nothing is actually manufactured. Indeed, design has a long history of being part of the development and/or marketing function of organizations. My first attempt at describing why design has a broader role to play in business came from evaluating which skills lay at the heart of design's expertise. I went beyond general and hard-to-support claims—"Design is about creativity," for example. I thought more deeply about design's mindset, its ability to explore possibilities, and how it approaches its work. I looked at how accomplished designers talk about their role and the value they bring. With this in mind, I articulated a collection of seven competencies unique

to design expertise and, I find, highly valuable to any area of problem solving. I've written about these previously<sup>2</sup> and will highlight several of them here.

First, design is skilled at assessing a situation tangibly and characterizing it in a new way. I call this the ability to reframe a problem or opportunity. Essentially, designers can take something that people think they understand—and change their perception of it. In design education, students are routinely encouraged to think about things in new ways. For example, they might be asked to rethink what a table is "about."

*Excuse me?* My engineer colleagues would say a table is about four legs and a flat surface intended as a platform for objects. Searching for a new view, by contrast, a designer might say, "Most tables prioritize the top as the primary area for users—for dining, displaying, computing, meeting. Why not think about the essence of the table's function as the space below it—for storage, cable management, secret compartments, ergonomic features?" The ability to see common things in a fresh way is at the heart of the novelty of many designs.

A second competence of design is the ability to work fluently in various levels of abstraction. Not enough information at hand about a new office layout you are planning? A designer might simply use a bubble diagram to represent general spaces for an initial conversation. Know a little more about current space conditions, such as where walls and columns generally are? OK, let's use the right-size boxes and make several physical blocks with which to play around. Finally, you have the actual dimensioned layout? OK, let's use that new information to build a scaled model. Rather than delay work on the new office layout until all current information is known, design proceeds comfortably within a level of abstraction that allows one to compose ideas for

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1. H. Mintzberg, *Managers Not MBAs: A Hard Look at the Soft Practice of Managing and Management Development* (San Francisco: Barrett-Koehler, 2004).

2. C. Conley, "Leveraging Design's Core Competencies," *Design Management Review*, vol. 15, no. 3 (2004).

potential solutions that can then be evaluated.

A third competence is that design pursues multiple, alternative solutions simultaneously. Design does this because it knows there isn't a single, eventual correct answer for the opportunity at hand; rather, there is one that must become, through evaluation, selection, and refinement, the best one. In other words, the solution is shaped; it is created. And two different organizations, with different skills and capabilities can create two different, but equally successful, solutions. Much of our traditional educational background trains us that there is *one* answer to any given problem or situation—a right way of doing it, if you will. Design just doesn't believe this and, as a result, creates a series of alternatives as a first step in building a new solution. Generating and pursuing multiple alternatives provides a better perspective for those working on the project, and offers a better chance that the most valuable direction will be created.

Design is also adept at visualizing and prototyping ideas and solutions early and throughout a project. Whether it is a diagram, a perspective sketch, or a rough mockup, design is used to communicate and evaluate the embodiment of the idea, not just a verbal description, in order to determine whether that idea has value. (An idea embodied is very different from an idea described.) This expertise essentially allows people to *experience* ideas early in the process, and it improves feedback loops. Since strategies, product specs, and customer requirements remain mostly verbal descriptions, companies miss the opportunity to take their ideas further earlier in the process.

These competencies generalize design expertise to some degree. Generalization is a good first step to their application in a different context. Imagine how these competencies might play out on the factory floor, in a special project for the CEO, or in an assessment of the supply chain. But before we declare victory in clearing the way for designers to become general managers, we need a similarly useful framework for generalizing the business organization.

### Five areas of design application in business

What role should design and its competencies play in other areas of the organization? What role *can* it play? Traditionally, when its profile is high, the design function executes bigger, more ambitious design, or “vision,” projects. These usually result in ideas for future products, services, and experiences the designers feel the company should be moving toward. Normally, they are well produced and eventually are unveiled in an exhibit through which senior managers walk. While these vision projects may provide some value to the organization in terms of excitement, they can also create resentment or cynicism because they are rarely connected to actual business processes—things regularly done by the organization to manage and grow its business. It is this connection to what the company actually *does* that is key to bringing about more-effective, sustainable change. Involvement in what an organization normally does moves design from outsider to insider status.

To talk about other areas of a business in which design expertise can play a role, consider the model shown in Figure 1. This model is composed of four levels—development, definition, portfolio, and strategy—each of which represents an area of the organization concerned with the question: What is our current situation, and what's next? A fifth element, operations, is concerned with: How do we do what we do? These areas represent roles and responsibilities

Figure 1. Areas of a company concerned with what's next.

<b>Strategy</b> Company, competition, industry issues	<b>Operations</b> How the company does what it does
<b>Portfolio</b> All tangible offerings & services	
<b>Definition</b> Product line	
<b>Development</b> Creating & launching a product or service	

that need to be addressed in any organization. They are not meant to be organizational silos or departments, but they do relate to the departments where these responsibilities lie.

**Development** is concerned with actually producing the next product or service and offering it to the marketplace. It includes functions, such as engineering, design, and go-to-market activities, and is where design expertise is currently applied in the majority of firms. Professionals talented in development have deep technical expertise and are able to design the specific offering, the means for producing the offering (tooling, manufacturing, supply chains), and all the communication materials needed to market, distribute, train, and support the offering.

**Definition** is the area in which the next product or service to be developed is specified. This is the home of product management, where marketing requirements and product specifications are created. Professionals practicing here are good at balancing views of the customer with the capabilities of the organization to develop offerings. Existing product lines are also managed here. The product manager assesses the performance of one model compared to another, defines variations for different segments or customers, and conceives of brand-new versions of a product or service.

**Portfolio** is concerned with the collections of products and services a business offers to the marketplace. Portfolios are usually managed at the business-unit level, and professionals who deal with portfolios often have profit and loss (P&L) responsibility. General managers are usually responsible for a portfolio. Multiple product managers, as well as other broader functions of the business, such as customer service, report to the portfolio manager.

**Strategy** is concerned with the company overall. Here, the most senior management of an organization establishes the principles and

values of the firm and determines how it will compete in the marketplace. Strategy assesses the industry environment and decides how to allocate resources (investments) so that the firm pursues initiatives and activities that support its business objectives. The allocation of resources could go to a variety of initiatives, including acquisitions of other companies, the development of new capabilities, and the building of new facilities. Sometimes, a new offering is important and in need of a large enough investment that it is considered and decided upon at a strategic level.

The fifth element of the framework, orthogonal to the others, is operations. Operations is concerned with how the organization does what it does. Although this element is not market- or customer-facing, it is included because of the considerable investments made in initiatives aimed at transforming how a company does things. Whether you are in a large or a small organization, figuring out how to improve your operations is a nearly constant consideration. And many initiatives, from creating a new capability, such as user experience design, to creating a new customer relationship management (CRM) system, are significant investments for a company. Professionals who manage aspects of operations include within their bailiwicks information technology, human resources, and supply chain.

A more complete discussion of this five-part model is beyond the scope of this paper, but several important points can be made briefly.

**All the levels are important**—one is no more important than another. Unfortunately, there is much misunderstanding about the relative importance of these functions in an organization. Strategy is often perceived intuitively as the highest level, the most important, or that

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from which all else follows. This is simply wrong. Strategy without the ability to execute is sterile. And the converse is also true—pursuing development without a sense of business direction and objectives is irresponsible. In addition, new success often grows unexpectedly from new development. The Apple iPod, for example, was not originally part of some grand strategy. It was just another new device trying to fight its way through development. Once it became highly successful, issues of definition (other models—the Mini, the Nano), portfolio (is this a computer or a media device?), and strategy (are we in the

entertainment business?) became increasingly important to assess and manage.

**Not all firms make clear distinctions about these areas.**

This is one reason why professionals of all kinds become frustrated within an organization. Consider what happens when a clear strategy is not articulated to one's own workforce. As a result, an energetic development team pours energy

into crafting a strategy for the business unit as part of a new product development initiative. Unfortunately, the development team is not responsible for strategy and has a hard time getting others to care. Everyone cares, however, whether the product is defined compellingly.

Lack of distinction among these roles can also lead the strategy team to decide it should define the next product portfolio. The team ends up using methods and techniques of strategy formation instead of marketing, design, and business methods. Strategy's portfolios are bound to disappoint, especially for those in the organization who should be responsible.

**Design expertise can play at any level, appropriately.** The most exciting part of this discussion is that design expertise can bring value to any of these areas. But it must align

with the kind of work and value that is created in each area. At a recent seminar, I was asked, "OK, I understand the model—n. Now, at which level do they use ethnographic research?" The answer is that it can be used in any level, but the design of the research and its expected interpretation of it will be different. For an initiative in definition, ethnographic research might try to illuminate the changing use of toasters in the home and suggest new ideas for the toaster product line. At the strategy level, the work might be aimed at understanding the relationship between domestic appliance use and a modern lifestyle. This might be needed to inform an investment decision in networking technology. Where does one use prototypes? Likewise—in any of the areas. But you have to know how to prototype strategies in order to be helpful in crafting a strategy.

**Educating a new kind of designer**

An understanding of design's broader role in an organization requires a different kind of education. Indeed, at the Institute of Design, we believe we are engaged in educating a new kind of design professional. In brief, our goal is to create designers with the knowledge, skills, and expertise to play roles across an organization—that is, to expand the relevance and use of design beyond the design department, where the primary objectives and outcomes are limited to development.

This presents some challenges to conventional thinking. It is difficult not to equate design with the activities of development and, perhaps equally, business expertise with general management. As such, there is an inherent skepticism that design is transferable. There is an assumption that if you leave the design department, your designing days will be over. This view is destructive to design's broader impact. Consider professionals with degrees in engineering or finance. They must leave their respective departments to take on more general roles in an organization. Just like their design counterparts, , accountants who stay in finance, but call for a more strategic use of finance in the organiza-

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tion, have limited impact, because financial strategy is not done in the accounting department. Likewise, technology strategy is not done in the engineering department. The same can be true for design. Get out of the design department and work on other aspects of the business! However, to do so, designers have to be comfortable leaving the development function; they need an understanding of what goes on in other areas of business; and they have to learn how to apply design expertise to new kinds of problems.

The curriculum at the Institute of Design supports the broadening of one’s role in an organization based on design expertise. Our core values of human-centeredness and systems thinking combined with our drive to create and apply design methods is a natural foundation for an education that broadens one’s opportunities in business. Two degrees are supported by the main curriculum. The Master of Design is a two-year professional design degree for young professionals seeking to advance their careers with design. The Master of Design Methods is a professional degree for experienced designers, marketers, and developers with significant professional experience and achievement. The MDM can be completed in nine months full-time or in two to three years part-time. The Institute of Design also offers a PhD in design for research about design. The PhD is for those interested in contributing new knowledge to the

field and teaching at the university level. The general program of study for the MDES and the MDM are shown in Figures 2 and 3.

There is a core set of courses that all students take. The core includes courses aimed at understanding users in context, introducing design methodology, and demonstrating design thinking applied more broadly to business.

**Observing Users**, taught by Prof. Judith Gregory, provides students with the knowledge and skills of user inquiry. This course demonstrates that deep understanding can result simply by observing what *really* happens in everyday life, not what is *supposed* to happen. Observing Users is complemented by a series of lecture courses targeted at four kinds of human factors—physical (often taught by Bill Verplank), cognitive, social, and cultural. These human-factors courses provide knowledge of human behavior and capacity and principles for designing products, services, and systems with that understanding in mind.

**Design Analysis**, taught by Prof. Vijay Kumar, is a thorough grounding in a variety of methods and approaches for analyzing problems in a tangible way. In this core course, students arm themselves with methods and techniques, such as graphical analysis, scoring, and analysis of user data, including videos of behavior.

**Figure 2. Master of Design two-year program of study.**

First Year		Second Year	
Fall 13.5 credits	Spring 13.5 credits	Fall 13.5 credits	Spring 13.5 credits
Design Planning	Design Analysis	Capstone	Capstone
Observing Users	Design Languages	Elective	Elective
Cognitive HF	Social HF	Elective	Elective
Physical HF	Cultural HF	Elective	Elective
Elective	Elective	Elective	Elective
Elective	Elective	Elective	Elective
Workshop	Workshop		
Workshop	Workshop		

**Figure 3. Master of Design Methods one-year program of study.**

MDM Curriculum	
Fall 16 credits	Spring 16 credits
Design Planning	Design Analysis
Observing Users	Design Languages
Cognitive HF	Social HF
Physical HF	Cultural HF
Elective	Elective

Analysis methods not strictly from the design field are also taught and delivered in context with design-oriented ones. This course creates a strong orientation in the student to look for, adopt, and/or create new tools for looking at problems in interesting ways—ways that can lead to more-informed and powerful problem solving and innovation.

**Design Planning** is taught by Larry Keeley, president of the Doblin Group and a pioneer in using design thinking for business strategy and innovation. Keeley teaches what is essentially a capstone course in the student’s first semester! In this course, students are asked to address important, tough challenges. A series of design methods and frameworks are introduced that can help make sense of the challenge, as well as lead to the creation of more-powerful solutions. This course, perhaps more than any other, changes the student’s mindset. Students begin to understand that there are few limits to the application of design to the world’s challenges and opportunities.

In addition to these core classes, a wide variety of lecture courses exist, loosely organized into groups that students can take as electives. Groups of courses provide a strong grounding in various topic areas, such as product development, interaction design, and design research. Groups of courses and other, singular electives allow students to shape an educational experience that aligns with their career interests and

goals. A sampling of lecture courses organized by the five areas of business introduced earlier is shown in Figure 4.

These courses span the levels of development, definition, portfolio, and strategy. For example, Production Methods works at the development level and explores how modern products are produced. Concepts such as supply chain and contract manufacturing have been integrated into the course as a response to the nature of production, which has changed drastically in the past 15 years. New Product Definition, on the other hand, aims squarely at the definition area of a business. Students learn how to bring design expertise to the research and specification of a new product or service. Strategic Design Implementation addresses the operations level, and concerns itself with how to foster change in an organization for innovative initiatives. Since designers are so often at the forefront of initiatives that demand change, this course provides an essential foundation in organizational behavior and context that prepares the student to be more successful. Other lecture courses cover communications, product, and service design, topics in business taught from a design perspective, and courses unique to the Institute of Design’s rich history in systems thinking and design methodology.

While students in the Master of Design Methods program typically select only from the lecture courses, students in the two-year MDES program apply the concepts gotten from lectures

Figure 4. Example courses across the curriculum.

Development	Definition	Portfolio	Strategy	Design, Business, User Studies
Product Form	Prod. Definition	Product Planning	Strategic Des. Planning	Metaphor & Analogy
Adv. Product Des.	Observing Users	Structured Planning	D.P. Implementation	Intellectual Property
Interface Design	Concept Evaluation	Dynamic Diagrams	Problem Framing	Sustainable Design
Communication Des.	Design Analysis	Comm Planning	Market Forces	Concept Evaluation
Interaction Design	Platforms	Service Design	Economics	Prototyping Methods
Physical HF	Interactive Media	System Evaluation	Decision-making	Systems Theory

in their workshop courses. These workshop courses are akin to traditional design studios and usually address the application of specific design concepts and methods to a topic of interest. Students often work in teams and go through a full design cycle. They start with research, continue through conceptualization, and end with design development and communication. Workshops spend roughly equal amounts of time in each phase.

Finally, a capstone project allows MDES students to spend almost half their time in the second year on a topic of interest, working on a small team, along with an advising faculty member. In this project, students may apply numerous methods and concepts learned in the program and go through a full design cycle. Alternatively, they can work primarily on the research of the topic or on the design and realization of a solution. Over the years, faculty and students have worked on projects with hospitals, cultural institutions, high-technology firms, grant-making organizations, and service organizations. Most recently, two students in the program fulfilled their project requirement by writing an initial treatment for a book called *Naked Innovation*.<sup>3</sup> (They are now seeking a publisher.) The variety of these projects is surprising, but it demonstrates the institution's belief in the broad applicability of design expertise

The Institute of Design has a history of responding to changes in industry and society to offer a compelling and relevant design education. Underlying our history is a desire to be systematic in our approach, tangible in our methods, and evocative in our solutions. Today, perhaps more by evolution than design, we find ourselves passionate about and dedicated to the broader role design can play in the world. Our alumni are found in as diverse a range of roles in industry as students with an MBA. We think that is good for their careers and good for the design discipline. ■

*Reprint #07183CON10*