

# LESSON 9

## PRODUCT DESIGN



### WHAT IS PRODUCT DESIGN?

Product design includes consumer goods design and capital goods design. Consumer goods design refers to designing products for sport, leisure, and entertainment use, while capital goods design is designing tools, machinery and equipment. Leonardo da Vinci said “Simplicity is the ultimate sophistication.” Modern design follows this principle to create functional products that fit the needs of today’s modern lifestyle.

### Before You Read

*Work in pairs or small groups. Draw from your own experience to answer the following questions:*

1. Name a few products in the scope of consumer goods and capital goods. What special design do they have?
2. What do you think about the development of the product design industry in Taiwan?
3. Can you name some Taiwanese brands whose products follow the principle proposed by da Vinci?
4. Compared to foreign brands, what special features make these brands stand out?

### Reading

#### Taiwanese Design Shines

BenQ’s butterfly wing LCD display, Tatung’s rice cooker and Asustech’s ‘Chocolate’ Keyboard are examples of Taiwanese designs that have won international competitions. For these Taiwanese manufacturers these awards not only bring **fame**, but represent a **leap** from being simply manufacturers to becoming part of the design industry. In this article we will take a **5 glimpse** at the development of the design industry in Taiwan.

In the past, Taiwanese manufacturers provided **Original Equipment Manufacturing (OEM)** services for well-known brands, producing everything from clothing to electronic **gadgets**. With the greater **involvement** of designers, manufacturers started taking **Original Design Manufacturing (ODM)** orders. However, with the rise of the manufacturing industry in China

10 and other Southeast Asian countries, the international OEM and ODM business entered a period of **cutthroat competition**. The quality of product design is thus a crucial element that allows Taiwanese companies to **stand out** in this market. More and more manufacturers have established their own Research and Design (R&D) teams to create more innovative products. In addition, these companies are also trying to establish their own brands to add value to their

15 products, which is known as **Original Brand Manufacturing (OBM)**. These OBM products can help manufacturers open up new global markets, and at the same time have gained world recognition by winning prizes in various design competitions, such as Germany's iF and Red Dot, America's IDEA Award, and Japan's Good Design Award.

Tatung Company, the largest Taiwan-based consumer electronics brand, has **demonstrated**

20 its ambition in product design and **innovation** in recent years. The Tatung VOIP Phone, a wireless Internet phone featuring Bluetooth and a touch screen, won the 2008 iF, IDEA and Red Dot awards for its innovative design. Tatung also created a new company image by updating the design of its traditional rice cooker, which has nearly 95 percent market share in

25 Taiwan, giving it a more fashionable appearance and using new, high-tech materials. The iF award-winning Tatung Rice Cooker features a special kind of **mold-resistant anti-bacterial** material for the handles made from **silicone** and

30 silver **nanoparticles**.



Student designers have also demonstrated their potential and ambition on the international design stage. The Curvy Scissors, designed by Yu-Lin Chen and Sheng-Hong Li, students of industrial design at National Cheng Kung University, were a recent winner of the Lebens Träume (Dreams for Life) competition organized by iF International Forum Design

35 Hannover. The six degree curved **grip** makes the scissors easy to lift regardless of which side they are lying on, making them much more user-friendly. The Curvy Scissors now have to pass the **patent** application, and then the design will be transferred to manufacturers for mass production.

Taiwanese manufacturers have evolved dramatically from their early years in the OEM-

40 ODM business into the field of OBM. However, if companies are to continue in this direction and gain wider recognition in the global market, then it is necessary that the government, **academia** and industry cooperate to **cultivate** and support young designers so that their ideas can be utilized for commercial purposes.

## After You Read

Based on the reading, are the following Statements true (T) or false (F) ?

1. \_\_\_\_ According to the reading, the Tatung VOIP Phone was the first product from Taiwan to ever win an international design competition.
2. \_\_\_\_ In the development of the product design industry, Taiwan's strength is a low-cost labor force.
3. \_\_\_\_ Taiwanese manufacturers began to add value to their product design in order to find a place in the highly competitive OEM market.
4. \_\_\_\_ The original design of Tatung's long lasting rice cooker won the iF award.
5. \_\_\_\_ According to the reading, the Curvy Scissors are on the market and available for purchase.
6. \_\_\_\_ The benefit of participating in international design competitions is to create an opportunity to showcase Taiwanese design worldwide.

## Vocabulary Comprehension

### General Vocabulary

*This vocabulary is used for general purposes. Words with a \* come from sections other than Reading.*

fame	<i>n</i>	the state of being famous
leap	<i>n</i>	a sudden increase or improvement
glimpse	<i>n</i>	an occasion when you see someone or something for a moment only
gadget	<i>n</i>	a small tool or piece of equipment that does something useful or impressive
involvement	<i>n</i>	the act of taking part in an activity, event or situation
demonstrate	<i>v</i>	to show clearly that something is true or that it exists
innovation	<i>n</i>	the invention or use of new ideas, methods, equipment, etc.
academia	<i>n</i>	the people, activities, and institutions that are connected with education, especially in colleges and universities
cultivate	<i>v</i>	to develop something such as an attitude, ability or skill

\*appealing *adj* attractive and interesting

\*adjudication *n* a formal judgment or decision

## ESP Vocabulary

*This vocabulary is commonly used in the fields of creative industries. Words with a \* come from sections other than Reading.*

OEM *n* original equipment manufacturer; a company manufactures products or components that are purchased by another company and sold under the purchasing company's brand name

ODM *n* original design manufacturer; a company that designs and manufactures a product which is specified and eventually branded by another firm for sale. Such companies allow the brand firm to produce a product (either as a supplement or solely) without having to engage in the organization or running of a factory.

OBM *n* original brand manufacturer; a company that sells an entire product made by a second company or including a component thereof from a second company sources as its own branded product. Selling the product of the second company under its own brand just adds a virtual extrinsic value to the product.

mold-resistant *adj* not easily damaged by fungus

anti-bacterial *adj* effective in killing bacteria

silicone *n* a substance formed by a chemical process from silicon and other substances, used for making many different things

nanoparticle *n* a microscopic particle whose size is measured in nanometers

grip *n* the part of an object that has a special rough surface that you can hold firmly in your hands

patent *n* an official document that gives someone who has invented something the legal right to make or sell that invention for a particular period of time, and prevents anyone else from doing so

\*jury *n* a group of people who judge a competition

\*supplement *n* an extra section in a book, or an additional book that gives more information

\*universal design *n* a concept of design that is usable and effective for everyone, not just disabled people

*prototype	<i>n</i>	the first form of something new, made before it is produced in large quantities
*usage-scenario	<i>n</i>	a situation that could possibly happen when you are using something

## Expressions

cutthroat competitions	situation where competitors use predatory pricing and heavy promotion to eliminate or undermine their rivals
stand out	easy to see or notice because of being different

## Exercise

Fill in the following blanks with the vocabulary from the box, and make changes if necessary. Each word is used once.

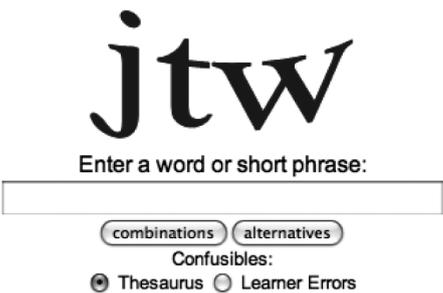
glimpse	cultivate	evolve	innovation	appealing
involvement	demonstrate	leap	gadget	fame

1. Designer Gordon Murray gained \_\_\_\_\_ for his designs—the McLaren F1 and the Mercedes McLaren SLR super cars. Now, he's shifting gears to something greener—the T25 city car.
2. The renovation project would help \_\_\_\_\_ a new model for in-town residential projects that's sensitive to the quality that the community deserves, the affordability it needs and the commitment to historic preservation that it demands.
3. Nikon's latest compact Coolpix range has taken a/an \_\_\_\_\_ for the better in the design stakes. The S3000 is a slim and attractive camera that doesn't belie its asking price in terms of the overall aesthetic.
4. Japanese car manufacturer Mazda will show off its first 'post-Nagare' concept car in autumn 2010—providing a/an \_\_\_\_\_ into the future design strategy under the new styling boss.
5. Apple's iPhone 4 is innovative and aesthetically \_\_\_\_\_. The unit provides a variety of useful technology all of which is encased within a stylish handset that is both compact and lightweight.

6. Ben Charles, a product design student, has made a talking \_\_\_\_\_ for supermarket trolleys to help elderly and visually impaired people who find shopping difficult.
7. The hybrid system of vehicles has continued to \_\_\_\_\_ and improve over the years because of the growing popularity of hybrid cars.
8. People claim that the business card is dead and the blog is the new resume. Blogs are believed to be an excellent way to \_\_\_\_\_ your knowledge, establish authority, and network, making yourself accessible to everyone around the world.
9. Most organizations rely on \_\_\_\_\_ and sharing of new ideas across the company to stay competitive. Enterprise 2.0 technologies help unleash ideas and improve problem solving by unlocking the power of everyone in the organization.
10. Successful businesses will have millions of Twitter followers, and a whole new language of tweet-based customer interaction will evolve to keep those followers engaged: early access to new products or deals, live customer service, and customer \_\_\_\_\_ in brainstorming for new products.

## Corpus

### Just The Word



Enter a word or short phrase:

combinations alternatives

Confusibles:

Thesaurus  Learner Errors

It is often useful to consult a corpus, a collection of standard and accurate written or spoken texts, to find out how words are frequently used. In this lesson, you will learn how to use the corpus **Just the Word** to facilitate your usage of common collocations. Follow the step-by-step instructions below to find out how **stand out** is used in real-world English.

### Step-by-Step Instruction

1. Go to the **Just the Word** corpus at [www.just-the-word.com](http://www.just-the-word.com)
2. Type **stand out** in the key word box. Then click **Combinations**.

jtww

Enter a word or short phrase:

1 stand out

2 combinations alternatives

Confusibles:

Thesaurus  Learner Errors

3. On the search result page, you can find **stand out** on the right frame of the page and the collocation pattern **N subj \*stand out\* ADV\***.

(Note: The example **feature stand out** shown next to **N subj \*stand out\* ADV\*** is the most frequently used collocation in the JTW corpus.)

1 stand out (V ADV)

2 N subj \*stand out\* ADV\*, e.g. feature stand out

- Good Word Combinations
- Bad Word Combinations
- Similarity of meaning
- .word - Means singular noun only

4. Click on **N subj \*stand out\* ADV\*** and find a list of nouns that frequently precede the phrasal verb. (Please note that websites frequently update their database and formats.)

### stand out (Verb+Adverb)

#### N subj \*stand out\* ADV\*

cluster 1	
individual stand out (4)	■
man stand out (4)	■
cluster 2	
feature stand out (6)	■
thing stand out (5)	■
unclustered	
flower stand out (4)	■
hair stand out (4)	■
name stand out (4)	■
sweat stand out (5)	■
vein stand out (9)	■

higher frequency

Note: The asterisk symbol \* in N subj \*stand out\* ADV\* means that we only want to look at **stand out** in the collocation pattern **N subj \*stand out\* ADV\***

Note: The green bar after each search result represents **good word combinations** which means the usage is *grammatically accurate*. Please see the diagram in the below retrieved from the **JTW** corpus website:

-  - Good Word Combinations
-  - Bad Word Combinations
-  - Similarity of meaning

5. Click on “features stand out” to see the examples (also called concordance lines), below, extracted from the **JTW** corpus.

However, certain features do stand out:  
 Two features stand out.  
 On the other hand, the features which stood out most starkly to a western visitor  
 In this process two features stand out.  
 Four features stand out above all else.

This is a simple example of how the Just The Word can be used. From the steps above, we realize that feature(s) often goes before stand out. Try to search what other adverbs collocate with the verb stand. Write down the top 5 high frequency adverbs. Then, examine the concordances and guess what the phrase means.

### \*stand\* ADV

stand

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## Tasks

### Speaking

#### Product Analysis

Designers often do product analysis during the idea-searching stage. A designer has to be aware of new technologies and consumer demands. Examining existing products is a way to begin. Thus, a design department frequently calls a meeting for the staff to analyze a competitor's products and brainstorm new ideas. You are part of the design team of a cell phone manufacturer. The team is developing a new smartphone. Before brainstorming ideas for your own product, the team decides to first look at competitor products and analyze their features.

#### Exercise

*Name a few popular smart phone models in the current market. Check the official websites of their manufacturers, for example, Apple, Nokia, HTC, Sony Ericsson. Work in pairs to discuss the following questions about one particular model from the perspective of a designer.*

- What is the function and purpose of the product?
- What is the shape, form, color, texture and style of the product?
- What materials are used to make the product?
- Who would buy this product?
- How well does the product perform the claimed functions compared with other similar products?
- If two or more similar products are available on the market, how will consumers make their purchasing decisions?



Yu-An Li, Dept. of Industrial Design, NCKU.

The table on the next page lists some expressions regarding product function, appearance and material. Apply these patterns when describing the product in your analysis.

Function/ Features	Shape	Color
It comes with _____. It is aimed at _____. It should function as _____. It consists of _____. It is designed to _____.	It has the look of _____. It is in the shape of _____. It looks like _____.	It is available in a huge array of colors. It comes in a range of colors. It is _____. It comes in _____, _____, and _____.
Texture	Size	Material
It has a _____ texture. (glossy/ matte/brushed or materials like glass, plastic) It looks _____. (shiny, slick, like leather)	The capacity is _____. It is _____. (size) It can hold _____.	It is made of _____. It is made from _____. It's made with _____.

### Exercise

- You are an intern in a design team at IDESIGN Lab. Your team is searching for ideas for sports water bottles. According to the client requirements, you are expected to design an eco-friendly water bottle that appeals to young people.

Work in a groups of 5. Examine the existing water bottles as shown below with available product information. Call a product analysis meeting in your group. Take the questions above for discussion. Add more questions if necessary.

	A	B	C	D
				
<b>Function/ Features</b>	leak- and spill-proof	easy to squeeze when sipping	vacuum insulated	easy to clean
<b>Shape</b>	liquor bottle shape	sports bottle easy to grab	bottle	tumbler
<b>Color</b>	varies	blue & red	silver	customized inserts

<b>Texture</b>	glossy	glossy	glossy	glossy
<b>Size</b>	0.6-liter 1.0-liter	20 oz	500 c.c.	12 oz
<b>Material</b>	aluminum	polyethylene	stainless steel	polypropylene
<b>Price</b>	\$1080NT	\$250NT	\$550NT	\$350NT

Chan - Yu Hsu, Dept. of Industrial Design, NCKU

For more information about reusable water bottles, visit [www.goodhousekeeping.com](http://www.goodhousekeeping.com), search for “reusable water bottles” for their tests and reviews on 32 water bottles. The reviews were made from a consumer perspective. As a designer-to-be, what role do the consumer demands play in product development?

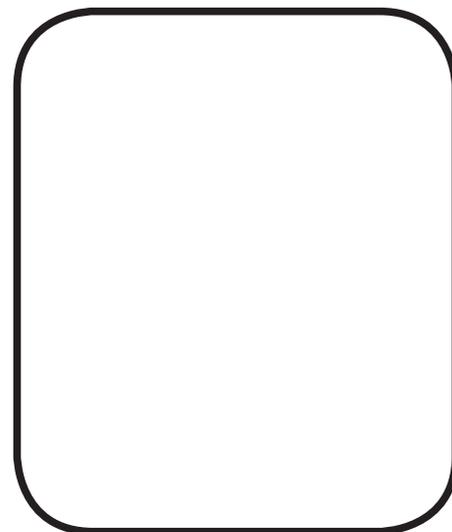
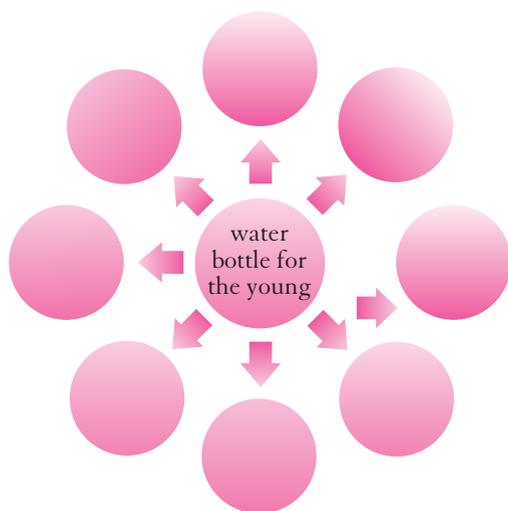
2. *After reviewing these products, did you get any ideas for a new water bottle design?*

What concerns do young people have with regard to water bottles?

What new aspects should designers consider when designing a water bottle for the target market?

Narrow down your concepts and draft your idea in the box on the right.

Present your design concept to the class and invite comments from the audience.



## Writing

### Write a Product Introduction

A product introduction delivers the designer's creative concepts for the product and introduces the material, function and features to the public. Sometimes, it also includes technical specifications (specs) for the product. Read the product introduction for a Nursing Kit, a new generation first aid kit, which is designed to achieve certain functional and aesthetic goals. Analyze the passage below and identify what elements are included. Underline the sentences stating the functions and circle the key phrases about aesthetic appearance.

Note: Nursing Kit, by Yu-Lin Chen and Sheng-Hong Li, won the Golden Award in the Young Designer's Exhibition 2011.

Having a properly stocked and prepared first aid kit is essential to every household, but this is not a common practice for most Taiwanese families. Inspired by what we consider to be a problem that good design can solve, our goal is to redesign the first aid kit by considering its placement in the home, its functionality, affinity and form. "Nursing Kit" is a new generation of family first aid kit that blends into its surroundings and becomes a part of life. The kit includes a pair of Curvy Scissors, a tape dispenser, a tweezers clip and a medicine cap. These components provide rapid, complete and easy-to-use medical assistance with maximum functionality. The modern appearance makes the kit an art piece at home. We not only want to take care of the physical, but also the spiritual aspect of health.

The Nursing Kit not only facilitates complete health care, but also provides excellent decoration and illumination. The kit features:

1. Emergency signal: When the device is taken away from its base, the emergency sign lights up.
2. Container: Open the device by pushing down and then turning the container. The container separates into three sections for sterilization, medication and dressing.
3. Flashlight: The upper part of the kit is a light source. It can be taken apart and used as a flashlight.
4. Curvy Scissors: The scissors come with curved handles lifted about six degrees from a flat surface. The curvature fits the hand better, left or right, and enables the user to lift the scissors up from any side.
5. Tape dispenser: It cuts the tape from multiple angles by just pressing on any part of its body. It becomes the base of a mirror when the tape is not being used.
6. Tweezers clip: When the clip is reversed, it can seal up a bag. The wavy surface increases friction.
7. Medicine cap: Easy-twist cap provides a space for labeling and expiration date in a visually accessible place.

Which part of the passage is:

About the material: \_\_\_\_\_

About the inspiration of the design: \_\_\_\_\_

About the main features and functions: \_\_\_\_\_

About the form and shape: \_\_\_\_\_

### Techniques and Usages

Here are sentence patterns you may use in writing a product introduction:

Inspired by \_\_\_\_\_, .....

Catering to the increased interest in \_\_\_\_\_, .....

Combining the ideas of \_\_\_\_\_ and \_\_\_\_\_, .....

Endowing the item with \_\_\_\_\_, .....

### Exercise

*In the Speaking section, you have generated some ideas for a new water bottle design. As a leader of a design team at IDESIGN Lab, prepare a summary of the design concepts for your new water container. Suppose your team would like to enter a design competition. A brief introduction within 150 words is required when you register for the competition. The jury will make a preliminary selection according to this short written introduction, so make sure it describes all the important elements of your design.*

*In your product design summary, briefly describe your design concepts, features, and consumer benefits in 150 words.*

## ESP Focus

Read the following poster and details about the Best Design Award call for entries.

### Best Design Award Call for Entries

#### About the Award

The Best Design Award is an annual student design competition. The award honors the young generation's outstanding achievements in design and offers an important platform to have your design professionally validated by an international jury of experts.

#### Who Should Enter?

All design school undergraduate students around the world are eligible to compete for a Best Design Award. All competitors must work under the direction of a faculty sponsor.

#### The Jury

Your entries will be judged by experienced industry professionals.

Visit the award's official website for more information about the judges.

#### Entry Instructions

Students must be personally registered for the competition along with a faculty sponsor. There is no entry or submission fee required to participate in the competition. Each registered student and faculty sponsor will receive a confirmation email with instructions on how to submit the works online. Deadline of registration is **posted on the official website: <http://www.bestdesignaward.com>**

#### Winners' Supplement

All nominated work will be published in the Best Design Award Winners' Supplement. All entrants will receive one complimentary copy of the supplement.

#### Categories

01 Computers

02 Communication & Entertainment

03 Living Rooms & Bedrooms

04 Recreation & Lifestyle

05 Work & Office

06 Household & Kitchen

07 Tableware

08 Lighting & Lamps

09 Fashion

10 Design Concepts

Visit our official site for detailed rules pertaining to each category.

### Evaluation Criteria

The evaluation will be conducted based on the following principles: design quality, finish, choice of material, degree of innovation, environmental impact, functionality, ergonomics, visualization of intended use, safety, and **universal design**.

### Entry Requirements

All submissions must be original products. In exceptional cases (e.g. very large exhibits, preproduction **prototypes**, etc) models, scale models or large format photographs (60 x 90 cm, board-mounted) may be submitted.

Design concepts are presented to the jury in A3 sized presentations. Login and upload your work online, it will be printed to hard copy for the **adjudication** discussions.

Presentation requirements:

- Each work should include:
  - A description of the work, including how the product works, and a **usage-scenario**
  - Drawings or renderings of the product
  - Work can be from 3 to no more than 5 pages long
  - Work must be in English only
  - Focus on the novelty of the design concept

- Format requirements:
  - File format: PDF, JPG, or TIF only
  - File size: 2MB per file, total of 5 files may be uploaded
  - Resolution: min. 72 dpi, max. 300 dpi
  - Print Size: A3, Height 42cm by width 29.7cm
- Please include the page number and total number of pages on each board.

Do NOT include product designers' names or school affiliation in the submission.

Additional optional materials such as video (MOV, MPEG4, WMV, FLV), and prototypes or models may be submitted. Please see logistics for the delivery and return of your model/prototype.

- Deadline for submission is posted on the official website: <http://www.bestdesignaward.com>
- Entries must be sent to Emma Linkton, Best Design Award, 8th Floor, McCormick Building, 26 Michigan Ave., Chicago, IL 60603 USA

### Exercise

1. *Work with a partner to answer the following questions about how to engage in the competition.*

Who will be eligible to enroll in the competition?

What required materials need to be sent in for the contest?

Summarize the steps on how to participate in the competition.

If you want to send your water bottle design to the competition, which category should you enter it in?

2. Complete the following competition entry form for the Best Design Award. Fill in the form with your personal data. Revise the written summary for the water bottle design and copy it into Item 12, Brief Introduction.

## Best Design Award

### Individual Entry Form

Note: To be completed for each piece of work entered.

All information given may be published, therefore please state clearly.

1. Submitting Company/ Institution:
2. Category Number:
3. Category Name:
4. Designer(s):
5. Advisor:
6. Email (Provide 1 as primary contact):
7. Department:
8. School:
9. Country:
10. Title of entry:
11. Date first published/mailed/transmitted/distributed:
12. Brief introduction (in 150 words):

## Did you know?

Post-modernist Design ushered in a new era of product design by marrying Art and Architectural design with industrial design. It is rooted in the post-World War II period and was most active in the late 20th century. This school emphasizes that designing a product does not fulfill consumer needs that focus on function alone. The aesthetic of the product that can evoke a desire to own the product is more important. Therefore, the product itself can also be a decorative element in a space. “What kind of message does the product send to users?” is a common question that a post-modernist designer would ask during the design process. The concept of “form following emotion” becomes the essence of the period. In addition, post-modernist design products are used as media to communicate the designer’s ideas as well as social and cultural concerns to the consumers. “Juicy Salif”, citrus-squeezer, by French designer, Philippe Starck, and “Merdolino”, toilet brush, by Italian designer, Stefano Giovannoni are two iconic products of Alessi that symbolize the practice of post-modernist design.