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Towards harmonious East-West educational partnerships: a study of cultural differences between Taiwanese and Norwegian engineering students

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Abstract

The collaboration activities between educational institutions in the East and the West are on the increase as an increasingly globalized economy requires graduates to have the skills to work across cultural divides. Such collaborations are difficult and require patience. One challenge is that students or teachers may have misconceptions about aspects of the other culture that may cause problems. This study sets out to identify what values students in typical Eastern and Western societies associate with a good student, good student behavior, good teachers and good lectures with the purpose to identify discrepancies. This study is based on the results of a pair-wise ranking questionnaire completed by 233 Taiwanese and Norwegian students of both engineering and non-technical subjects. The results confirm some established beliefs regarding culturally related differences. However, several issues were found to be culturally neutral, and cultural differences were identified for several issues that were predicted to be culturally neutral. The results of this study may be useful to educators involved in East-West internationalization.

Towards harmonious East-West educational partnerships: a study of cultural differences between Taiwanese and Norwegian engineering students

The global economy is becoming increasingly important (Kumagai & Sweet, 2004). Many engineers work on multi-national development projects. These professionals need international competence, experience and the abilities to effectively interact with colleagues from totally different cultures. Consequently, educational institutions are increasingly embracing internationalization, which usually involves teacher and student mobility and the development of joint programs. Exchange schemes such as Erasmus that previously were limited to countries in the European Economic Zone have recently been extended to include countries as far as China through the Erasmus Mundus program.

Educators involved in internationalization activities may recognize the many administrative challenges such as the difficulty of encouraging student and staff exchange participation, overcoming incompatible education systems, semesters and grades, integrating visiting students in the home environment (Nilsson, 2003) and obtaining relevant and updated information for outbound students. This study addresses challenges in the classroom. When two different cultures meet, cultural differences may lead to misunderstandings and problems between students and teachers, among students and among teachers (Jian, Sandnes, Huang, Law, & Huang, 2009; Sandnes, Huang, & Jian, 2006). With the adequate insight, educators may avoid both misguided assumptions and counterproductive pedagogical decisions.

Two culturally dissimilar student populations are studied, namely Taiwanese and Norwegian students, as these are coarsely representative of what are often stereotypically referred to as Eastern and Western students. Although not identical, the Norwegian

society is similar to most societies in northern Europe, while the Taiwanese society is similar to most Confucian societies in South East Asia (Jian, Sandnes, Huang, Huang, & Hagen, 2010). Moreover, a cultural comparison between Taiwan and Norway is particularly interesting as these countries have very similar GDPs with a ranking of 23 and 24, respectively (CIA, 2008). Further, Norway and Taiwan both have one of the worlds' highest human development indices of 0.968 and 0.932, respectively (UNDP, 2008).

Background

Much of the literature on East-West educational collaboration focuses on Western teachers' interaction with Eastern students (Bailey & Herman, 1991; Sandnes et al., 2006; Wan, 2001; Yue, 2007). Eastern students have been seeking education in Western countries for decades where the common motivations have been avoiding undesirable conditions in the students' home countries and the prospect of obtaining a good education and a good job (Chirkova, Vansteenkisteb, Taoa, & Lynch, 2006).

Differences in culture becomes an issue when teachers interact with students and their families (Wan, 2001; Xie, 2003). British teachers have been found to focus on macro aspects of teaching with errors an integral part of the process, while Chinese parents focus on micro aspects of education such as achieving perfect test scores (Ran, 2001). Western educators often regard Chinese students as passive and plagiary, while Chinese students often perceive Western teachers as unprepared, in lack of authority and not fulfilling the role of the expert (Aguinis & Roth, 2003; Gieve & Clark, 2005; Kennedy, 2002; Smith & Smith, 1999). The ideal Western teacher is dynamic and able to stimulate discussion and interactivity, while the ideal Chinese teacher is an expert in the

field and is a moral role model. Chinese students' perception of teaching quality is also found to be more closely linked to teacher personality than that of Western students (Ting, 2000). A teacher's effectiveness in the classroom is also believed to be related to the teacher's human sentiment, moral character, prestige, harmony and leadership (R. Chan, 2002).

Western exploratory learning through trial and error is viewed by some Chinese as haphazard and unprofessional. The Chinese are taught to learn by copying the masters to reach perfection. However, that whether Chinese students are more plagiary than Western students is disputed (Jian, Sandnes, Huang, Cai, & Law, 2008).

Hofsede's framework for assessing cultures

A widely cited framework for assessing cultures is Hofstede's five dimensions of culture (Hofstede, 2003; Hofstede & Hofstede, 2004). This framework is supported by a solid body of data collected across several decades, of which a subset is depicted in Figure 1 (Hofstede & Hofstede, 2004). The graphs show the mean and standard deviation of Hofstede's five indices for a selection of culturally related Eastern and Western countries represented by Taiwan, Hong Kong, China, South Korea and Japan, and Norway, Sweden, Denmark, Finland and Netherlands, respectively.

Power distance addresses how a society accepts unequal distribution of power. In a society with a low power distance, people are more equal than in societies with a large power distance (Hofstede & Hofstede, 2004). Figure 1 shows that the power distance in Taiwan is larger than in Norway. Teachers in Taiwan generally dress more formally than teachers in Norway. Taiwanese teachers are expected to dress formally to confirm their authority. Moreover, student representative organizations have more power in Norway

than Taiwan. Norwegian student representative organizations even have seats on university steering committees.

<Insert Figure 1 approximately here>

The second index, individuality, addresses whether the individuals of a society act individually or collectively as a group. In an individualistic society, individuals focus on themselves. Figure 1 shows that Norwegian society is individualistic, while Taiwanese society is collectivist. In Taiwan, important decisions including study matters are often taken collectively. In Norway, students have more power or influence over their own decisions, and talents and interests are often used to select direction of study. Motivation has also been connected to individualism as students with intrinsic motivation, such as personal interest in mathematics, score higher than students with extrinsic interest, that is, family oriented motivation (Chiu & Xihua, 2007; Law, Sandnes, Jian, & Huang, 2009).

Next, the third index addresses masculinity versus femininity. A masculine society is competitive while a feminine society places emphasis on relationships and quality of life. Figure 1 shows that Taiwanese society is masculine, while Norwegian society is feminine. The Taiwanese education system is very competitive. Students sit university entrance exams where the results are used to nationally rank the students. Students must score high on this ranking list in order to be admitted to the prestigious universities. In Norway, students are free to choose university and everyone has a reasonable chance of studying at a top 100 university. Only a few specialized subjects, such as medicine, are highly competitive. Moreover, faculty in Taiwan must survive a competitive tenure system, while in Norway the rights of the faculty are protected through legislature and a strong union.

The fourth index, uncertainty avoidance, summarizes how members of a society manage uncertainty; that is, whether uncertainty is avoided through rules and religion, or whether uncertainty is accepted. Taiwan is more uncertainty-avoiding than Norway. For instance, student participation and in-class discussions are encouraged in Norway. In Taiwan, the teacher leads the proceedings. When the lecture is well structured and the teacher is in control, uncertain situations are avoided. Student participation may provoke unpredictable situations (Sandnes et al., 2006).

The fifth index, long term orientation, describes the degree to which societies are oriented towards future rewards involving characteristics such as thrift and perseverance. The opposite, short term orientation, is characterized by an emphasis on the past and the present. In Taiwan, studies are important as one may reap the benefits of the efforts in the future through a good career. In Norway, students are more likely to study a topic they are interested in irrespective of future job prospects.

Research questions

This study set out to uncover how students with different cultural backgrounds perceive themselves and their teachers. In particular, the study addresses how students rank qualities of good students and their behavior, qualities of good teachers and good lectures.

It is suggested that students generally prefer teachers to be knowledgeable, enthusiastic, approachable and friendly (Voss, Gruber, & Szmigin, 2007). In a cultural context, it was predicted that the Taiwanese students would show a stronger preference for conservative teacher characteristics than Norwegian students. According to Confucian traditions, teachers must live up to society's expectations of their responsibilities.

Characteristics of a good teacher are here identified as being an expert on the subject, caring for students, having the ability to communicate, delivering in-class performance, stimulate students' interest, being available outside of class and providing feedback on coursework. Of these, it was predicted that the Taiwanese students would show a preference for teachers who are experts, who care for students and who are available outside of class. The respect for the authority of experts, that is, someone that knows more than you, is a power distance trait. Moreover, teachers' care for students is a trait of the Confucian power hierarchy where the teacher is responsible for the student the same way a father is responsible for his son, or an elder brother is responsible for his younger brother (Phillips, Lo, & Yu, 2002). The Taiwanese teacher is a role model that is responsible for the students and the students tend to expect their teacher to provide advice, while the individualist Norwegian students are adjusted to take care of themselves. Next, to be available outside of class and provide help is part of collectivist thought of being there for the collective. Moreover, it was expected that the Norwegian students would show a preference for teachers who stimulate their interest in the topic. Ability to stimulate students' interest in a topic is important for students from individualistic societies that rely on intrinsic motivation. The provision of timely feedback on coursework, being a good communicator and performing in class were all considered culturally neutral characteristics.

Next, it was predicted that Taiwanese students would prefer conventional lectures while Norwegian students would prefer a dynamic format. Characteristics of a good lecture were identified as one that provides knowledge, motivation and an alternative view from the textbook, keeps students' attention, and contains the use of audio visual

aids and in-class discussions. Of these, it was predicted that the Taiwanese students would indicate a preference for a lecture that keeps students' attention, makes use of visual aids and provides knowledge. The ability to keep students' attention is important if the students are extrinsically motivated (collectivism). Moreover, the clever use of visual aids is one way of achieving just that (Apperson, Laws, & Scepansky, 2006; Susskind, 2005). Knowledge can be a tool to maintain power distance. Further, it was predicted that the Norwegian students would indicate a preference for in-class discussions, lectures that provide alternative views from the textbooks and motivate learning. In-class discussions are easier to achieve in an uncertainty-accepting environment, and it is often claimed that Chinese Heritage Students are passive in class while Western students are believed to be more active and more likely to take initiative (S. Chan, 1999; Watkins, 2000). As for alternative views from the textbooks, these can contradict established facts and hence can be an uncertain threat to knowledge of authority. Alternative views are therefore more accepted in environments with a low power distance that accept uncertainty. Intrinsic motivation is more important in individualistic societies than in collectivist societies that are believed to more heavily rely on extrinsic motivation.

Key characteristics of a good student were identified as someone who does well in exams, makes few errors, is curious, has good memory, is creative, is independent, can collaborate, is observant and is knowledgeable. It was predicted that the Norwegian students would indicate a preference for curiosity, creativity and independence as these are all individualistic. As for the Taiwanese counterparts, it was predicted that Taiwanese students would indicate preferences for students doing well in exams, having the ability to collaborate, being knowledgeable, having good memory and making few errors. A

student who does well in exams and makes few errors is competitive and hence masculine. These predictions are also consistent with the literature that describes the memorization-based exam culture among Chinese Heritage Students (S. Chan, 1999; Phillips et al., 2002; Ran, 2001; Watkins, 2000). Collaboration is considered a collectivistic activity. Good memory and knowledge is useful for maintaining a high position of authority which can help establish or maintain a larger power distance. Being observant was considered culturally neutral.

Finally, key characteristics of good student behavior were identified as asking questions in class, not disturbing teachers, being polite, helping classmates, studying hard and helping the teacher. It was predicted that most preferences for specific student behavior could be attributed to the Taiwanese students, namely not to disturb the teacher, being polite, helping classmates, studying hard and helping the teacher. Not disturbing the teacher and being polite signals power distance. To help classmates and to help the teacher are collectivist activities. Studying hard is long-term oriented as it is an investment of effort whose rewards may be reaped in the future. Asking questions in class was the only value predicted to be preferred by Norwegian students. Questions confront and thus add uncertainty as the students' questions may cause embarrassment for the teacher if he or she is unable to provide an answer. All the predicted preferences are summarized in Table 1.

<Insert Table 1 approximately here>

<Insert Figure 2 approximately here>

Method

Material

A questionnaire based on pair-wise comparisons for ranking of issues was developed for this study (see Figure 2). The first part of the questionnaire asked the respondents to provide demographic information including sex, age, level of study and discipline of study.

Next, students were asked to rank characteristics of a good teacher, namely (1) being an expert on the subject, (2) caring for students, (3) being able to communicate, (4) delivering satisfactory in-class performance, (5) being able to stimulate students' interest in a subject, (6) being available outside of class and (7) being able to provide rapid feedback on coursework.

Moreover, students were asked to rank attributes that characterize a good lecture, namely (1) providing useful and correct knowledge, (2) inspiring and motivating the students, (3) providing an alternative view from the textbook, (4) keeping students' attention, (5) using audio visual aids and (6) activating in-class discussion and student-teacher interaction.

Next, the focus was shifted onto the students and the students had to take a standpoint of what is typical of a good student. The following attributes were included: (1) ability to perform well in exams, (2) ability to avoid errors, (3) curiosity, (4) ability to memorize, (5) creativity, (6) independence, (7) ability to collaborate and (8) ability to observe and assimilate knowledge.

As a follow up, the students were asked to voice their opinions on good student behavior. Attributes included the following: (1) asking questions in class, (2) not disturbing the teacher, (3) being polite and well behaved, (4) being helpful to classmates, (5) studying hard and (6) helping the teacher.

Each part listed all pair combinations with each pair on a separate line where the respondent had to choose between one of the two choices, or tick both if the respondent viewed these as equally important. The pairs were shuffled into random order and the item pairs were organized such that they appeared approximately the same number of times on the left and the right side.

The initial questionnaire was designed in English and then translated into Norwegian by the Norwegian author and into Traditional Chinese by a teaching assistant, and checked by the other Taiwanese authors. Moreover, a small pilot was run which uncovered minor language problems that were eliminated before the questionnaire was deployed.

Cronbach's alpha for the four blocks of pair-wise questions were 0.97, 0.95, 0.96 and 0.93, respectively, suggesting that the internal consistency reliability of the questionnaire is high.

Respondents

A total of 221 university students responded to the questionnaire, of which 33 responses were discarded. The respondents comprised 30.3% females and 69.7% males. Of these, 123 students (*East*) were Taiwanese students studying at National Cheng Kung University, Tatung University and National Tapei University of Technology, respectively. Moreover, 65 students were Norwegian students enrolled at Oslo University College (*West*). The Taiwanese students comprised 75 computing engineering students from all three universities (*East-tech*), and 48 humanities students from National Cheng Kung University majoring in various English-language related subjects (*East-nontech*). The Taiwanese students included both 82 undergraduates and 41 graduate students, while the

Norwegian sample only comprised undergraduate students. The mean age for all students was 22.2 years (SD = 4.7). The Norwegian group consisted of 41 computing engineering students (*West-tech*) and 24 social aspects of computing students (*West-nontech*). The demographic details for the respondents are listed in Table 2.

<Insert Table 2 approximately here>

Procedure

The questionnaire was distributed in class to ensure a high return rate from March to May during the spring of 2008. The students were given 30 minutes to complete the questionnaire and on average the students completed the questionnaire in 20 minutes. All the students returned the questionnaire.

Analysis

The responses were analyzed using a set of custom made spreadsheet tools. The ranking lists were computed based on the normalized ranking scores according to the procedure outlined in (Seip et al., 2006). Moreover, the agreement for each rank was computed together with a Chi-square significance test for each rank. Furthermore, a normalized Kendall Tau rank distance measure was used to compute the difference between rankings in order to make quantitative comparisons (Fagin, Kumar, & Sivakumar, 2003).

Results and discussion

Students' preferences for good teachers

Results. Table 3 lists students' ranking of teacher qualities, including expert in the subject (w_1), care for students (w_2), ability to communicate (w_3), in-class performance (w_4), stimulating students' interest (w_5), availability outside of class (w_6) and providing

rapid feedback on coursework (w_7). The table lists both the mean normalized score (Seip et al., 2006) and the corresponding rank. The Kendall Tau distances show that the rankings are similar although there is a larger distance between cultures (τ(*East*, *West*) = 0.24-0.33) than between disciplines (τ(*tech*, *nontech*) = 0.05).

<Insert Table 3 approximately here>

Taiwanese students preferred teachers to stimulate students' interest in the subject (w_5 = 0.19-0.22, rank = 1/7), while Norwegians ranked this as the second most important (w_5 = 0.20-0.21, rank = 2/7). Norwegians, on the other hand, preferred the teachers' in-class performance (w_4 = 0.22, rank = 1/7), while the Taiwanese students ranked in-class performance in third place (w_4 = 0.16, rank = 3/7). Moreover, Taiwanese students ranked the availability of the teacher outside of class second (w_6 = 0.16-18, rank = 2/7) while Norwegian students placed less emphasis on this aspect (w_6 = 0.12-0.13, rank = 4-5/7). Next, Norwegian students ranked feedback on coursework higher (w_7 = 0.8-0.13, rank = 4-5/7) than the Taiwanese students (w_7 = 0.08-0.10, rank = 6-7/7). All students ranked the teacher as expert low (w_1 = 0.07-0.09, rank = 5-7/7). However, Taiwanese students viewed teachers' care for students higher (w_2 = 0.13-0.15, rank = 5/7) than the Norwegian students (w_2 = 0.07-0.08, rank = 7/7). Finally, although the ability to communicate was ranked as being of medium importance, the Norwegian students ranked the teachers' communicative skills higher (w_3 = 0.19-20, rank = 3/7) than the Taiwanese students (w_3 = 0.16, rank = 4/7).

Discussion. The results support the prediction that Taiwanese students strongly prefer teachers to be available with a helping hand outside of class. Moreover, the results

support the prediction that Taiwanese students prefer teachers to care for students, although care for students is less important than availability.

The predictions that Taiwanese students would prefer the teacher to be an expert were not supported by the results. The universal low ranking of the teacher as expert contradicts the views that Chinese Heritage Students' educational model is based on the teacher as a moral role model and expert (Watkins, 2000).

Moreover, the predicted Norwegian preference for teachers to stimulate students' interest was not supported. In fact, the Taiwanese students indicated a stronger preference for teachers to provide motivation than the Norwegian students although both ranked this as important. The results therefore suggest that Taiwanese students also seek intrinsic motivation.

The three culture neutral predictions for ability to give feedback, ability to communicate and in class performance had to be rejected as Norwegian students indicated a preference for all of these compared to the Taiwanese students. Perhaps detailed feedback on coursework is ranked higher among Norwegian students as Norwegian society is less uncertainty-avoiding. The Norwegian students' preference for lecture-oriented skills among teachers may be explained by the fact that attending lectures in Norway is optional, while they are compulsory in Taiwan. Norwegian students must assess whether it is worthwhile to invest time attending a lecture. The importance placed on teachers' in-class performance and communication skills among Western students are consistent with studies reporting positive motivational effects on the use of PowerPoint in class (Apperson et al., 2006; Susskind, 2005) and students' preference for teachers' motivation and enthusiasm (Voss et al., 2007).

Students' preferences for good lectures

Results. Table 4 lists students' normalized mean score and ranking of lecture characteristics including provision of knowledge (w_1), motivation (w_2), alternative views from textbook (w_3), keeping students' attention (w_4), audio-visual aids (w_5) and in-class discussion and student-teacher interaction (w_6). Kendall Tau distances reveal that the different rankings are similar ($0.06 < \tau < 0.21$).

<Insert Table 4 approximately here>

All student groups ranked inspiration and motivation through the lecture as the most important facet (w_2 = 0.22-0.28, rank = 1/6). Moreover, all respondents viewed the use of audio-visual aids as least important (w_5 = 0.3-0.8, rank = 6/6). Taiwanese students ranked in-class discussion in medium place (w_6 = 0.17-0.21, rank = 3-4/6), which was higher than that of Norwegian students, who rated in-class discussion as the second least important issue (w_6 = 0.09-0.10, rank = 5/6). Further, Norwegians ranked the importance of the alternative view a lecture gives compared to a textbook higher (w_3 = 0.14-0.17, rank = 4/6) than did their Taiwanese counterparts (w_3 = 0.13, rank = 5/6). All the groups ranked the lectures' ability to keep students' attention high (w_4 = 0.20-0.23, rank = 2-3/6). Finally, all groups ranked knowledge as being of medium importance, but small differences were observed between the cultures and between the disciplines. Engineering students (w_1 = 0.20-0.21, rank = 2-3/6) preferred knowledge compared to the non-technology students (w_1 = 0.18-0.21, rank = 3-4/6), and the Norwegian students (w_1 = 0.2, rank = 2-3/6) showed a stronger preference for knowledge than the Taiwanese students (w_1 = 0.18-0.20, rank = 3-4/6).

Discussion. Only the prediction that Norwegian students would prefer an alternative view from the textbook was supported by the results. First, the predicted Norwegian preference for motivation was disproved as all groups universally viewed this as the most important aspect of a lecture. Moreover, the prediction that Taiwanese students would prefer audio-visual aids also had to be rejected as this was universally ranked the least important by all groups. This low ranking contrasts the emphasis and effort educators often put into the audio visual presentations (Apperson et al., 2006; Susskind, 2005). Instead, all the groups ranked the lecturers' ability to keep students interested high. The ability to hold students' interest is therefore not necessarily synonymous with using audio visual aids. The predicted Norwegian preference for in-class discussion had to be refuted as the Taiwanese expressed a stronger preference for in-class discussions than the Norwegian students did.

Students' rankings of good student characteristics

Results. Two parts of the questionnaire focused on the student, namely the characteristics of a good student and characteristics of good student behavior. Good student characteristics included exam performance (w_1), ability to make few errors (w_2), curiosity (w_3), good memory (w_4), creativity (w_5), independence (w_6), ability to collaborate (w_7), ability to observe (w_8) and strong knowledge (w_9). Table 5 lists the results. Kendall Tau distances show that the rankings are quite similar ($\tau < 0.28$), although there is some distance across the cultures ($0.19 < \tau(East, West) < 0.28$) compared to within cultures ($\tau(tech, nontech) < 0.08$).

<Insert Table 5 approximately here>

Universal similarities included the students' preference for students' ability to collaborate (w_7 = 0.15-0.18, rank = 1/9). The least important attribute among the students was flawlessness, that is, making no errors (w_2 = 0.02-0.04, rank = 9/9). Moreover, all respondents ranked creativity as being of high-medium importance (w_5 = 0.12-0.15, rank = 3/9). An interesting difference across cultures is that the Taiwanese students ranked the students' ability to be observant as second most important (w_8 = 0.15-0.16, rank = 2/9), while the Norwegian students ranked this as being of medium low importance (w_8 = 0.11-0.12, rank = 5-7/9). Further, Norwegian students valued a student's ability to be knowledgeable as the second most important attribute (w_9 = 0.14-0.15, rank = 2/9), while the Taiwanese students ranked the importance of knowledge as being of medium-low importance (w_9 = 0.12-0.13, rank = 5/9). Also, Taiwanese students placed more value on a student's ability to remember (w_4 = 0.06-0.08, rank = 7/9) compared to Norwegian students (w_4 = 0.08-0.10, rank = 8/9), However, examinations were also more important to the Norwegian students (w_1 = 0.11-0.12, rank = 5-6/9) than Taiwanese students (w_1 = 0.05-0.07, rank = 8/9).

Table 6 lists students' normalized mean score and ranking of desirable student behaviors, including asking questions in class (w_1), not disturbing the teacher (w_2), being polite and well behaved (w_3), helping classmates (w_4), studying hard (w_5) and helping the teacher (w_6). Kendall Tau distances show that the rankings are similar ($\tau < 0.40$), but there is some distance across the cultures ($0.20 < \tau(East, West) < 040$) compared to within cultures ($\tau(tech, nontech) < 0.13$).

<Insert Table 6 approximately here>

One universal trend is that all student groups preferred helpful behavior where students help their classmates (w_4 = 0.23-0.28, rank = 1/6). Several differences were observed across the cultures. Taiwanese students ranked politeness second most important (w_3 = 0.21, rank = 2/6), while Norwegians ranked politeness as number three (w_3 = 0.19-0.20, rank = 3/6). Moreover, Taiwanese students expressed a more positive attitude towards helping teachers (w_6 = 0.15-0.18, rank = 3-4/6) than the Norwegian students who ranked helping teachers as the least important (w_6 = 0.6, rank = 6/6). However, Norwegian students were more concerned about disturbing the teachers (w_2 = 0.08-0.14, rank = 4-5/6) than Taiwanese students who ranked disturbing the teacher as the least important issue (w_2 = 0.04-0.09, rank = 6/6). Further, an interesting cross-discipline related trend is that engineering students ranked asking questions in class as the second least important student behavior (w_1 = 0.12-0.14, rank = 5/6), while the non-technical groups ranked asking questions in class as the fourth least important characteristic (w_1 = 0.16-0.17, rank = 4/6).

Another interesting deviation is that the Taiwanese non-technology students placed less emphasis on studying hard (w_5 = 0.15, rank = 5/6), compared to the other student groups (w_5 = 0.19-0.22, rank = 2-3/6).

Discussion. The results support several of the predicted culture differences, namely that Taiwanese students indicated stronger preferences for students who help the teacher, who are polite and have good memory compared to Norwegian students.

Several of the predicted culture differences were not supported. First, all groups ranked collaboration as the most important student attribute. Second, all groups also ranked helping classmates the most important student behavior. Preference for

collaboration and helping classmates are therefore not only limited to those with a collectivist background. Moreover, all groups ranked not making errors as least important. Creativity was also ranked high by all groups, and the preference for being creative is therefore not limited to students with an individualist background. All groups ranked hard work as being of medium high importance, except the Taiwanese non-technical students. Finally, no cultural effects could be concluded for curiosity and being independent. However, independent work was generally ranked low.

The results reveal preferences that contradicted the predictions. Firstly, Norwegians showed a stronger preference for being knowledgeable, doing well in exams and not to disturb the teacher compared to Taiwanese students. In fact, Norwegian students ranked students' knowledge second most important. The Norwegians' preference for not disturbing the teacher may be connected to individualism where the students wish to manage by themselves, while the Taiwanese students are not afraid of disturbing the teacher as they ranked this as the least important.

The cultural neutral prediction of being observant was not supported as Taiwanese students ranked this as the second most important student characteristic. Moreover, a connection was observed between asking questions in class and discipline and no such connection was observed between asking questions in class and individualism, as the non-technical students indicated a stronger preference for asking questions than engineering students. Perhaps this is because engineering subjects often are content-based and oriented around tried and tested techniques, conventions and best practice, while many non-technical subjects address multifaceted open problems.

General discussion and implications

The results support the connection between closer student-teacher interaction and collectivism as the Taiwanese students preferred helping the teacher, asking the teacher questions and not being afraid of disturbing the teacher. Moreover, the results suggest that certain expected cultural differences are misguided. These observations may have implications for internationalization activities.

First, the results unanimously suggest that students' appreciation of collaboration is universal and not linked to culture. For instance, Taiwanese teachers and students should not assume that Norwegian students are inferior team player simply because their cultural background is rooted in individualism. Moreover, Taiwanese teachers and students may erroneously assume that Norwegian students are more independent than Taiwanese students, that Norwegian students have greater expectations of in-class discussions and that they treasure in-class discussions more than Taiwanese students. Similarly, Norwegian teachers should not assume that Taiwanese students have lower interest in in-class discussions than Norwegian students.

Another misconception is that Taiwanese students are more adjusted to working hard and knowledgeable than Norwegian students, which could become a disappointment for Norwegian teachers hoping to recruit hard working and knowledgeable students. Norwegian students and teachers may also incorrectly assume that Taiwanese students are less appreciative of the creative aspects of coursework. The image of lacking creativity probably reflects more of the Taiwanese education system than it is representative of the individual capabilities and desires of students.

A Norwegian teacher may also mistakenly assume Taiwanese students to be extrinsically motivated because of their strong ties to their families. However, our results

show that intrinsic motivation and stimulation are important to Taiwanese students too. Norwegian educators should therefore place the same emphasis on learning objectives and motivation for the topics of a course for Taiwanese students as they would for Norwegian students.

The results of this study suggest that the distance between students in the two cultures studied is smaller than what can be predicted according to the literature, for example, Eastern students' claimed emphasis on exams (Ran, 2001), Eastern students' claimed view of the teacher (Aguinis & Roth, 2003), and Western students' believed intrinsic motivation (Chiu & Xihua, 2008). One explanation for these seemingly converging preferences is that students may be influenced by new global media such as the Internet, movies and cable-TV. Another guess is that the effects of globalization in higher education are increasingly visible.

Summary

This study addressed differences between Taiwanese and Norwegian engineering students' view on the ideal student and student behaviour, the ideal teacher and the ideal lecture. A questionnaire based on pair-wise ranking of related issues was used to measure the students' opinions. Several collectivist preferences were confirmed, including appreciation for helping teachers, and receiving help from teachers. However, the results suggest that collectivist values such as collaboration and helping fellow students are preferred by students from both cultures. Moreover, Taiwanese students indicated preference for several individualistic values such as in-class discussions, a lecturer's ability to motivate students, students' ability to work independently and creatively. Finally, Taiwanese students did not expect teachers to be experts in the field. Insight into

international students' expectations and value systems can contribute to improving their learning experiences.

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Table 1

Predicted culture differences.

Preference	Taiwan	Neutral	Norway
teacher	availability	gives feedback	stimulate interest
	expert	communicator	
	caring	performer	
lecture	keep students' attention		in-class discussion
	audio visual aids		alternative view
	knowledge		motivation
student	does well in exams	observant	independent
	can collaborate		creative
	knowledgeable		curious
	good memory		
	no errors		
Behavior (student)	do not disturb teacher		asks questions
	helps classmates		
	helps teacher		
	studies hard		
	polite		

Table 2

Respondent demographics

	Taiwan		Norway	
	Engineering	Non-technology	Engineering	Non-technology
Total	75	48	41	24
Females (%)	10.7	75.0	12.2	34.8
age mean	21.4	21.6	22.9	23.7
age SD	5.5	4.7	4.5	4.6
Undergrads (%)	60.0	64.6	100.0	100.0

Table 3

Students' ranking of teacher qualities.

	Taiwan				Norway			
	Engineering		Non-tech.		Engineering		Non-tech.	
Teacher qualities	mean	rank	mean	rank	mean	rank	mean	rank
Expert in the subject (w_1)	0.09	(7)	0.08	(6)	0.08	(5)	0.07	(6)
Care for students (w_2)	0.15	(5)	0.13	(5)	0.08	(7)	0.07	(7)
Ability to com. (w_3)	0.16	(4)	0.16	(4)	0.20	(3)	0.19	(3)
In-class performance (w_4)	0.16	(3)	0.16	(3)	0.22	(1)	0.22	(1)
Stimulate interest (w_5)	0.19	(1)	0.22	(1)	0.21	(2)	0.20	(2)
Availability (w_6)	0.16	(2)	0.18	(2)	0.13	(4)	0.12	(5)
Coursework feedback (w_7)	0.10	(6)	0.08	(7)	0.08	(5)	0.13	(4)
Agreement	0.09		0.20		0.32		0.26	
χ^2(df = 21)	167.89		218.94		288.71		139.13	
p	<0.01		<0.01		<0.01		<0.01	
Kendall Tau Distance								
Norway/non-technology	0.29		0.33		0.05			
Norway/Engineering	0.24		0.29					
Taiwan/non-technology	0.05							

Table 4

Students' ranking of lecture characteristics

	Taiwan				Norway			
	Engineering		Non-tech		Engineering		Non-tech	
Lecture characteristics	mean	rank	mean	rank	mean	rank	mean	rank
Knowledge (w_1)	0.20	(3)	0.18	(4)	0.21	(2)	0.21	(3)
Motivation (w_2)	0.22	(1)	0.24	(1)	0.25	(1)	0.28	(1)
Alternative view (w_3)	0.13	(5)	0.13	(5)	0.17	(4)	0.14	(4)
Maintain attention (w_4)	0.20	(2)	0.22	(2)	0.20	(3)	0.23	(2)
Audio visual aids (w_5)	0.08	(6)	0.03	(6)	0.07	(6)	0.05	(6)
In-class discussion (w_6)	0.17	(4)	0.21	(3)	0.10	(5)	0.09	(5)
Agreement	0.13		0.30		0.24		0.42	
χ^2(df = 15)	158.31		229.67		157.73		153.35	
p	<0.01		<0.01		<0.01		<0.01	
Kendall Tau Distance								
Norway/non-technology	0.07		0.13		0.07			
Norway/Engineering	0.13		0.20					
Taiwan/non-technology	0.07							

Table 5

Ranking of student characteristics

	Taiwan				Norway			
	Engineering		Non-tech.		Engineering		Non-tech.	
Student characteristics	mean	rank	mean	rank	mean	rank	mean	rank
Does well in exams (w_1)	0.07	(8)	0.05	(8)	0.12	(5)	0.11	(6)
No errors (w_2)	0.04	(9)	0.02	(9)	0.02	(9)	0.02	(9)
Curious (w_3)	0.13	(4)	0.12	(6)	0.12	(4)	0.13	(3)
Good memory (w_4)	0.08	(7)	0.06	(7)	0.10	(8)	0.08	(8)
Creative (w_5)	0.15	(3)	0.15	(3)	0.12	(3)	0.13	(3)
Independent (w_6)	0.11	(6)	0.13	(4)	0.11	(6)	0.10	(7)
Ability to collaborate (w_7)	0.15	(1)	0.18	(1)	0.16	(1)	0.16	(1)
Observant (w_8)	0.15	(2)	0.16	(2)	0.11	(7)	0.12	(5)
Knowledgeable (w_9)	0.12	(5)	0.13	(5)	0.14	(2)	0.15	(2)
Agreement	0.20		0.36		0.19		0.23	
$\chi^2(df = 36)$	579.24		648.17		303.85		214.43	
p	<0.01		<0.01		<0.01		<0.01	
Kendall Tau Distance								
Norway/non-technology	0.19		0.22		0.06			
Norway/Engineering	0.25		0.28					
Taiwan/non-technology	0.08							

Table 6

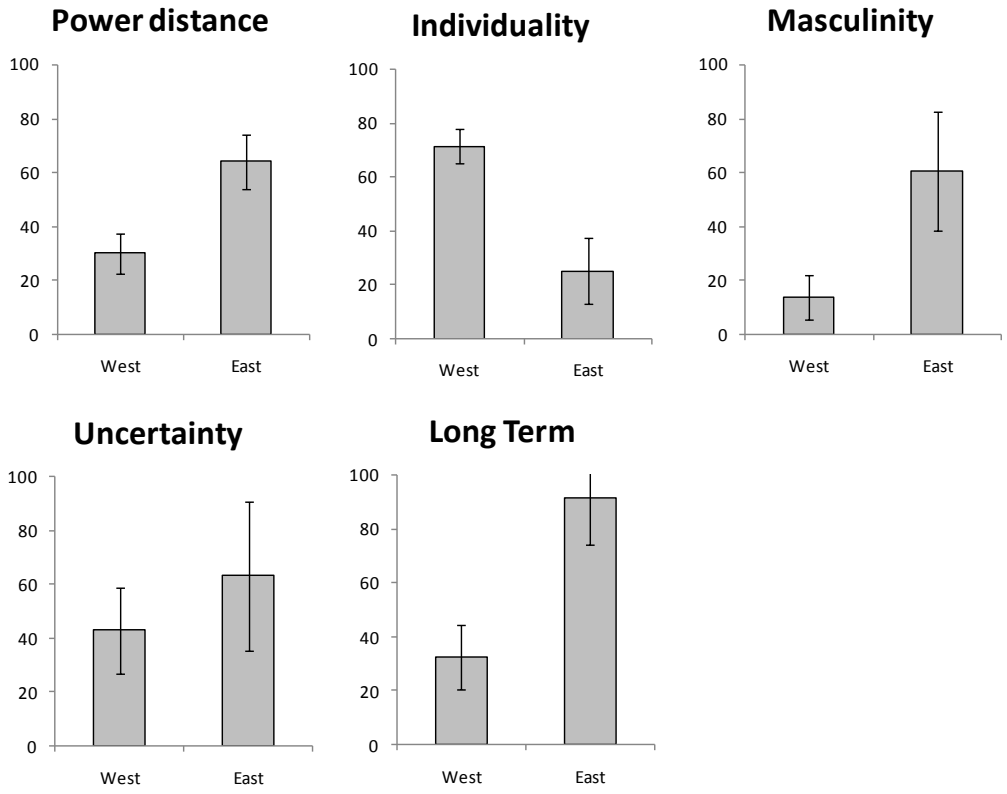
Ranking of student behaviors

	Taiwan				Norway			
	Engineering		Non-tech.		Engineering		Non-tech.	
Student behavior	mean	rank	mean	rank	mean	rank	mean	rank
Asks questions (w_1)	0.14	(5)	0.16	(4)	0.12	(5)	0.17	(4)
Not disturb teacher (w_2)	0.09	(6)	0.04	(6)	0.14	(4)	0.08	(5)
Polite (w_3)	0.21	(2)	0.21	(2)	|0.19	(3)	0.20	(3)
Helps classmates (w_4)	0.23	(1)	0.25	(1)	0.28	(1)	0.26	(1)
Studies hard (w_5)	0.19	(3)	0.15	(5)	0.21	(2)	0.22	(2)
Helps the teacher (w_6)	0.15	(4)	0.18	(3)	0.06	(6)	0.06	(6)
Agreement	0.14		0.24		0.30		0.32	
$\chi^2(df = 15)$	170.19		185.40		197.71		120.65	
p	<0.01		<0.01		<0.01		<0.01	
Kendall Tau Distance								
Norway/non-technology	0.20		0.33		0.07			
Norway/Engineering	0.27		0.40					
Taiwan/non-technology	0.13							

Figure captions

Figure 1. Hofstede's five indices of culture. East represents the mean indices for Taiwan, China, Hong Kong, Japan and South Korea. West represents the mean indices for Norway, Sweden, Denmark, Finland and Netherland. Error bars show standard deviation.

Figure 2. An example from the pair-wise ranking questionnaire where the students' preferences for lectures are measured.


Power distance
100
80
60
40
20
0
West
East
Individuality
100
80
60
40
20
0
West
East
Masculinity
100
80
60
40
20
0
West
East
Uncertainty
100
80
60
40
20
0
West
East
Long Term
100
80
60
40
20
0
West
East

We wish to find out what you experience as a good lecture. Therefore, for each pair of statements below, please tick the statement that you associate the most with a good lecture.

□	It provides useful and correct knowledge	or	□	There is in-class discussion and student-teacher interaction
□	There is good use of audio visual presentations	or	□	It provides useful and correct knowledge
□	It provides an alternative view from the textbook	or	□	There is in-class discussion and student-teacher interaction
□	It provides an alternative view from the textbook	or	□	There is good use of audio visual presentations
□	The teacher performance keeps students' attention	or	□	There is in-class discussion and student-teacher interaction
□	There is good use of audio visual presentations	or	□	The teacher performance keeps students' attention
□	There is in-class discussion and student-teacher interaction	or	□	There is good use of audio visual presentations
□	It inspires and motivates the students	or	□	It provides an alternative view from the textbook
□	It inspires and motivates the students	or	□	The teacher performance keeps students' attention
□	There is in-class discussion and student-teacher interaction	or	□	It inspires and motivates the students
□	It provides useful and correct knowledge	or	□	The teacher performance keeps students' attention
□	There is good use of audio visual presentations	or	□	It inspires and motivates the students
□	It provides an alternative view from the textbook	or	□	The teacher performance keeps students' attention
□	It provides useful and correct knowledge	or	□	It inspires and motivates the students
□	It provides useful and correct knowledge	or	□	It provides an alternative view from the textbook