

In Between Ha-Ha and Aha!: Technology Designers' Humor as a Way of Creativity in Group Innovation Experience

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Abstract

This paper will explore how the technology designers perceive roles of humor in developing creativity in their group innovation experience; a particular focus on the interplay between Ha-Ha and Aha! and a creative climate will be highlighted. Theoretically, it will take a departure of social-cultural theories regarding creativity as a situated-based activity that also brings together humor and technology design in one framework. Empirically, interviews were carried out with a total of 26 young designers in two cultures of China and Denmark (n=13 from each culture). The data analysis leads to the following findings that the designers think: 1) all humorous people are creative and they are welcome in design project groups; and 2) humor as not only a personality or communication tool but also the outcome of applying creative ideas to design practice. Meanwhile, this study also reveals cultural differences of humor: Danish designers think being humorous aids individual involvement in group work and that humor itself can be a kind of creativity, while Chinese designers think humor is mainly used to maintain harmonious individual relationships with the group and that humor is instantaneous, a one-off ability of using language creatively in ongoing communication contexts. The findings contribute to unpack the black box of humor from a designers' perspective, cross-culturally, and as a contribution to joint studies on humor, innovation, creativity and design in the future.

Keywords: *creativity, humor, design, group innovation, cross-cultural study*

INTRODUCTION

Creativity is evident in many human activities that generate new and useful ideas, including scientific discovery, technological innovation, social innovation, and artistic imagination (Thagard, & Stewart, 2011). Technology design is, undoubtedly, a creative activity. Designers contribute to finding solutions and developing products in a very creative way. Initiative, resolution, economic insight, tenac-

ity, optimism and teamwork are qualities that stand all designers in good stead and are indispensable to those in responsible positions (Pahl, Beitz, Feldhusen, & Gorte, 2007).

Research suggests that creativity can be explained partly by personality characteristics but also by situational variables related to changing or enhancing affective states, which leads to options that consider the interaction of personal and situational variables, as evidenced through the classic

interactionism approach (Amabile, 1996). This approach has been discussed much within a framework of social-cultural theory and a systematic view to creativity has been suggested. In previous studies, such as in Zhou (2012), researchers have increased of how to develop creativity in educational contexts, on the links between learning, teaching, curriculum design, students' creativity, and creative climate development (Craft, 2005). This approach also has been developed in research of diverse contexts including both organizations and educational institutions (Zhou, 2012) by locating it in theoretical frameworks of management (Huy, 2005), learning (Craft, 1995), and economics (Sternberg, O' Hara & Lubart, 1997).

Having fun and to be playful are good reasons to be creative in certain learning processes and innovation environments. According to Zhang (2005), humor is the intentional use of verbal and nonverbal behavior to elicit laughter, pleasure and delight and it is identified as an immediacy. However, humor is not always supportive of positive learning. Appropriate forms of humor are required for creative learning (Wallinger, 1997), so humor should help to build connections between the humorists and other persons (Zhang, 2005). This usually involves accompanying experience of 'Ha-Ha', the laughter as a sign of enjoyment arising in the context of glimpsing an unexpected moment with exhilaration (Parse, 2002). This also involves another accompanying experience that is often called 'Aha!' experience, which has been considered by many either as definitive an insightful solution or as the clearest defining characteristic of insight problem-solving (Shen, et al., 2016). Thus, laughter represents a form of emotional release that comes from the juxtaposition of paradoxes (Huy, 1999).

Given the above, this paper focuses particularly on designers' perspectives on humor in creativity development in their group learning and innovation experience. The study involves 26 young designers, two universities and two cultures—13 students from Northeastern University (NEU) in China and 13 from Aalborg University (AAU) in Denmark. Qualitative interviews were carried out, followed by data analysis, centered on the research questions: 1) How do young designers perceive humor in relation to their creative design experi-

ence in group learning contexts? and 2) How can we understand humor as a culture-related conception according to designers' creative learning experience in China and Denmark? Based on our findings, this study cross-culturally contributes to the interplay between humor, creativity, learning, design and innovation theoretically, empirically and methodologically.

UNDERSTANDING DESIGN, CREATIVITY, AND HUMOR

The literature has many interpretations regarding design as a creative activity (Pahl, et al., 2007). For example, Gero (1996) said that design can be conceived as a purposeful, constrained, decision-making exploration and learning activity. Decision-making implies a set of variables, the value of which has to be decided. Searching is the process commonly used in decision-making. Exploration is akin to changing the ways of thinking problems within restructuring of knowledge. Designers operate within a context that partially depends on their perceptions of purpose, constraints and related contexts. These perceptions change as designers explore the emerging relationships between putative designs and the context and as they learn more about possible designs.

Technology designers operate as problem solvers in the sense they have to solve "open-ended problems", employing creative thinking, problem solving, goal setting and interaction. If this is done in teamwork, participants influence each other's constructive process by influencing, asking questions, arguing, agreeing, and so on. When designing as part of a group, the same processes are activated. Designers find and refine problems, test and evaluate, develop and share creative ideas as a part of problem solving. They are then involved in decision-making, communications and co-ordination. This may create motivation and commitment or the opposite. It depends on the organizational climate—the behaviors, attitudes and feelings characteristic of life in that organization. This constitutes the psychological process of learning. The concrete creative design process and its development are consequently influenced by the context and culture in which they are situated.

INTERPLAY BETWEEN HUMOR AND CREATIVITY

When humor stimulates a positive emotion, it can lead to a momentary expansion of the thought-action repertoire. It therefore follows that such an expansion could lead to a greater sense of self-efficacy in dealing with specific problems or stressful events (Vilaythong, Arnau, Rosen, & Mascaro, 2003). So humor is a key element influencing or reflecting a creative climate (Romero & Cruthirds, 2006). As underlined by Teslow (1995), laughter in the learning context opens paths of communication, loosens fixed positions and can enable students and teachers to perceive ordinary information in unusual patterns and connections. We believe that liberating laughter, the response to a joyful emotional experience (as opposed to the punishing laughter that generates frustration and inappropriateness), can be a mark of or means to a positive and creative learning environment. Fredrickson (2001) argued that people see positive emotions as a signal that their environment is safe and they may respond to this signal by being more exploratory and playful, thus allowing their minds to become more creative. Humor has also been argued to be an attention-gaining strategy (Teslow, 1995). The most general description of what is required to gain attention is the presentation of a sudden change in stimulation, an arousal. Interestingly, suddenness is an important aspect of humor, as all theories of humor place importance on sudden, unexpected changes or cognitive shifts (e.g., being caught off guard, or noticing a verbal or visual incongruity) (Morreall, 1983).

Florence (1993) saw humor in itself as a form of creativity. As Wallinger (1997) discussed, seeing the humor in a given situation requires the ability to view it in a different light, to reassemble aspects of it from a different point of view. This skill is also required of those who demonstrate creativity and humor, creativity and intellect often go hand in hand. Humor and playfulness, for example, are proposed as a common factor of creative climate in Ekvall's research (1996)—“the perceived ease and spontaneity, a relaxed atmosphere with laughter and jokes”.

UNDERSTANDING HA-HA AND AHA!

Briefly, Ha-Ha means when fun is found that therefore fosters a kind of positive mood. At the individual level, fun as an emotional state and process relates to the motivated search for pleasant experiences and aesthetic appreciation, and this constitutes another trait of emotional intelligence (George & Zhou, 2007). At organizational level, fun and laughter have also been argued as necessities in workplace; they grow joyfulness and enjoyment that may help to attract new employees, reinvigorating veteran employees, strengthening co-worker bounds and sparking creativity and climate for innovation. Laughter opens our energy channel and places us directly in the present moment, where memories of the past no longer burden us, and speculations about the future seem irrelevant (Steven, 2004). Thus, when Ha-Ha happens, it usually releases oneself and informs other people that all is going well and the environment is unproblematic, thereby prompting looser, less systematic, and less effortful information processing; greater use of integrative top-down strategies, simplifying heuristics, schemas, and scripts; and more expansive, divergent thinking, novelty, and playfulness (George & Zhou, 2007).

Some studies have discussed that Ha-Ha relates to a humor context (Garner, 2006). As mentioned by Cornett (1986), laughter's relaxation possibilities have direct relevance for many stressful school situations, such as test taking. Using a couple of humorous items on the test, casual joking with students right before the test, and structured student-led joke sharing before the tests or at breaks during long tests are tension-reducing techniques teachers can use. Birch and Clegg (1995) regarded Ha-Ha as a kind of creativity in humor and as an unexpected combination of events where normal relationships are abandoned. Southam and Schwartz (2004) highlighted the roles of laughter and humor in facilitating students' learning in occupational therapy education. They pointed out that studies on brain chemistry indicate when humor and laughter happen, the endorphin release, which many facilitate such good feelings in a person that he or she will continue to seek this 'high' through future creative efforts. Also, individuals in an 'up' mood tend

to be more creative problem-solvers and an increase in bonding among group members is seen. To be a creative thinker requires more than knowledge; it requires an attitude or outlook that encourages manipulation of information for new possibilities. The use of humor and laughter allows participants to try various ideas, see new patterns and connections, and possibly come up with something unique (Southam & Schwartz, 2004).

As we know, a paradigmatic example of the 'Aha!' experience in the history is Archimedes' 'Eureka!' Archimedes ran home from the baths naked shouting 'Aha!' or 'Eureka!' when he had worked out the solution to the 'Golden Delicious' problem (Shen et al., 2016). Accordingly, 'Aha!' is an inspiring moment and an emotional expression of the unpredictability of creativity. Gero (1996) described that creativity is involved with the production of an unexpected result through the confluence of two schemas. The first schema provides a set of routine expectations; the second schema is needed to understand the unexpected result. This also has been highlighted by Parse (2002): Aha! indicates the discovery that arises in journeying with unfamiliar through creative conceptualization and formal research. Creatively conceptualizing is synthesizing through dwelling with ideas and crafting anew. Formal research is rigorous adherence to a qualitative or quantitative design with the goal to understand lived experiences or causal and associative relationships. The Aha! is a surprise find, not forced. It springs forth in the wake of calm-turbulent drifting with an availability to see the possibilities. In addition, happiness is the most typical psychological feature, whereas the feeling of ease is the closest cognitive characteristic of the 'Aha!' experience (Shen, et al., 2016).

Furthermore, 'Aha!' comes with the moment when the emergence of creativity happens. As Tosey (2006) described that emergence involves unpredictability, new forms coming out of apparently disconnected, even irrelevant, thoughts and sensations, and an inability to force or control the outcome, it does not seem to be a completely random thing. So Gero (1996) suggested emergence allows for the introduction of new behaviors and new functions and it is the equivalent of a creator refocusing his or her attention and / or reinterpreting

the results of his or her actions so far. Similarly, Tosey (2006) emphasized emergence denotes the process through which novel ideas, social forms and patterns of behavior arise in an uncoordinated way through human interaction. It is a powerful concept that can help us consider how creativity happens in practice. In this sense, Sawyer (2003) argued that creativity is an emergent process that involves a social group of individuals engaged in complex, unpredictable interactions. Briefly, 'Aha!' is a hint of emergent process transforming implicit ideas to an explicit discovery.

HUMOR AS BEING CULTURAL-DEPENDENT: CHINESE HUMOR AND DANISH HUMOR

Humor, like creativity, is also cultural-dependent. As Zhang (2005) suggested, although the cognitive and psychological processes of humor mechanisms are fundamentally similar across distinct cultures, cultural expectations and preferences largely color the perceptions, interpretations and evaluation of humorous incongruities and arousals in content, target and style.

According to the literature (Yue, 2010), humor was first documented around 2500 BC in China when the first Chinese poetry and literature appeared. Traditionally, humor was used in a rather latent, suppressed manner in Chinese culture. For example, the poet Qu Yuan aptly described the traditional Chinese concept of humor as deep, remote and silent. From a historical perspective, Chinese humor has mostly consisted of telling jokes and performing funny shows. Humor has traditionally been given little respect in Chinese culture—Confucius once ordered the execution of humorists for having given an "improper performance" before dignitaries in 500 BC. Lin Yu-tang translated the term 'humor' in the 1920s and it has become increasingly popular in China. During the 'Cultural Revolution' (1966-1976), however, humorists of various kinds were criticized and even prosecuted. Since the 1980s, humor has been rehabilitated as an important element of creativity, personal charisma and social harmony. However, humor has rarely been studied in China.

As with Chinese humor, the specificities of Danish humor are often mentioned in humor

Table 1. Main Interview Questions

No.	Interview Questions
1	In your project work experience, which kind of environment stimulates positive emotion for developing new ideas?
2	Is there anyone who is very humorous working with you?
3	What is humor? Can you provide a personal definition?
4	In your daily life, how did you learn humor?
5	Do you like humorous people? Why or why not?
6	Do you think of yourself as a humorous person? If you are, on which occasions and how are you humorous?
7	Do you think there is any need for humor in the study of design?
8	How do you think of the relationship between humor, emotion and creativity and learning?

research, but seldom explained in depth in studies written in English. In a study by Lundquist (2014), Danish humor (as used in professional settings) is judged as ironic, self-ironic, sarcastic and direct, with no limits or taboos. Danish people have a low degree of gerontophobia, the fear of being laughed at. These ideas might be related to the Danish philosopher Kierkegaard, who integrated humor and irony as significant components in his philosophical system. He discussed irony in his dissertation, *On the Concept of Irony With Constant Reference to Socrates* (1841) and later incorporated irony in his writings, to distance himself and undermine his own authority as an author, placing responsibility for the existential significance derived from his texts squarely on the reader. The point of placing responsibility on the individual is in line with the individualism that is often seen as a characteristic trait of Danish national culture (Lundquist, 2014).

The lack of research on humor in both China and Denmark highlights the need for a cross-cultural study and especially the consideration of designers' perceptions on humor in their learning experience and their interplays with Ha-Ha and Aha! that may provide conditions of an exploration of deeper insights. In this sense, this paper carried out empirical work by interviews with young designers from both China and Denmark.

RESEARCH METHOD

As mentioned previously, the research context of this study involved two universities—Northeastern University (NEU) in China and Aalborg University (AAU) in Denmark. All participants (n=26) in this study are young technology designers coming from

student project groups in Industrial Design in their 7th semester and group interviews were conducted (13 from 3 groups in Denmark and the same in China).

All the interviewees were invited in the first instance and participated voluntarily in the interviews. A capital letter (C or D) and a number (from 1 to 13) were used to mark each interviewee in data collection. This means interviewees from China were marked from C1 to C13 and interviewees from Denmark were marked from D1 to D13. Each interview lasted around 40 minutes and was recorded. The interviews were semi-structured, allowing in-depth follow-up of initial responses to questions asked by the interviewer. Many open questions were used to find out design students' perceptions on humor. These were, however, developed from the following main guideline questions (see Table 1) :

All the interviews were transcribed as text. Then content analysis was employed, a process by which the “many words of texts are classified into much fewer categories (Weber 29, pp.15)”. Categories are usually derived from theoretical constructs or areas of interest devised in advance of the analysis (pre-ordinate categorization) rather than being developed from the material itself, though referencing the empirical data may in turn modify the categories (Cohen, Manion, & Morrison, 2007). The conclusion or the new theory generated thus emerges inductively from the data collection and analysis and appears as the final finding.

DESIGNERS' PERCEPTION ON HUMOR

In both cultures, young designers think that an

open and flexible group facilitates individual creativity and such a context also gives birth to humor and atmosphere of Ha-Ha. This is in line with discussions in many previous studies, such as Cayirdag and Acar (2010) and Grissen (2008), which emphasized that when group openness is encouraged, members may feel psychological safety in a friendly environment where diverse group members are more likely to suggest novel ideas, criticize others' ideas, challenge the status quo, ask naïve questions or admit mistakes, because they lack fear of ridicule or more subtle forms of interpersonal rejection (Zhou, 2012). We found in the interviews that most interviewees in both cultures were satisfied with their group-working atmosphere and the individual's positive emotion was stimulated:

- "I think it is good inspiration [of positive emotion], because we four have similar backgrounds [in industrial design] and we are working on different parts in the project, but we know the differences (between diverse parts) and the working processes. Sometimes we had some new ideas to combine everyone's work." (Interviewee D6)
- "We are working in a positive and open group. It means we all are very happy and every one prepares for his [or her] job very well. We do not have many complaints that would kill most of the creative ideas." (Interviewee C2)

Group openness also encourages informal discussion, talk or chat and even social activities outside project work. It then provides conditions for generation of humor—both Danish and Chinese designers said humor occurred in free situations, such as in a supervisor meeting, group discussion, during breaks and even on the way to library or canteen. Humor, from the design students' point of view, can be regarded as a tool for creating closer relationships with others, by making them laugh. They think that responses to humor differ from person to person, as people have different reactions to joking. And they agree that humor is an instantaneous phenomenon, which is always an unexpected result of conversation. So sometimes the emergence of a joke, Ha-Ha, or funny behavior

changes the planned track of discussion, thereby generating unexpected creative ideas, an Aha! moment:

- "Just like [a case that happened] several days ago—we had the task of designing a slogan for a restaurant. We were very tired of discussing the design plan, focusing on the good appearance of handwritten words in the slogan. But we could not find a satisfactory solution. Then one of us suddenly began to pretend he was eating very delicious food. He looked very funny and made us all laugh happily. Then we realized we should move towards integrating the feeling of delicious flavors into the design. Yes, this was stimulated by humor." (Interviewee C10)

As Gero (1996) suggested, emergence allows for the introduction of new behaviors and new functions and is the equivalent of designer refocusing their attention and / or reinterpreting the results of their actions so far. He also argued that creativity is involved with the production of an unexpected result through the confluence of two schemas. The first schema provides a set of routine expectations; the second schema is needed to understand the unexpected result. The unexpected result can produce (or be produced) in a number of different ways such as humor. Meanwhile, Sawyer (2003) found that collaborating groups have the key characteristics of emergence, forming "collaborative emergence", meaning novelty is a collective process and involving the dialogues between actors and audience in a way of constructing the unexpected meaning. In this sense, Sawyer (2003) suggested that creativity is an emergent process that involves a social group of individuals engaged in complex, unpredictable interactions. Thus, to link these points and the interview findings discussed above, this study provides the empirical evidence of emergence of creativity from a humorous approach.

The designers in this study then addressed "healthy" humor, humor that should be harmless to others and positive to their emotion and group atmosphere. In other words, they welcome pleasant Ha-Ha when they laugh instead of 'laughing at others'. They considered "a great sense of humor" to be

a charming personality trait or inborn gene in some people. Thus, in the designers' eyes, not all creative people are humorous, but all humorous people are creative. Accordingly, some of them did not think they were good 'creators of laughs' or Ha-Ha in the group, but they were very good 'laughers'. They also thought there should be a balance with serious work and inflexible atmosphere—if humor brings too much leisure to group work, it will waste time, which destroys the group's work plans.

It was also very interesting to find that, in both cultures, supervisors like to express humor when sharing with design students their experiences of how they dealt with learning challenges when young. In such a way, the supervisors were behaving as "learning experts". This was helpful in stimulating the group dynamic and individual confidence when faced with difficult problems in project work. We might indeed say that supervisors are fond of "acting as learning experts" through use of humor in practicing supervision principles and encouraging design students in "letting go" and "learning by hands-on experience":

- "He [the supervisor] used this way [humor] to facilitate us. He told us how he was foolish when he was young and we were much cleverer than him. I think it [the supervisor's humor] is an important thing to get group work moving. This is also a reason that we like him." (Interviewee D4)
- "He [the supervisor] joked with us saying when he first started to study design, he was like a dancer whose feet were in chains. This inspired us to think freely, to be open to expressing a designer's ideas on the product." (Interviewee C5)

The appropriate use of humor is beneficial to group creative work and to building good relationships with others—something mentioned by designers in both cultures. And as young designers, the interviewees thought humor should also be a meaningful designing style showed by their products. In this sense, humor is the "outcome" of applying creative ideas to design practice, helping to increase novelty of product and therefore attract more purchasers. "Humorous" design products

may also enhance public awareness, such as on sustainability, or deliver some positive social values, such as loving others. So more precisely, humor, thus, in the minds of design students, is not only a "communication tool" or "personality" but also a "social creative path towards well-being". Both Danish and Chinese students gave examples:

- "If a product is humorous, it brings not only fun but also reflection on some topics that leave a deep impression on the audience. Thus, humor can be a power stimulating others to rethink the meaning behind the product itself. This means to design a humorous product is much more than to design a point of laugh." (Interviewee C7)
- "I saw a product—a lamp. It was an expression of humor, I think, because its model is very funny, but it tells people how to save electricity. So, it would be wrong to say this product is only a joke." (Interviewee D13)

So, as seen by designers, humor also involves their social responsibility. Humor becomes a foundation for this. This means that industry basically needs "humorous designers" who have good communication skills to build collaborative relationships with others for group creativity. It also needs "humorous design products" that manifest creativity and embody designers' social responsibility. Thus, humor is an integral element of a designer's life that must not be overlooked.

HUMOR AS BEING CULTURAL-DEPENDENT AMONG DESIGNERS

Both theoretical work and empirical evidence in this study suggest that humor is a cultural-dependent concept. One of the differences in designers' perception of humor between China and Denmark is related to creativity of the 'humorists'. As mentioned previously, in both cultures, the young designers agree that not all creative persons are humorous, but all humorous persons are creative. Chinese designers think if someone is humorous, it is mainly due to his/her excellent verbal skills and creative use of Chinese language in ongoing conversation contexts. But Danish designers think that

a strong sense of humor is an instant ability to grasp a creative idea or look at something from a different viewpoint with a comical result.

- “It [Chinese humor] is a personal ability of using the language in expressing a special meaning in the immediate communication or telling jokes stimulating laughs. So, humorous people are mostly good at Chinese language.” (Interviewee C10).
- “Someone who makes something very funny but with a positive meaning. He [a Danish humorist] is very creative in finding something that the others have not noticed or he is very imaginative in thinking about some problems differently from the others” (Interviewee D13).

In other words, Chinese designers think humorous people are creative in making a new form of discourse, while Danish designers emphasize that being humorous means seeking for a new content/reason of fun. Such a difference may be helpful in understanding the points discussed in one of Chen’s early studies (1982), where he said Chinese jokes, from their very beginning, tried to express both “denial humor” (critical of reality) and “complimentary humor” (complimentary of reality), which is different from the “pure humor” expressed by Western jokes (just making people laugh). So Chen (1982) suggested that Chinese humor places great emphasis on “expressive subtleness and appreciative delicacy” and as such, Chinese jokes tend to be highly dialectic and aesthetic. We might therefore also expect Chinese jokes to make great play on words. As Lee and Ang (2003) pointed out, word suggestiveness can be particularly relevant in ideographic writing systems such as Chinese. In the English language, the mental code for verbal material seems to be phonological, while in the Chinese language, phonemic information is used much less. Instead, Chinese characters seem to be encoded visually and mapped on meanings directly. So a new meaning for a Chinese word relies on a new semantic association between words. This suggests that Chinese jokes are made more accessible to the audience, if the jokes are able to bring word suggestiveness of fun in delivery of newer meaning.

In comparison with Chinese designers, Danish designers think humor itself can be seen as a kind of creativity. This provides evidence for previous theories (Florence, 1993; Wallinger, 1997; Torrance, 1970), as discussed earlier in this paper. As creative behavior involves much more than developing funny jokes, this further indicates that Danish designers locate “humor” in a broader scope than Chinese designers, who mainly focus on a narrower sense of “verbal humor”. We might add that Danish designers are more aware of humor in their daily life than Chinese designers. As Yue (2003) argued, Chinese people have never lacked humor and have been highly productive and creative in humor production and comprehension. Unfortunately, due to various cultural, sociological and political reasons, the Chinese have been highly cautious, conservative and critical regarding humor appreciation. There is a difference between China, which has developed a national culture of rigid hierarchy from a traditional society and Denmark, molded into a pragmatic, egalitarian and consensus-seeking society. As De Gruyter (2014) noted, work relations among Danes are typically “Scandinavian”—organizations are horizontal, flat, with low power distance. He found that among Danish people, humor, irony and self-irony are forms of humor easily accepted. This social environment in Denmark lays the foundation for Danish designers having a broader comprehension of “what humor means”.

Another difference between the designers’ perceptions concerns the aim of being humorous in building a creative, group learning environment. Both Danish and Chinese designers agree that humor can be a communication tool, contributing to building closer relationships with others. But those Danish designers who thought of themselves as humorous said that humor served to allow others get to know themselves better, to trigger a atmosphere encouraging group members to learn from each other, or to share fun with others. For their Chinese counterparts, the aim of being humorous was principally to maintain a “harmonious” relationship with others and avoid group disagreements.

- “Personally, I always give sufficient respect to the others. Sometimes I make critical

comments on others' ideas but seldom use a joke. Group harmony requires us to have more positive suggestions than disagreements with others." (Interviewee C5)

This is in line with what has been much discussed in relation to differing influences of collectivism and individualism on individuals' behavior in group contexts (Goncalo and Staw, 2006). It is well known that the traditional Chinese social system is a collective society, which is rather defensive and discouraging of independence. It stresses the importance of social harmony that can be achieved through compromise, moderation and conformity. So among Chinese designers, there is a greater emphasis on meeting a shared standard so as to maintain harmony in one's relationships to the group (Kim, 2007). As group disagreements are not welcome, the high level of group conformity, at times, is a killer of individual creative ideas. By contrast, in individualistic Danish group, people are viewed as independent and possessing a unique pattern of traits that distinguish them from others. Such groups may at times appear to be divisive, even unruly to the extent of increasing group disagreement, delaying decision processes and decreasing creativity in the collaborative context (Goncalo and Staw, 2006).

IMPLICATION FOR FOSTERING CREATIVE DESIGNERS

Based on the results of this study, we now go on to reconsider, in a general sense, how to facilitate the learning process of design students and teaching creative designers by integrating humor into learning environments in the future.

Firstly, from a cross-cultural perspective, humor is better defined as being both cultural-general and cultural-specific than by saying 'humor is cultural-dependent'. Both Danish and Chinese designers had many common views on humor, as well as different aims in being humorous and different approaches to conceptualizing humor. Relating this to teaching design students, we might ask how to use appropriate humor that will meet the common/diverse needs of intercultural student groups? And how to use humor to help designers (in multicul-

tural group contexts) overcome cultural shock when engaging in group work?

Secondly, humor is an emergent phenomenon that may trigger development of creative ideas, which might also generate emergence in group work. Along with fun, healthy humor gives groups a more comfortable and enjoyable learning atmosphere, where design students spark creative ideas, full of randomness, playfulness and imagination. This also brings more interplay between routine and non-routine ways of thinking when problem solving and facilitates group engagement into deeper learning. Thus, humor adds more positive value to the creative process and creative climate. Consequently, in the learning environment, strategy should focus on learning process rather than on outcome assessment.

Finally, for young technology designers, humor is regarded as one of the elements of designing products, rather than as a personal trait, a communication tool or a way of having fun. This calls for humor to become a part of learning culture in design education. Undoubtedly, humor is language-related. It involves both a narrow sense of thinking language as a communication tool, as in the case of 'verbal humor' in China, and a broad sense of thinking language as a mind set in building a learning community, as in the case of 'funny humor' in Denmark. So as teachers, how to better understand students' "language of humor" (locally and internationally) and how to integrate humor into a foundation of a creative learning community where young designers are stimulated by positive emotion in a collaborative learning process, freely share creative ideas with peers and develop creative products? Humor, in short, is set to be a key pillar of technology designers' social identity and their social responsibility, underpinning their social positions in developing creative industries. This calls for more research into the links between design, creativity, learning and humor in the future.

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