Teaching Concepts of "Quality": A Classroom Study

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[*Author's note*: This paper was written over ten years ago, and things have changed a lot in Taiwan. Taiwan now cranks out high-end computers, clothing, and many other products. Even Mainland China has moved towards more emphasis on quality in its manufacturing. But I believe many of the arguments — especially about education in quality design — here still hold, and, I'm afraid, those same arguments are becoming applicable to declining standards of education, as well as goods and services, in the U.S.]

Abstract
Taiwan is currently trying to shed itself of its image as a maker of cheap, low-quality goods. The efforts of CETRA (Chinese External Trade Development Council), with their "Made in Taiwan" campaign, have been geared towards showing the world marketplace that Taiwan is capable of producing high-quality products, including bicycles, sporting goods, computers, and so on. To this end, they have been rather successful. But there remains the fact that many products manufactured in Taiwan are not of high quality. There is also the more profound problem that the *idea* of quality as an important part of the culture has not yet entered the Chinese way of thinking. As a Western professor of design, teaching in a Chinese university classroom, I attempted to introduce this concept to the students — who were in a Commercial Design program — with mixed success. But I persisted in trying to get the students to produce projects of high quality in class, and in urging them to understand the importance of quality, in terms of durability, value, and aesthetic appeal.

Introduction
One of the first impressions that foreigners have in Taiwan is that Chinese workmanship suffers from serious defects. Especially for those who have lived in Japan, the contrast is remarkable. The electrical appliances, furniture, automobiles, and so on are all marred by poor quality of materials and construction. Large-scale construction projects (the most notable being the Taipei subway system) also have been plagued by poor building techniques and disregard for detail. The foreigners' initial impression is that this simply is

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caused by a certain laziness in the Chinese society. But the roots of the "quality problem", as I call it, are more complex

In the 1950's and early 1960's, it was Japan that was seen as the purveyor of cheap, low-quality products. The term "Made in Japan" was one of derision. Then Taiwan took over this role as the manufacturer of low-cost goods; as it assumed this role, it also took over the negative reputation (Pennells, 1994, pp.42-45). Obviously, this negative image continues, as an outside observer will note.

Teaching Design in a Chinese Classroom

I served as a professor of fine arts and design at Ming Chuan University in Taipei, Taiwan for three years, and during that time I saw the problem of quality "in microcosm" — that is, on a small scale but reflecting the larger, societal and cultural problem. In particular, I closely observed the work conducted in the university's "Basic Design" course. This was a mandatory class, taken by all first-year design students; it covered a variety of two and three-dimensional projects, which were developed by the individual instructors. Typically, the "Basic Design" class comprised some thirty students.

When assigned a project, the majority of the students immediately assumed the same approach: finish the assignment as quickly as possible. That became the top priority. One project that I assigned was the construction of a cardboard bridge, a bridge that had to be able to carry a ball across a balcony space at the school. The idea behind the project was how to make something out of cardboard — a relatively light material — yet have it be durable and structurally sound. Rather than carefully construct well-supported shapes and build up the bridge piece by piece, the most common approach taken by these Chinese students was simply to cut the cardboard into long strips and tape them together. The results was not a bridge at all, but just a band of cardboard, barely (or not at all) able to carry the ball across the space. When I commented on the rather poor construction of the piece, the students' response was, "Well, it works, doesn't it?"

Another project involved the construction of maps. It was a relatively straightforward project: construct a two-dimensional map of your neighborhood, on matte board, using only color paper. The project concept was to make students aware of their immediate environment. (A surprising number of students were not even clear about the parks, buildings, and other structures in their own neighborhoods.) Many students carefully put together their maps, using the various kinds of colored paper to denote residential areas, stores, schools, and so on. But, inevitably, the bad habits creeped back in: when it came time to label their maps, most students simply wrote on the maps with a ball-point pen or pencil, with no regard to lettering size or style. I was particularly puzzled by this, for several reasons. For one, the students were all also all enrolled in another course,

typography, which taught them lettering techniques for both Western alphabets and traditional Chinese characters. Furthermore, in all Chinese grade schools, great emphasis is placed on penmanship, and the ability to render Chinese characters well. Of all my students, only two were at all adept at writing Chinese characters with a traditional brush. Finally, all else aside, ready-made transfer letters were quite easy to find in Taiwan — why had none of the students used them?

These "Basic Design" classes had more or less one project every two weeks, but the problems were fairly consistently the same ones, class after class. As a test, I gave the students a relatively simple project: using matte board, construct two boxes. The only requirements were that the box should have a lid that fit well. As an extra "fail-safe" measure, I asked each student to show me the first box or container they made for a quick critique before commencing on the second one. That way, I would be able to catch potential problems in construction and design.

Once again, most of the boxes were of relatively poor quality: the lids did not fit, or the sides of the boxes were simply one piece of matte board crudely bent into shape, rather than being cut and pieced together. Too many students attempted overly complex shapes, instead of simply going for simplicity and sound construction. Even after I had done a critique of the first series of boxes, the problems often re-appeared in the second series.

What was remarkable about this incident, however, was one particular student's project. Her container was extremely well made, circular in shape, with a cleverly designed and fabricated lid. The project stood out in marked contrast to the work of the others in the class. I had noticed this before as well; one or two students in a given class would complete their projects in a careful, methodical way, with great attention to detail. In my observation, these particular students could not be categorized by gender or other classification. They just seemed to be more determined or careful. I would then ask the class as to why everyone couldn't take this approach; I emphasized the fact that I didn't think that these particular students had more "talent" — I just thought that they had more patience. But in the end, there was little improvement in the quality of the work in the class overall. Even peer pressure hadn't worked. It was also noteworthy that a student might at times make a work of extremely high-quality, only to produce sloppy work at other times. Only a handful of these Chinese students created high-quality projects on a consistent basis — meaning that they had somehow internalized the idea of high standards in design and construction.

My conclusions were that the poor-quality work came from a certain fixed attitude in the minds of the students. In no way did I see a lack of talent, because when these students were really pushed, the majority finally were capable of producing at least one excellent

project. Eventually, I developed a partially successful strategy for dealing with the kind of problems I had been encountering. I carefully mandated the materials and methods for each project. For example, I indicated that the students could use no tape in any project — it's too easy, and results in rushed, shoddy-looking projects — and that all parts had to be carefully glued together.

The Larger Lesson

But these classroom problems at the university level are a reflection of deeper issues in Chinese education — and the society as a whole — concerning *quality*. On an classroom level, the problem of quality design and construction stems from Chinese educational methods. Chinese elementary and secondary education still frequently employs pedantic, top-down methods of teaching. The teacher will instruct the students by explaining each step in a given process, without giving students the chance to learn to develop individual creative skills.

Western students are more often given problems to solve on their own, whereby they come up with a variety of solutions. They then learn to pick up the solution which is most efficient, or, in other design projects, most elegant and aesthetically sound. Chinese students, when given only the bare rules for a project, frequently are at a loss to develop design solutions of their own. Their educational background emphasizes emulating the teacher's example in terms of methodology. Sometimes leads to students who have stronger skills among the Chinese than their Western counterparts; but in design, the outcome of the Chinese method is that students fail to develop their own standards of quality and sound construction.

But the lack of quality in the manufacturing sector has other roots in addition to the educational system. In the West, the idea of "quality" developed over several centuries, from the craft tradition in the medieval period in Europe, through the Renaissance, the Scientific Revolution, and the Industrial Revolution. Early on, of course, the Chinese in their long history had a strong craft tradition, producing extraordinarily beautiful works in jade, ceramics, metal, and other materials.

Yet for much of its history, the Chinese have lived as an agriculture society. While the culture displayed, in times past, great talent in technology, indeed preceding the West in the development of gunpowder, metalworking, shipbuilding, and other technologies, it never developed these in any systematic way. As Joseph Needham, the famed sinologist, pointed out, there never was an Industrial Revolution in China as there was in the West (Needham, 1961, vol.7, sec.48-49). Richard W. Hartzell, in his important work *Harmony in Conflict*, a comparative student of Chinese and Western ways of thinking, has also commented on how the absence of such a revolution affected Chinese society and values

(Hartzell, 1988, pp.245-252). Since there was no Industrial Revolution in China, there was never the accompanying gradual development of mass production, quality control, and so on — essentially, all the hallmarks of a society capable of producing high-quality goods in significant quantities.

Certainly, again, on a small scale, the Chinese were quite capable of producing extremely well-made goods. A visit to any collection of ancient Chinese art and artifacts will reveal wonderful pieces, exquisitely executed in various materials. China had an astonishing craft tradition, and even now, Chinese craftsmen continue to produce fine work in ceramics and other media. These individuals, or small groups of individuals, readily produce quality products. But the overall idea that quality is inherently important, that quality is something that a society as a whole can be proud of, seems not yet to have arisen in Chinese society, as it did in Japan, for example. In the past few years, this concept has begun to take hold in Taiwan, with the "Made in Taiwan" promotional campaign. This comprises an effort by CETRA (China External Trade Development Council) to promote Taiwan products abroad (Pennells, 1994), and at the same time shed Taiwan of its image as the producer of shoddy goods.

Quality in the Marketplace and Beyond

But what is more interesting is how this concept — to improve the quality of Taiwan goods — developed. Certainly, it arose in part through two basic and readily understood factors. As more and more Taiwan citizens went abroad to study, they were exposed to the idea that a product must be of high quality, and that quality — not just profit — was something to strive for. The reason for this striving for quality, as found in the West and Japan, is something rather intangible, and will be discussed shortly. In any case, in pure economic terms, the Taiwan manufacturers have come to realize that quality is a key consideration in terms of marketing, especially when going head-to-head with the Japanese. For a product to compete in the market, it has to be of high quality. Indeed, customers are willing to pay more for that quality — thus the appeal of Mercedes Benz automobiles, Rolex watches, and other such goods. It isn't simply "snob appeal"; it is the fact that, simply, they are well-made products. People buy Mercedes Benz automobiles because the company has a reputation for quality, something for which the Germans (if not always accurately) have been known. The Japanese, too, of course, picked up on this fact some time ago, realizing that for the Western market, quality, in terms of good design aesthetics and product durability, was of great importance in terms of influencing the buying decisions of a significant portion of the consumer market.

But what of the aforementioned "intangible" value attached to quality in the West? *Why* do Westerners value this? For one thing, it's a simple fact of economics: for Westerners, at least traditionally, the purchase of a quality product meant that they wouldn't have to

buy it again for a while; this is quality in the sense of durability. Western reasoning has been that it is better to pay a bit more for a truly high-quality washing machine, for example, if that means that one won't have to buy another one for a reasonably long period of time. In addition, for Westerners, the idea of aesthetic appeal is often inextricably linked to the idea of quality. We would all like to buy a "beautiful" product, and for Westerners, that aesthetic appeal comes from the product being well-made.

Extra flourishes or fancy designs don't matter; in fact, the reasoning — at least for the more sophisticated customer — is that those may be hiding some basic flaws in the quality of the product. The design should be simple, as that will reveal the essential quality — in all senses of the word — of the work. Apple's computer and audio products, and Japanese automobiles, for example, have had such great appeal to Western consumers largely because of their elegant simplicity. Also revealing this Western tendency to consider quality as an important value is the number of words in English (both in standard usage and slang) that refer to shoddy goods: "chintzy, "kitsch", "spit-and-gum", "slipshod", "tacky", and so on.

The Chinese concept of *cha bu duo* (差不多) is related to these ideas: the phrase means "so-so", and can refer to a product, process, or action that is done in a rough or half-hearted way. However, the more important point is that *the Chinese do not necessarily attach a negative value to this concept*. In fact, the full phrase is: *cha bu duo jiu haole* (差不多就好了), which means "so-so is good enough". Often a Westerner will make a remark concerning a product, for example: "But the lid does not fit quite right." The Chinese vendor will reply that it is "good enough", employing this expression. This strikes the Westerner as pure laziness, but for the Chinese, it is just that such a desire for precision is not important. If the product work, the Chinese thinking goes, then fine. Hartzell has commented on this attitude towards quality in relation to how the Chinese use written English, and often render it in very approximate ways (Hartzell, 1988, pp.449-458).

Conclusions

Returning to the classroom, we see that the problems faced were several. First of all, the students in Taiwan, for the most part, had never been abroad, and thus had had no exposure to alternative ideas or examples of quality. In addition, the students were all coming from the same culture context — i.e., one that places value on many things (education, family, social harmony, and so on), but with design and manufacturing quality not necessarily being one of them. The Chinese, it must be said, often wonder how Westerners — particularly Americans — give so little thought to the food they eat, and why they eat so much junk! Westerners, in turn, might not understand how the Chinese pay so little attention to the products they manufacture and purchase.

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Finally, a as Western design professor in a Chinese classroom, I had to fight the concept of *expediency*, another Chinese value. Part of the *cha bu duo* mentality comes from the great rush that Chinese society is in, especially in contemporary times. There is frequently a strong desire to "get things done and over with", even if this means cutting corners, often in terms of both quality and safety.

Even given a longer period of time in which to complete a project, the students in Taiwan frequently would just throw something together, declare it completed, and proceed to *xiu xi*, i.e., "rest" or "take it easy" for the remainder of the class time. The only viable design teaching strategy in such cases was to make the students re-do the projects in their entirety.

The critical issue, however, came down to getting the students to feel that quality has some importance in design. On a "marco" level, as in CETRA's "Made in Taiwan" campaign, that is relatively easy: market forces make the need for quality quite apparent. But on a "micro" level, how does a teacher convince a student of this? Punitive measures (such as low grades for projects of poor quality) are largely ineffective. This is because it merely discourages the student, or makes no difference to them. A low grade, as long as it is a passing one, is considered "good enough" by many Chinese students — an example, again of the *cha bu duo* mentality.

What I found more effective in the university design classroom was to work, in a way, within the Chinese methodology of modifying behavior. Whereas a logical explanation or reasoning might succeed with a Western student — "You should make a better quality project because in a real market situation, it would sell better…" — with a Chinese student, this was too hypothetical and distant in the future to be worth taking into account. A more immediate approach was needed. The best way I found was to appeal to a version of the Chinese sense of *mianzi* (面子 "face"), which is much stronger in Asian societies than in Western ones.

One design project in the class involved the construction of a maze-like structure, from cardboard, through a marble would be allowed to roll. The only restriction that I gave the students was that the marble had to traverse the "maze", from beginning to end, in exactly one minute. This is a variation on a classic design project that teaches about the relation of physical or architectural space, structure, and time. Many of the resulting projects in this class were hastily made fabrications of crudely bent cardboard, propped up on chairs at an angle to allow the marble to roll through. Only about half the students made proper stands or supports for their structures.

The point, however, is that I then gathered the students together, and put all their projects on display. As a group, we then had a small competition: we observed how long the marble took to travel through each student's project. In many of the projects, the marble simply stopped halfway, because of some defect in design or construction of the "maze". In the others, the marble traveled too quickly. Only in one did the marble travel uninterrupted, completing its journey in a reasonable 59 seconds. The general failure — that is, the fact that only one project really "won" the competition — created a sense of a "loss of face" or *mianzi* among the students in the class. They now had something to strive for: namely, regaining "face" with their classmates, and with the teacher. This was confirmed by my observation that even after the class period was over that day, the students stayed in the room, trying to fix their projects, and testing the marble's passage through them.

This method of using *mianzi* or "face" as a motivation was not one that I would naturally choose to teach the importance of quality in design. But in terms of cultural context, this may have been one of the most viable one. Eventually, the idea that quality is an important factor in design, as well as in a society in general, may begin to seep into the Chinese cultural consciousness as a whole. In Chinese society, this value will take its place beside the other important traditional values, such as social harmony and respect for the family. Confucius would be proud…

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