

Teaching Branded New Product Development

Combining theory and practice in master level industrial design education

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Jan Buijs MSc Phd (1948) has been full professor and chair in product innovation and creativity at the Faculty of Industrial Design Engineering (IDE) of the Delft University of Technology (DUT) for more than 20 years. He was educated as an industrial design engineer (MSc in Delft 1976), and received his PhD (also in Delft) in 1984. Before working at the Delft University he spent ten years as a management consultant.

He is responsible for research in management of product innovation, creativity and multi-disciplinary design/innovation teams. He teaches strategy, brand and project management, creative problem solving, innovation and integrated new product development. He is active both in the Bachelors programme as well as in the Strategic Product Design master programme. He has supervised more than 230 graduates and 13 PhD's.

He has published numerous papers, articles and three books. His first book *"Innovation and Intervention"* (1984, published in Dutch by Kluwer, Deventer) was awarded best management book of the Netherlands in the year 1985. His latest book, co-authored by Rianne Valkenburg is *"Integrated New Product Development"* (published in Dutch by Lemma, Utrecht), now in its third revised and enlarged version (2005). This book has become the standard book on new product development in the Netherlands.

From 1985 he was editor and from 1991 till 1998 editor-in-chief of the largest Netherlands academic management journal *"M & O, tijdschrift voor management en organisatie"* (published by Samsom, Alphen aan den Rijn). During the years 1992 - 1996 he was member of the board of the Netherlands Association of Certified Management Consultants (Ooa). From 2000 till 2007 he was chairman of the European Association for Creativity and Innovation (EACI). A non-profit organization to stimulate the debate and discussion among professionals and academics in the Creativity & Innovation-field. And

since 1991 he is member of the editorial board of *Creativity & Innovation Management* published by Blackwell (UK).

In 2007 he received the “Leermeester Award” to celebrate his qualities as teacher, researcher and the impact that has in the professional and academic IDE-domain.

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Introduction

The Strategic Product Design (SPD) master at the Delft University of Technology Faculty of Industrial Design Engineering (Delft IDE) is an international two year master programme focused on bridging the gap between design and business (Buijs, 2007). The first quarter starts with a theoretical course (Brand & Product Strategy or BPS) which gives students a view on the relationship between branding and new product development. We have labeled this connection “Branded New Product Development (BNPD)” (Buijs & van Leeuwen, 2005). This course is followed in the second quarter by a group project for a corporate client (Design Strategy Project or DSP). The students have to apply their theoretical BNPD-knowledge on a real life clients’ problem. These two courses, although administratively separated, have been developed as educational twins over a period of 5 years. This paper shows how connecting theory to practice in design management education proves to be valuable for students, clients and staff alike.

Students and Staff

The three Delft IDE-masters (besides Strategic Product Design, Integrated Product Design (IPD) and Design for Interaction (DfI)) are, by law, open to all Dutch students with a bachelor degree in Industrial Design Engineering (besides Delft, also the Universities of Eindhoven and Twente are offering three year academic bachelor programmes in IDE). Dutch students with a four year bachelor programme in IDE offered by the polytechnics have a restricted entrance to the Delft masters. Students with other academic bachelor programmes, like mechanical engineering, architecture, industrial engineering or aeronautical engineering are only accepted after detailed interviews by the coordinator of the SPD-master programme. In principle non-engineering or non-design bachelors are not allowed to enter. For

instance even MBA-graduates are not accepted due to their lack of design skills and knowledge. The same procedure is applied for foreign students. Foreign students are obliged to do the TOEFL-test.

When we started the SPD-programme in September 2003 (the design of the programme started two years ahead) we had only 23 participating students, with only a few from abroad. This year in September 2007 we had nearly 100 students with more than 40 different nationalities. Students come from countries as far away as Australia, Thailand, Columbia, China and India; most European countries are represented. The majority of our students have a design background, some of the foreigners have even practical design experience. The non-design students first have to take the half year adaptation course our school is offering.

Based on our experiences over the last five years we have introduced this year an extra introductory workshop in inter-cultural differences and diversity. Last year we experimented with the foreign students only (so it was more or less an introduction into the Dutch culture), but we found out that not only the foreign students had to learn to understand the “strange” habits of the Dutch, but also that the Dutch students had to learn how to deal and work together with the foreign students. For instance the Dutch university system promotes students to be very active to take their own responsibilities, and not to be waiting for the teaching staff to act. Most foreign students, especially those from Asian cultures, wait till they get very explicit tasks from the teaching staff. Most Asians don’t speak up first, they wait till they are asked to speak up. The Dutch are the opposite. Taking the lead in group projects and dealing with these cultural (and language) differences is a major subject in this workshop. The results of this year are very hopeful. The different backgrounds of the students are much more mingled than those of the earlier years.

The staff that developed these two courses totals only three. One, the responsible professor and chair, was the originator and is still active in the programme. He has more than thirty years of experience, of which more than twenty years as an academic scholar. He has been active as management consultant,

innovation leader and creative facilitator for numerous companies, in the Netherlands and abroad. Number two was a young designer who had worked a couple of years as strategic product designer with the leading Dutch design agency n|p|k before she joined this university programme. She co-developed the programme and did the original formatting. After three successful years she left the university to once again dive deep into the industrial practice. She is now a product & design manager in a large multinational corporation. Her successor is an experienced product designer, who has been active as an entrepreneur in design consultancy for ten years. He combines his part-time teaching position at the Delft Faculty of Industrial Design Engineering with practical design management consulting work in his agency, Zilver Brand Driven Innovation.

Nowadays the number one and the number three form the total teaching staff of these intertwined courses (BPS + DSP) and are the authors of this paper. They spend on average one full day a week on these two courses during the quarters 1 and 2 (September – February). Preparation usually starts in mid August. Completing all the organizational responsibilities will last till the end of March.

As a result of the intercultural introduction workshop the staff also has adapted its behavior to the other cultures. For instance in stead of asking Asian students if they have any questions (which in their culture would mean to offend their teachers!; questioning the teacher is suggesting that he or she is not a good teacher) we changed our way of working. Even the normal (at least in the Dutch academic settings) question if the student understood the teacher's explanation or lecture will never be answered correctly (once again seen from our Dutch perspective). After all, answering 'no' would mean that the teacher has failed as a good teacher, which is impossible to say or even think in Asian cultures. The answer will always be 'yes'. The way we get along with these cultural idiosyncrasies is to ask our Asian students for their next step in the project or course. And based on that answer we can find out if the student really understood what our message was. And if it is going in the "wrong" direction we coach them in finding other suggestions to pursue. This new teaching behavior is still a continuous learning process for all people involved.

SPD-context

All Delft-IDE master programmes are two year programmes. Three semesters are dedicated to theory and projects, the last semester is fully dedicated to the graduation project. Each master programme consists of 120 European Credit Points (EC); 60 EC per year and 30 EC per semester. An EC equals a studyload of 28 hours. So the Strategic Product Design master takes 3360 hours to complete.

The specific courses for Strategic product design are:

- Brand & product Strategy (6 EC) (S1)
- Design Strategy Project (6 EC) (S1)
- Context and Conceptualization (6 EC) (S1); this course is shared with the Design for Interaction master.
- Internationalization (3 EC) (S1)
- Customer research in NPD (6 EC) (S2)
- SPD research (6 EC) (S2)
- Creative facilitation (3 EC) (S2)
- New Product Economics (3 EC) (S3)
- Project leadership (3 EC) (S3)

Three courses are shared by all three IDE-masters:

- Design theory and methodology (3 EC) (S1)
- Applied research methods & techniques in design (3 EC) (S2)
- Integral design Project (12 EC) (S3); a design project in cooperation with a company; students team up in fully mixed teams.

The preparation for the graduation project is scheduled in S3 (6 EC); the execution of the graduation project is in S4 (30 EC). To complete the programme there is room for 18 EC elective courses. Students are free to choose whatever they want; either from IDE, other faculties from Delft, other universities, even abroad or they can do an internship in a company. Electives are offered in all quarters.

Brand & Product Strategy

The core of the Delft IDE-bachelor programme is based on the view that the domain of product design has four distinctive pillars: (1) technology, (2) aesthetics, (3) human factors and (4) business. The three master programmes IDE is offering each concentrate on one or two of these carrying disciplines. The Strategic Product Design Master (SPD) expands on the business side, but keeps its design orientation firmly alive.

Proceedings

SPD starts with the course Brand & Product Strategy (BPS). The course is aimed at embedding the students' product design knowledge in the context of business, branding, innovation and design management. The BPS course was developed as a part theory-part practice study experience. Group sessions are one afternoon per week. Each afternoon consists of two hours of theory by the academic staff, and two hours of practical reflection by a guest lecturer with a corporate background. Student interaction and discussion is actively stimulated and forms a significant part of the group sessions. The staff continuously challenge the students to question and discuss what is offered to them. Sometimes this happens explicitly, by giving the students a statement, providing them with a case or showing them a movie, and asking them for their opinions and vision on the topic. During the course of the class, this process starts to become more implicit, when students get used to start discussions, ask questions or give examples from their own experiences. This leads to great dialogues between teaching staff, guest lecturers and students, which have been evaluated very positively by our students. The proceedings during the group sessions are backed up by an online academic project environment (Blackboard) where files and presentations are shared, a discussion forum enables out of class discussions, and tips on sources interesting can be posted, by staff and students alike.

Course content

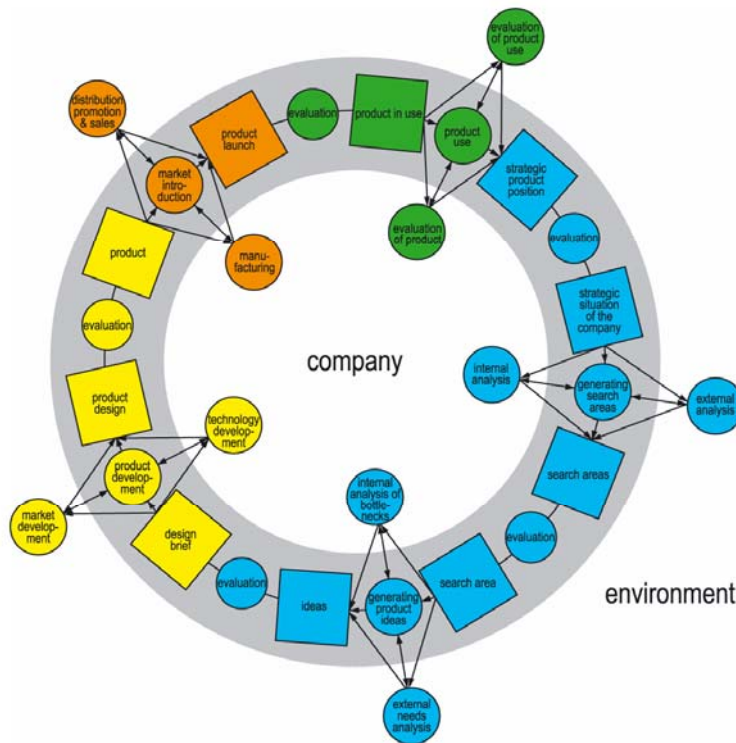
A typical programme for the course look like this:

Day #	Theory	Guest lecturer
1	Introduction	A senior designer of a large corporation
2	The fuzzy front end of product innovation	An innovation manager from a multinational
3	Branding for product designers	A branding consultant from a major consultancy
4	Branded New Product Development	A project manager of NPD-projects
5	The Delft Innovation Model	A lead designer from a large multinational
6	Brand Driven Innovation	Young alumni from Delft IDE's SPD master
7	Synthesis: applying the theory to a case	Last years project client
8	The final assignment: presentations and discussion	

Table 1. Overview of the BPS course

Compulsory literature for the BPS-course always consists of two books, one from the branding domain, and one from the innovation or design management domain. Typical combinations are Kapferer & Crawford & Di Benedetto or Aaker & Borja de Morzota (see our reference list to the other sources we have used) .At the end of the course the students demonstrate in group presentations their theoretical knowledge.

The essence of the course content is to teach the students to balance design thinking with strategic branding and innovation capabilities. During the course we build up to establishing this balance carefully. After introducing the master, the domain of Strategic Product Design and the course logistics to them (day 1), we introduce them to the fuzzy front end (FFE) of product innovation. This afternoon is centered around the model of Buijs and Valkenburg (2005) (figure 1) and looks specifically at all the activities that take place before the actual design brief is drafted. Already in this lecture, the role of the brand in the FFE is demonstrated in case examples.



Fuzzy Front End of innovation
 New Product Development
 Muddy Back End
 Product Use

Figure 1: the Delft innovation model, Buijs and Valkenburg, 2005.

The next afternoon focuses on branding for product designers. By taking the students through the history of branding, and by showing the various definitions by which authors have looked at the concept of brands, we arrive at the conclusion that brands imply a promise to the consumer (Aaker, 2002, Ambler & Styles 1997, de Chernatony, 2001, Kapferer, 2004, Kottler 2005). We then go on to explain that this promise needs to be fulfilled, and that products are an effective way of doing this (Webster, 2003, Lewis and Bridger, 2004, Kapferer, 2004).

In the next group session we go on to explain the relationship between the brand and new product development, in a framework we've baptized Branded New Product Development. We clarify the role of the brand and the product in this framework, and we establish the benefits of a symbiosis between the two. We illustrate this with some cases, and explain what organizational and personal capabilities and skills go into creating this symbiosis.

The next group session evolves around detailing the Delft Innovation Model (figure 1), keeping in mind the BNPD theory of the previous class. The last theory session is focused on Brand Driven Innovation, (Roscam Abbing & van Gessel, 2008), a theoretical framework and practical working method developed by one of the teachers of the course. The method is illustrated with some cases from the teacher's professional consulting practice. In the one to the last group session the theory of the previous sessions is put to the test by confronting the students with a business case related to brand positioning, innovation and design strategy. The case is discussed in the group, with the teachers as facilitators of the discussion, again making sure that all group members get to share their opinions.

Each theory session is mirrored by 2 hours of embedding this theory in practice. We invite guest lecturers to reflect on their business experiences in the context of branding, innovation and design, and let them present their findings to the group. We brief them on the course content and on the specific content of the group session they take part in, to ensure they show the students how the discussed theory is implemented and applied. Again, there is a lot of interaction and discussion with the students, since we not only select our guest lecturers on their experience, but also on their presentation skills. Some even go as far as to give the students a mini case to work on, and let the results be the basis for their presentation.

During the theory part of the class, the students have worked on a group assignment. This assignment gives the students the opportunity to apply their newly gained insights from the group sessions and the literature on a business case. They are asked to study a given existing brand (e.g. caterpillar, H&M, Speedo, Lego, Burton, and Audi) and to advise this brand on future innovation and design opportunities. They present their work in a one day workshop, focusing not only on their results but also and especially on the working method they developed to come to this advice.

We encourage students to show their designerly skills in this presentation: visuals, imagery, scenarios, personas, etc. Due to the emphasis on the business aspects of new product development and branding, SPD-students have the tendency to behave more or less as business school students; we encourage them to behave as design school students! We coach them to make their presentations colorful and lively, and

to let the audience experience their ideas, etc. This encouragement helps the students to be different than MBA-students. For instance we say collages are much better to show details of the target group than an Excel sheet with demographics. And when they later on show their vivid persona's and lively scenario's we enjoy and celebrate their designerly habits!

Design Strategy Project

BPS is followed in the second quarter by the Design Strategy Project (DSP). This is the practical application for the students of the just acquired new knowledge of branded new product development (BNPD). In contrast to Karjalainen (2007) who describes educational cases at Chalmers University in Sweden, where they work with artificial clients, in DSP we have decided to have real clients every year. Translating this knowledge to the problems of a real client proves to be difficult, but also very challenging. Students work in teams of about six to seven members. Each student works about 15 hours per week on this project. The second quarter runs from November to February. The groups are formed at randomly by the staff; diversity (nationality, educational background, gender, age, working experiences, etc.) is encouraged. The students have to organize their own project work. The staff gives support by lecturing on project management and team work. All groups can pitch to become the Design Management Team for the total project. This Design Management Team is the coordination unit for the client, all communication with the client is channeled by them, tasks are divided among the different teams, and during the first half of the project all information is shared. After Christmas the teams feel the pressure of being in competition for the award the company is offering the best team. This year (2007/2008) we have had one DM Team and 13 different content teams. Total student input is about 15,000 hours during quarter 2 (November – January).

The role of the staff is limited towards facilitating the learning experiences of the students. The staff is oriented towards the students and is not consulting the company. The companies who have participated in this DSP-project over the last five years are shown in table 2. The names of the companies have been anonymized by using “fake names”.

Just to illustrate the type of problems the students are tackling we will briefly describe the different assignments.

- “Overholland” (client in 2003) asked for design guidelines to communicate their brand language to outhouse design consultants.
- “Pettersen Interiors” (client in 2004) was worried about the big difference between the brand image of car exteriors and car interiors. Students were asked to bridge that gap.
- For “Fast Colours” (client in 2005) there was a need to close the gap between the design of the hardware and all other marketing communication tools. The different touch points were not having the same quality.
- “Beauty Balance” (client in 2006) needed a more strategic view on embedding the brand in the processes and organization of the company, because the founder and owner of the company was leaving.
- “Jan Jansen” (client in 2006) was looking for a branded identity and new directions for service innovation; a new phenomenon in the Dutch health care system.
- And finally “Branded Technologies” (client in 2007) is looking for a global identity; in different countries all over the world the image is somewhat confusing. They need a more consistent global image.

Company	Size	Type of product	Market	Technology
Overholland	M	Consumer products	European	Low Tech
Pettersen Interiors	L	Automotive components	European	High Tech
Fast Colours	L	Professional equipment	Global	High Tech
Beauty Balance	M	Fashion	European	Low Tech
Jan Janssen	M	Health Care Services	Local	Services
Branded Technologies	L	Consumer & professional products	Global	High Tech

Table 2. An overview of the participating companies.

The companies and the students are very pleased with the cooperation. The companies got out of the box ideas from the students, embedded in well researched strategic roadmaps, and the students got inside views in the world of branding and durable products. The staff experiences that their ideas on BNPD are valuable for corporate design management; it is not an academic exercise but really helps companies to improve their innovation, design and brand management functions.

Results

All the companies that partnered over the last years still have active relations with Delft IDE. All provided guest speakers for the courses of the following years. Some of them are even offering themselves to be a regular contributor to the course. Most of the companies offered internships or even graduation projects, usually based on the results of their Design Strategy Project. Also some of the companies offered jobs to our students after graduation; and not to some IDE-students in general, but in particular to students who participated in the BPS- and DSP-courses they were host of.

Some companies continued the relationship with Delft IDE by giving employees the opportunity to dive deeper in the BNPD subject by supporting them to do a PhD research project. In short our clients are quite happy with the performance of our students and in general are striving to build a close relationship between their organization, our students and the insights we offer them. .

Just as an illustration, this year's client ("Branded Technologies") is a large multinational organization acting on a global basis. Students were asked to think about how to convince potential clients in the pre-purchase stage about the future product experiences the company is offering. A difficult task, especially since the students were asked to consider the organization's brand values and the role they play in the pre-purchase phase, *and* to use their design skills in solving the issue. The student groups produced great ideas based on very solid research and new working models.

The class is ended by a presentation of all groups before a jury of five to seven professionals. The jury is presided by the SPD-coordinator (IDE professor in New Product Marketing) to look after the

educational objectives, but the majority consists of representatives of the client-company. This year our Dean was also member of the jury (in his early days he worked for Branded Technologies; so he knows the company quite well). This final presentation takes one full day. All 13 groups presented their ideas, visualized their argumentations through models, storyboards, visual scenarios, etc , responded to questions from the jury, and tried to convince the jury of the quality and relevance of their ideas. This final presentation took place Friday February 1st 2008.

One of the company jury members was the recently appointed Chief Marketing Officer of Branded Technologies. This CMO knew about the DSP-project, but was not actively involved during the execution. His sub-ordinates did all the communications with the students.

After the presentations the jury withdrew for their deliberations. The company had promised beforehand to give the winning group an award, and for all other participating students a gift to celebrate their contributions. Due to the quality of the results the CMO organized, instantly during the jury deliberations, some extra budget to build a prototype of the winning idea (which is very far out in terms of technology and impact; the prototype should be ready for testing before the summer of 2009), offered the winning student team a trip to Moscow to demonstrate their prototype on a special event (scheduled for September 2009) to a selected audience. Another team (the #2) was offered to go to London to have a couple of days of discussions with the global advertisement agency of the company, because he thought the students had much more clever ideas than this agency. These compliments were extra to the original award and gifts. This was our ultimate moment of glory!



Figure 2: one of the staff members at work with a representation of all the student groups.

Conclusions

This very happy university-company relationship is the reason we will include guest speakers and client projects as much as possible in the next rounds of these two intertwined courses. Strategic design and design management may benefit from a strong academic and theoretical foundation, but in the end they are only to be experienced in practice. The connection of our courses to practice is fourfold:

1. guest lecturers from business practice
2. one staff member who combines his teaching with his design management consultancy.
3. the Design Strategy Project with a real organization as client.
4. an enduring relationship with client organizations and guest lecturers in the form of graduation projects, job offers, traineeships, and other university projects

This inextricable connection between companies and universities is essential for the training of future professional design managers, and ensures that we deliver students who combine a solid academic foundation with the ability to apply and implement their ideas in practice.

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