

# Multidisciplinary Student Project as a Teaching Platform for Package Design

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**Abstract:** Successful package design requires knowledge from various fields. Therefore, teaching package design only from one disciplinary perspective is a limited approach. The problem-based learning (PBL) method combined with a real client brief is a potential way to teach the manifold nature of package design for students. This paper illustrates a package design project that was conducted as part of a multidisciplinary master-level course. A multidisciplinary and -cultural student team was given a task to provide new package design solutions for three well-known consumer product brands. The project lasted nine months and was supervised both by industry partners and academic teaching staff. The multidisciplinary student team was able to achieve excellent results by using the diversity of their knowledge base. The students had undergraduate degrees in business management, marketing, engineering and graphic design. The team learned not only from the industry partners who gave the briefs, but the interdisciplinary and intercultural learning that happened within the group was the key to the successful end results. The new package design concepts turned out to be realistic solutions comprising various technical, financial, functional, informational and emotional aspects of packaging. The concepts also expressed the brand identity of the clients in a new light. The results of the project were pleasing for all three parties involved: the students, the teachers, and the industry partners. The case shows that teaching package design in multidisciplinary student teams and involving companies in student projects can be very fruitful. The described project illustrates how problem-based learning approach combined with actual packaging briefs can lead to excellent learning results from the university point of view as well as provide companies with new insights on package design.

**Keywords:** package design, education, multidisciplinary team, problem-based-learning (PBL), industry cooperation

## 1. Introduction

Where do good package designs come from? And where do the good package designers come from? There are no simple answers to these questions since package design does not really fit into any single discipline. Package design is not only engineering, it is not only about marketing and branding, and it is not solely the territory of graphical or industrial design either. Instead, good package design is a result of skillfully combining knowledge from all three disciplines: technology, business and design.

In this paper, we introduce a multidisciplinary student project on package design. We found that teaching package design with problem-based learning (PBL) approach and conducting a package design project with industry partners can be very fruitful. Students learn multidisciplinary team skills and project management as well as gain understanding on the complex nature of managing package design. Conducting a package design project together with a student group can be insightful and inspiring also for industry partners. In addition to new ideas and new approaches industry partners get from student cooperation, the project can lead to new package design solutions. In many companies, package design processes tend to be linear and cooperation between technical, marketing and design experts is more

often sequential rather than continuous cooperation. The way a multidisciplinary student team works with package design can also challenge companies to question their working structures and encourage the different experts of the company into closer collaboration. Finally, the approach of teaching package design with PBL approach and conducting an actual package design project with industry partners meets the academic learning objectives and provides students skills they will need in practical working life.

The paper has four parts. First, we discuss the importance of visual brand recognition through distinctive package design. Second, we explain the principles of problem-based learning (PBL) and illustrate how the learning method was applied for the package design project. Third, we describe the package design project with three industry partners conducted during academic year 2008-2009. Finally, we summarize the project and draw conclusions on multidisciplinary student project as teaching platform for package design.

## 2. Visual Brand Recognition and Package Design

The main thematic objective of the student project was to enhance the recognition of the involved brands. Creating visual brand recognition through distinctive design

features is considered strategically important for an increasing number of companies. Specific focus is often on product packages, while package design possesses strong communicative power in many product categories. The package is used to inform about the product it covers or supports, to point out specific product qualities and, in specific, to create unique brand experience [1,2,3]. In many product categories, product package is often focused as the key marketing element of the product, and the first contact point between product and customer. Already 50 years ago, Pilditch [4] argued that package is the connecting link between company and consumer, and consumer's purchase decision is dependent on the package. Pilditch's basic argument seems to hold true even today although the ways how companies connect with consumers and the factors that determine consumer's purchase decisions have changed.

Companies producing consumer products are confronted with a culture of consumption that is fast and instable. In order to establish a longer-living relationship with the consumers, a growing need for aesthetically appealing commodities has emerged. Strategic focus is often placed on product package being able to transfer a strong message. In many product categories, package often takes the role as the key marketing element of the product. In the case of low-involvement products<sup>1</sup>, the package is often the sole communicative device for building a brand identity. Many of these general consumer products are bought frequently and with a minimum involvement of the consumer. At the same time package takes the role of a brand medium also in high-involvement product categories, i.e. in the case of products that need a considerable cognitive effort from the consumer before the purchase decision can be taken. For those products the package can be used to emphasize specific product qualities in order to reinforce the unique brand experience. The package is used to inform about its product, to put forward specific product qualities and above all to create the unique brand experience and image. By integrating different functions into holistic experience, the package serves as a crucial visual interface between the brand and its user.

The growing interest towards package as a strategic brand medium sets new challenges not only for companies and practitioners but also for education. Students aiming to work in consumer product industry need to understand the different roles of product package, and most importantly, the ways to employ package as a strategic medium for brand communication. However, the traditional ways of academic teaching do not provide sufficient skills for students to work in multidisciplinary and environments that are typically dynamic and involve

<sup>1</sup> Daily products are an example of low involvement products. A product is considered low involving when decision-making process is short and the product purchase is not very relevant (for that person).

high degree of complexity. Packaging and package design are difficult to be taught by lecturing. Conventional education tends to fail in two areas: firstly, students don't learn to solve problems in professional practice, and secondly, they don't acquire "learning to learn" skills which are essential in the climate of continuous change that characterizes working life and professional development [5]. New and more practical approaches to educate students on packaging are therefore needed. The Problem-Based Learning (PBL) approach can provide an educational path through which students can explore the real world of packaging as well as "learn to learn" the working practices within a multidisciplinary team.

### 3. Problem-Based Learning (PBL) Approach for Teaching Package Design

The rapid changes in technology, information and economy call for the new competence such as skills of critical thinking, problem solving, decision making, team working etc. Problem-Based Learning (PBL) emphasizes a "real world" approach to learning: it is a student centered process that is both constructive and collaborative. It is also based on the premise that students will be motivated to "want to know" and solve the problem posed because it is presented in a context that simulates real situations. [6] Problem-based learning has been applied to different fields of education in many countries for over 20 years. It has spread worldwide to various disciplines of higher education such as architecture, economics, engineering, mathematics and law. The basic premise of PBL is that learning starts from dealing with problems that arise from professional practice. In other words, the aim of problem-based learning is to build a bridge between working life and education. PBL gathers and integrates many elements regarded as essential in effective, high quality learning, such as self-directed or autonomous learning, critical and reflective thinking skills, and the integration of disciplines. [5]

Problem-based learning is an efficient way to acquire new knowledge. It requires students to utilize all of their skills to answer a driving question. They must research, collect data, interview, and adept information in order to present a possible solution to the presented problem. PBL can be described as "minds on, hands on" learning. It gives students an authentic experience, while maintaining their interest; they become a part of active learning rather than passive note-making. [6] The PBL curriculum offers knowledge and learning environments for students' shared and individual learning. It is also a learning environment for teachers in which they can develop their own understanding of PBL and improve their own skills in facilitating students' learning [5]. As the described characteristics of PBL suggest, problem-based learning provides an excellent teaching platform for package design.

Tien, Chu and Lin [6] have identified four phases in

problem-based learning process: (1) selecting a problem, (2) designing actions, (3) determining learning objectives and (4) linking contents. The first phase is often the most difficult one as a good PBL problem must engage students' interest and motivate them to probe for deeper understanding of the concepts being introduced. An effective problem should also be complex enough that cooperation from all members of the student group will be necessary in order for them to effectively work towards a solution. For the package design project, the PBL problem was rather easy to find. Package design issues were interesting for students who could identify themselves as buyers and users of packaged consumer products, and the multifaceted nature of package design provided a teaching platform that required participation from all student members: in order to complete the project, the knowledge-base of each student was needed.

The second phase in problem-based learning process deals with designing actions. The student project lasted for nine months. This period was divided into three action modules, each lasting about three months. The first and the last modules involved much cooperation with academic teaching staff and industry partners, whereas the second module was largely independent working by student team themselves.

**1<sup>st</sup> module:** research, data collection, interviews, team-building

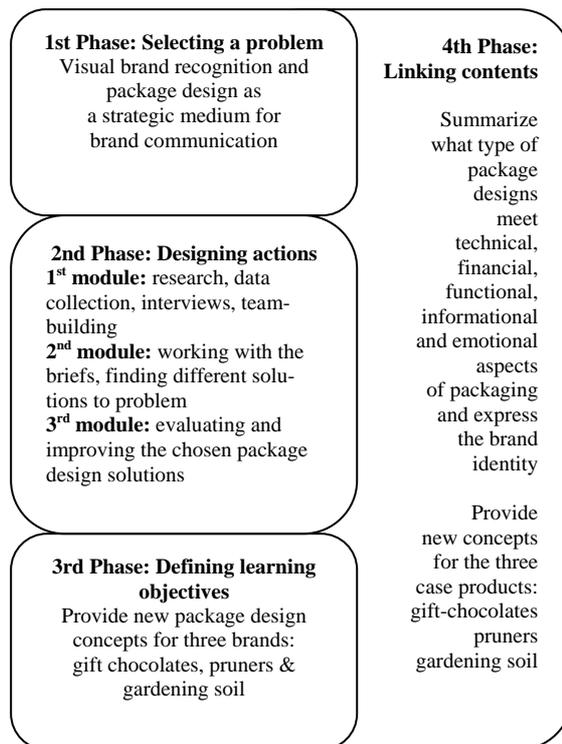
**2<sup>nd</sup> module:** working with the briefs, finding different solutions to problem

**3<sup>rd</sup> module:** evaluating and improving the chosen package design solutions

The third phase of PBL process is to set the learning objectives. Tien, Chu and Lin [6] suggest that PBL curriculum should state what students must learn, what they should learn and what would be nice for them to learn. For the package design project the learning objectives were not defined exactly in this manner, but the learning objectives were drawn from industry partners' wishes and expectations for package design, and the general course requirements.<sup>2</sup> Students also had the chance to modify the learning objectives according to their own interest. By enabling students to take part in goal-setting, their commitment and motivation towards the project was increased. The picture on the next page illustrates the discussed three phases of PBL process and shows how the final phase connects the problem with the activities and objectives.

<sup>2</sup> The academic requirements for the course were active participation in the team and other course-related activities (lectures, workshops, discussions etc.), researching the topic with empirical methods e.g. interviews and observations, reporting the team activities regularly during the project, and delivering a final report and presentation by the end of the course.

As the picture shows, the purpose of the fourth phase in PBL process is to link all the contents and state the questions students are expected to answer by the end of the project. The teacher is mainly responsible for conducting the fourth phase, whereas the three first phases can be worked together with students and industry partners. This process framework provided the general guidelines for the package design project. The project will be discussed in more detail in the next chapter.



**Picture 1:** The framework for problem-based learning (PBL) in the package design project

#### 4. Package Design Project as a Teaching Platform

The package design project described in this paper was a part of International Design Business Management (IDBM)<sup>3</sup> master-course during the academic year 2008-2009. A team of four students (two female students and two male students) was chosen for the project. The students had their undergraduate degrees in business management, marketing, engineering and graphical design. In addition to diversity of their educational background,

<sup>3</sup> The International Design Business Management program (IDBM) is a joint teaching and research platform of the three Aalto University schools: School of Economics, School of Art and Design, and School of Science and Technology. The purpose of the IDBM program is to develop world-class expertise in global design business management through multidisciplinary research and learning.

students also had different cultural backgrounds: British and Finnish. The working language in the project was English. The project lasted almost nine months, which enabled students to build a strong team and establish proper connections with the industry partners.

There were three industry partners in the project representing three different industries: confectionary, gardening tools and soil products. Each company chose one product on which they wanted students to focus and provide the companies with new insights on product's package. The chosen three products represented three brands, which were a gift chocolate brand (confectionary), a pruner brand (gardening tool), and a gardening soil brand (soil products). The learning objective of the course was to provide solutions for more efficient and intensive package communication for the three companies by integrating technology, business and design knowhow. Specific emphasis in project was placed on visual brand recognition and package design's role as a medium of communication. The student project was part of a larger research collaboration called Messenger Package<sup>4</sup> and the overall research theme gave the framework for companies and students to set the practical objectives for the project.

During the first months of the project (the first module) students studied literature on branding, package design and research methods. The studied material was discussed together with academic teaching staff and the team made several visual analyses on case products. Students also wrote a blog diary on their reflections on literature and on the packaging observations they had made in supermarkets and contexts of use. Blog diary also included sources of inspiration, such as links to web-pages, magazines, and other visual media. The team even visited Packaging Museum in London and attended Emballage trade fair in Paris in order to understand the history and the current trends in the packaging industry.

At the same time students were exploring the field of packaging from theoretical perspective and making observations, they met the industry partners and conducted first interviews with them. During the first interview round all three parties of cooperation were present: students, teachers and company representatives. The purpose of the first meetings was to introduce the company and the brand chosen for the project. The company gave the students a packaging brief quite in professional manner, as it would have been given to a professional design agency. The brief was adjusted by the academic teaching

<sup>4</sup> Messenger Package is a collaborative initiative between VTT Technical Research Centre of Finland, International Design Business Management (IDBM) Program, and Association of Packaging Technology and Research (PTR). It is mainly funded by Finnish Funding Agency for Technology and Innovation (TEKES) and seven Finnish industry partners. Messenger Package research activities commenced in June 2008.

staff in order to match the learning objectives and to provide students realistic goals to work for. After the first meeting, students got names of the people they could interview in the company (usually brand managers or in-house package designers and engineers) and the interviews were conducted partly by students themselves and partly together with academic teaching staff<sup>5</sup>.

The second module, that took another three months, involved rather independent work by the students. The team put together all the material and knowledge they had collected during the previous module and started to create the new package design solutions to correspond to the company briefs.

The third and final module of the project commenced when the first package concepts were ready. Students had built three or more different solutions for each brand. These concepts were introduced to the companies and the academic teaching staff for comments. Students received feedback on the creativity and innovativeness as well as real-life practicality and feasibility of the concepts. While industry partners often advised students to consider the current packaging technology and retailer requirements for packaging, the academic teaching staff encouraged students to be innovative and not to think about possible limitations too much. Such a polarity was yet a challenge for the team but proved to result in interesting package concepts. In this situation characterized by conflicting opinions, which, in fact, also simulates the real-life challenges, the team was given the eventual responsibility to take the package design concepts into direction they found the most appropriate.

Finally, prior to the final presentation of the concepts, students had few weeks for the necessary adjustments and fine-tuning of the designs. Attention was also put on the communicative contents of the new package concepts from the perspective of the particular brand in question, as this was the underlying theme of the project.

## 5. Summary and Conclusions

As an educational approach, PBL is a strategic answer to the competence needs of the information society, as also suggested by Poikela and Poikela [5]. These competencies emphasize the skills of knowledge processing, communication, interaction and problem-solving. The shift from knowledge to knowing is reflected in the demand for continuous learning and in the need to repeatedly develop or even change a professional orientation. It is not enough that education provides a sufficient knowledge to be applied in professional practice; education itself has to be able to produce the core compe-

<sup>5</sup> This was not because students wouldn't have been capable of doing the interviews by themselves, but mostly because academic teaching staff was also keen to learn from "real life"

tences needed in future.

Our experience with the project demonstrated that this type of a practical approach towards new package design development and more effective brand communication provides a fruitful learning experience both for students, the academic staff, and companies involved. According to the feedback and course evaluations, students found the project rewarding and motivating. This type of a project is highly challenging and time consuming and requires intensive involvement from the students, but the positive rewards in the form of close company collaboration and realistic product development challenges seemed to overrule the personal investments.

The results of the project were positively evaluated also by the participating companies who not only received interesting ideas to be taken further in their new product package development but also were able to enhance the communication between their internal departments and teams through this multidisciplinary student project.

The project also showed that this type of analytical and practical approaches are needed, in particular, when new ways are sought to explore the perceptual and experiential aspects of package design on a deeper level. Furthermore, this project successfully highlighted the multiple functions of product package both in low- and high-involvement product categories. It turned out to be a potential approach to tackle the multidisciplinary and multifaceted challenges of contemporary package design.

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