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Cross-cultural Differences in Learning and Education: Stereotypes, Myths and Realities

Gerhard Apfelthaler, Katrin Hansen, Stephan Keuchel, Christa Mueller, Martin Neubauer, Siow Heng Ong and Nirundon Tapachai[1]

Despite the fact that both learning styles and cross-cultural differences have been important research topics for decades, surprisingly little work has been done on comparisons of learning behaviour across cultures and its impact for teachers working in culturally mixed settings. This chapter is based on a research project funded by the European Union seeking to provide fresh knowledge on cross-national differences in attitudes towards learning of students from selected countries. It reports on the results from Austria, Germany, Singapore and Thailand and outlines some of the implications for teaching in higher education.

Introduction

This chapter reports on the outcomes of a two-year research project conducted by researchers at universities in Austria, Germany, Singapore and Thailand. It will start by providing insight into the motivation for this project, which is mainly rooted in the dramatic increase of international student flows. Next, it will present a short summary of extant learning styles research related to this project. Then, the methodology of the research project is described and the results presented. In the discussion of the results, some implications for teaching in higher education are outlined.

Context

The context of the research underlying this chapter is not rooted in one country only, it is cross-national. In the worldwide pursuit of global

competitiveness, higher education is becoming ever more important for countries, West and East, North and South, as is evidenced by growing enrolment in institutions of higher education worldwide. In addition, not only is higher education as such becoming more important, but international student flows[2] have also increased steadily and sometimes dramatically over the past decades. According to recent estimates (Bohm et. al., 2004), the number of students pursuing a university degree outside their home country will increase from about 2.1 million in 2003 to approximately 5.8 million by 2020, with demand for places in English-speaking destination countries forecast to rise from about 1 million currently to about 2.6 million places in 2020.

As a result, lecture halls and seminar rooms worldwide are increasingly becoming culturally diverse. This carries the potential for serious challenges for students, professors and administrators in higher education. Surprisingly enough and somewhat disappointingly, to date researchers have by and large neglected the potential link between learning styles and culture.

Thirty years ago Kolb (1976) introduced to the world of education the idea of learning styles, which may vary according to personality, life experiences, and the purpose of learning. Only a few years later Lawrence (1979) published his famous book *People Types, Tiger Stripes* which was based on work by Isabel Myers Briggs (Myers and McCaulley, 1985). With this publication Lawrence turned educators' attention to the fact that people can differ significantly in their learning behaviour on a much broader scale than can be immediately perceived in a classroom. In the three decades since, a plethora of research on learning styles has emerged and learning style research has become quite popular for researchers in the past two decades. And yet, there was and still is very little to turn to when it comes to the question of how students in different cultures study and learn.

Taking up the challenge to advance this topic was the motivation for a team of faculty members at FH Joanneum University of Applied Sciences (Graz, Austria). They formed a team of researchers with Singapore Management University (Singapore), Kasetsart University (Bangkok, Thailand) and FH Gelsenkirchen (Germany) to start a two-year long research project on national differences in studying and learning behaviour of students, generously supported by the European Union. The basic premise for the research (following Hofstede, 1986) was that the cultural differences between the countries involved in the project would have a clear influence on the way students interact with professors, with other students and with their learning environment in general. The results of our research are reported in this chapter.

Literature review

Based on sometimes painful experiences of differences in learning behaviour, many educators have pursued a deeper understanding of a complex problem (e.g., Coffield et al., 2004). An initial review of the existing literature showed that there are three major streams in learning styles research. The first stream, including Kolb (1976) or work on the Learning Styles Questionnaire (LSQ) by Honey and Mumford (1992), sees variance in learning styles as based in differences in personality, life experiences, and the purpose of learning. This stream is strongly influenced by Kolb's four basic learning styles. In this model, students are either *accommodators* who favour concrete experience and active experimentation (good at carrying out plans), *divergers* who prefer concrete experience and reflective observation (good imaginative ability), *convergers* who are good at abstract conceptualization and active experimentation (good problem solvers and decision makers), or *assimilators* who like abstract conceptualization and reflective observation (good at inductive reasoning).

The second stream of research revolves around the idea of Deep and Surface learning, terms originally introduced by Marton and Saljö (1976), and further developed by Entwistle and Ramsden (1983) and Biggs (1987) among others. One of the most important characteristics of this stream is that Deep or Surface learning are not attributes of individuals, but rather sets of behaviours shown by individuals in reaction to a specific learning environment; this means that when the learning environment changes, the learning style can change. In contrast, in Kolb's (1976) view, learning styles are more or less constant traits of individuals. While Surface learning is cognitively oriented, focuses on memorization, is extrinsically motivated by the fear of failure, and is directed strictly towards the task at hand, Deep learning tries to create meaning and to understand the coherent whole, derives from intrinsic motivation, and relates previous knowledge to new knowledge. For example, Surface learning implies clearer descriptions of rules and responsibilities for group work than Deep learning, which involves creating a working environment to fit the learners' own preferences and procedures. In addition to the Deep and Surface approaches, Biggs (1987), Ramsden (1988) and Entwistle (1992) identify a third approach to learning, the Strategic (or Achieving) approach. Unlike Deep or Surface learning, Strategic learning aims to obtain the highest possible grades or other rewards by identifying assessment criteria and then applying appropriate and well-organized study methods. Widely used survey instruments in this stream

of research include the Experiences of Teaching and Learning Questionnaire (ETLQ) by Entwistle (1992); the Learning and Studying Questionnaire (LSQ) by Honey and Mumford (1992); the Study Process Questionnaire (SPQ) by Biggs et al. (2001); the Revised Approaches to Studying Inventory (RASI) by Entwistle and Tait (1994); the Approaches to Study Skills Inventories for Students (ASSIST) by Tait, Entwistle and McCune (1998), and several others.

Outside of these two streams of learning styles research exists a rather mixed bag of models which are of less impact than the ones already described. Nevertheless, surveying the literature on the topic it becomes clear that even the two dominant approaches have very rarely been used in cross-national comparisons. Some studies (e.g., Kember & Gow, 1990; Richardson, 1994; Volet et al., 1994; R. M. Smith, 2001) have attempted either to validate instruments in different populations (such as different nationalities or different levels of education) or to compare different populations using these instruments, but by and large there is still no consistent body of literature on the topic, thus warranting new empirical research.

Cultures, according to Hofstede (2001), vary mainly along five dimensions: *power distance*, *uncertainty avoidance*, *masculinity*, *long-term orientation*, and *individualism*. The more recent GLOBE study (House et al., 2004) shows a large overlap with Hofstede's original research. The GLOBE constructs are *power distance*, *uncertainty avoidance*, *collectivism I* (institutional) and *collectivism II* (in-group collectivism), *humane orientation*, *assertiveness*, *gender egalitarianism*, *future orientation*, and *performance orientation*. Six of these dimensions resemble Hofstede's dimensions, but have been modified based on a critical discussion of Hofstede's concepts and results.

No matter what the dimensions, when cultures (or countries, as units of analysis) show different scores on these dimensions, this is bound to have implications for learning styles insofar as cultural patterns in a learning environment ultimately reflect the cultural patterns in the wider society. This has led to the formulation of the hypotheses for this research.

Hypotheses

Based on a thorough survey of the literature and a careful assessment of the immediate usability of expected results for professors and teachers, we tested the hypotheses that *students in the participating countries*

(Austria, Germany, Singapore, Thailand) show different attitudes towards the following aspects of education:

1. working in groups
2. interaction with professors
3. teaching methods
4. students' own role in the education process
5. the physical teaching environment.

Method

Although learning styles models and learning styles inventories abound, and the literature above was taken into account in planning this study, a conscious decision was made not to use directly any of the existing survey instruments and thus not to follow strictly any of the existing streams of literature. The main reasons for this decision were:

1. Questions about the applicability of constructs or survey instruments in other countries or in a cross-cultural setting (e.g., Richardson, 1994) arose as the vast majority of research on learning styles originates from only a few countries (e.g., Australia, Hong Kong, and the UK).
2. Existing studies involving Asian countries are inconclusive or even contradictory. Whilst some authors identify the Asian learner in general as surface and rote learners, others challenge this view (e.g., Watkins & Reghi, 1991).
3. Many learning style inventories show psychometric weaknesses. Coffield et. al. (2004) state that only three of the thirteen instruments they reviewed came near to satisfying their criteria for reliability and validity.
4. Most of the models we reviewed seemed difficult to translate into practical recommendations for improving learning environments and teaching. We aimed for an inventory that would yield practical results.

As a consequence, a new questionnaire had to be developed. The development was based on three core understandings: a workable definition of learning styles, a shared understanding of the concept of cross-cultural differences, and the concept of attitudes.

The first core element refers to learning styles. In the context of this project we used one of the most popular broad definitions of learning style as given by Smith (1982) who defines learning style as 'the individual's characteristic ways of processing information, feeling, and behaving in learning situations' (p. 24). Price (1983) adds that when people learn, they perceive, think, and interact with instructors, methods and environments; they develop tendencies and preferences that accompany learning. This development brings about one's learning style, a characteristic way of learning which might or might not lead to performance. Smith's and Price's definitions served as a basis for the development of questionnaire items.

The second core element refers to culture, cross-cultural comparisons and intercultural interactions. 'Cross-cultural' here applies to research across borders, which can be seen in many dimensions such as geographical or ethnic borders among others. This research focuses on the observation of individuals from different cultures, on observations of different cultural groups (Lenartowicz and Roth, 1999), or on comparisons of one to another (Avruch & Black, 1991). The focus is on cultural differences and similarities, finding out that certain aspects of learning will differ while others might be uniform between different countries (Weinert, 2004). 'Intercultural', on the other hand, focuses on *interaction* between people descending from different cultures or between people coping with a different ('strange') culture (Adler and Bartholomew, 1992; Barmeyer & Bolten, 1998; Lenartowicz & Roth, 1999).

The third core element of the questionnaire development is rooted in the work of Ajzen (1993) who distinguishes three components of attitudes: cognition as expression of beliefs, affect as expression of feelings, and conation as expression of intentions. A major guiding principle for the development of our own survey instrument was Ajzen's view that 'given that the three components reflect the same underlying attitude, they should correlate to some degree with each other. Yet, to the extent that the distinction between cognitive, affective, and conative response categories is of psychological significance, measures of the three components should not be completely redundant' (p. 43).

We combined these core concepts in the design of our questionnaire instrument, using the concept of learning style as a description of the attitudes of a typical individual in a culture towards aspects of learning, thus facilitating cross-cultural comparisons of learning and studying. After a thorough review of the literature, the new instrument was designed in several collaborative face-to-face and virtual work sessions among the multicultural research team, resulting in a collection of a

total of 92 items on students' attitudes to group work, interaction with professors, teaching methods, the individual's role in the educational process and the physical learning environment (e.g., 'Students deeply understand topics only when the topic can be discussed in class' or 'I never criticize my professor'). Based on Ajzen's (1993) three components of attitudes, each research question/construct generated three items spread throughout the questionnaire, to elicit the cognitive, affective and conative elements of attitudes respectively, for example:

9. Cheating in exams should be strictly prohibited.
28. I feel bad if I cheat in exams.
73. I never cheat in exams.

These items were supplemented with nine demographic questions. After the first draft, the questionnaire was critiqued and improved by outside experts, translated and back-translated, as well as pre-tested on student populations in Austria, Germany, Singapore and Thailand.

After slight final modifications the new instrument was administered to approximately 432 business students in Austria, 629 business students in Germany, 601 business students in Singapore and 1164 business students in Thailand. Forty seven per cent of the respondents were female; 30 per cent of the students were studying the first year at an institution of higher education, and 70 per cent belonged to an advanced level. Students mainly came from an undergraduate level, studying for a degree related to business administration. It is important to note that data collection in the four countries was restricted to certain regions for reasons of accessibility and convenience: Vienna, Graz and Innsbruck as university hubs in Austria, the Ruhr region in Germany with a high number of universities compared to the rest of the country, and Bangkok in Thailand. In the German-speaking countries, both traditional universities and universities of applied sciences (cf. Palfreyman in this book) were included in the sample.

Results

Statistical analysis (including frequency analysis, factor analysis, univariate variance analysis, Levene test) of the data revealed attitudes to learning for 23 different aspects of learning to be significantly different between nationalities. See Table 1.1 for the most significant findings.

From Table 1.1 it can be seen that the divide does not always run between Asian countries on the one side and European countries on the

Table 1.1: Largest differences in attitudes towards learning

Aspect of learning	Country with maximum agreement (1 = strongest agreement)	Country with maximum disagreement (5 = strongest disagreement)	Mean	Austria	Germany	Singapore	Thailand
1. Criticism not allowed (degree to which students think it is not acceptable to criticize their professor)	Singapore	Austria	3.02	4.64	3.59	2.23	2.90
2. Preferred gender homogeneity of study groups (degree to which students prefer to work in groups of the same gender, e. g. study groups, presentations, etc.)	Singapore	Austria	3.36	4.05	3.84	2.69	3.20
3. Cheating allowed (degree to which academic dishonesty is accepted, e. g. cheating in exams; plagiarism, etc.)	Thailand	Austria	2.11	2.41	2.32	1.97	1.96
4. Professor's responsibility for student's success (degree to which students think that their professors are responsible for their own success or failure; e. g. receiving a bad grade may be interpreted as a failure to instruct students properly)	Thailand	Singapore	3.08	3.42	3.26	3.49	2.63
5. Learning not beyond the required scope (degree to which students' are unwilling to pursue learning beyond the required scope of a class; e. g. students refuse to engage in further reading)	Thailand	Singapore	3.28	3.30	3.29	3.80	3.00
6. Memorizing (degree to which students have a preference for memorization of content, e. g. the memorization of passages from textbooks)	Thailand	Austria	3.34	3.88	3.42	3.12	3.32
7. National homogeneity of work groups (degree to which students accept / prefer national homogeneity in groups, e. g. study groups, presentations, etc)	Thailand	Germany	3.20	3.63	3.65	3.08	2.86
8. Non-equal Interaction (degree to which students see themselves as different in status to their professors)	Thailand	Singapore	2.55	2.78	2.77	2.90	2.22
9. Group study preferred (degree to which students' prefer to study in groups)	Thailand	Germany	2.35	2.55	2.65	2.26	2.15

Note: (5-point Likert scale: 1 = strongest agreement, 5 = strongest disagreement; n = 2400; all differences significant at .001 level).

other. Based on this observation, separate analysis of the differences of students' attitudes between the two subgroups of Asia (Singapore and Thailand) and Europe (Austria and Germany) was conducted. This analysis confirmed that the dividing line throughout all the aspects covered in our research concerns every country and does not allow us to speak of 'Asian' or 'European' learners. In fact, out of a total of 23 aspects of learning only the first seven listed in Table 1.2 showed significant differences between Asia as a whole and Europe as a whole. At the same time, a number of clear Intra-Asian and Intra-European differences were identified.

It can be seen from Table 1.1 and Table 1.2 that Asian and European students hold different attitudes to certain issues; e.g., on the basis of our results it is fair to assume that European students, by and large, do not shy from criticizing professors. In addition, our results also point to intra-Asian differences concerning this question: students from Thailand are more likely to criticize their professors than students from Singapore. The stereotype of the Asian learner as highlighted by Biggs' work (Myers & McCaulley, 1985) therefore is both confirmed and challenged – on the one hand Asians are different from Europeans; on the other hand it is not correct to assume that all Asians hold the same attitudes towards learning. The explanation for these intra-continental differences can lie in a variety of factors, including the fact that the analysed national cultures differ significantly, and/or the fact that there are distinct educational cultures which are manifest in the institutional frameworks.

In order to control for other variables which could distort the effect of national culture on behaviour, we ran a separate analysis in which we took a closer look at the influence of gender and institutional factors. First, we split the samples into male and female populations. T-tests of the data revealed significant, but rather small differences between male and female students within and across nationalities for a number of selected items. As Table 1.3 shows, it can be assumed that very little of the variance in the data can be explained through gender (blank cells indicate no significant difference).

As can be seen from Table 1.3, the most apparent gender differences in our data can be found in Germany, followed by Austria, and by far the fewest in Singapore. For example, German female students prefer professors who show empathy, they are stricter against cheating, prefer written exams more strongly than their male colleagues, and are stricter when it comes to keeping deadlines. It is interesting to compare this with the four countries' ranks on Hofstede's (2001) masculinity index,

Table 1.2: Inter-continental and intra-continental differences in attitudes towards learning

Dimensions with significant differences between Europe and Asia	1. Criticism not allowed (degree to which students think it is acceptable to criticize their professor) 2. Preferred gender homogeneity of work groups (degree to which students prefer to work in groups of the same gender) 3. National homogeneity of work groups (degree to which students accept / prefer national homogeneity in groups) 4. Cheating allowed (degree to which academic dishonesty is accepted) 5. Relevance of job prospects (degree to which students choose programmes / courses on the basis of job prospects) 6. Group study preferred (degree to which students' prefer to study in groups) 7. Use and importance of technology (degree to which students prefer professors who use multimedia technology in the classroom)
Dimensions with significant differences within (surveyed) Asian countries	1. Professor's responsibility for student's success (degree to which students think that their professors are responsible for their own success or failure) 2. Learning not beyond the required scope (degree to which students' are unwilling to pursue learning beyond the required scope of a class) 3. Criticism not allowed (degree to which students think it is acceptable to criticize their professor) 4. Non-equal interaction (degree to which students see themselves as different in status to their professors) 5. Preferred gender homogeneity of work groups (degree to which students prefer to work in groups of the same gender) 6. Empathy and students' suggestions (degree to which students prefer professors who show empathy and accept students' suggestions) 7. Preference for written exams (degree to which students prefer to have assessments in the form of written exams)
Dimensions with significant differences between (surveyed) European countries	1. Cheating allowed (degree to which academic dishonesty is accepted) 2. Memorizing (degree to which students have a preference for memorization of content)

Table 1.3: Differences in attitudes towards learning by gender

Factor	Austria (female/male)	Germany (female/male)	Singapore (female/male)	Thailand (female/male)
1. Consistency and intensity of effort (degree to which students have a preference for consistency and intensity of effort)	—	2.2 / 2.1	—	—
2. National homogeneity of work groups (degree to which students accept / prefer national homogeneity in groups)	—	3.6 / 3.8	—	—
3. Empathy and students' suggestions (degree to which students prefer professors who show empathy and accept students' suggestions)	1.8 / 1.7	—	—	—
4. Cheating allowed (degree to which academic dishonesty is accepted)	—	2.7 / 2.4	—	—
5. Seating arrangement (addresses students' preference for specific types of seating arrangement)	—	2.4 / 2.6	—	2.4 / 2.6
6. In-class discussion for better understanding (degree to which students' prefer to have in-class discussions on the course content)	—	—	—	2.3 / 2.4
7. Learning not beyond the required scope (degree to which students' are unwilling to pursue learning beyond the required scope of a class)	—	—	—	2.9 / 3.0
8. Non-equal Interaction (degree to which students see themselves as different in status to their professors)	—	—	—	2.2 / 2.3
9. Preference for written exams (degree to which students prefer to have assessments in the form of written exams)	3.0 / 2.7	2.7 / 2.4	—	—
10. Applicability of study (degree to which application of study content is important to and enjoyable for students)	1.5 / 1.3	—	—	1.7 / 1.6
11. Professors as experts (degree to which students expect their professors to be recognized experts in their area of teaching)		—	1.7 / 1.6	—
12. Grading based not only on exam (degree to which students' accept / prefer that grading in a course is based on one exam only)	2.0 / 1.8	—	—	—
13. Keeping of deadlines (degree to which students consider and accept deadlines as binding)	2.3 / 2.1	2.6 / 2.4	—	—

Note: (5-point Likert scale: 1 = strongest agreement, 5 = strongest disagreement; n = 2400 all differences significant at .001 level).

which is much higher for Austria and Germany than for Singapore or Thailand (i.e., in the first two countries males in particular place more emphasis on ego-goals such as achievement rather than social goals such as rapport). The only gender-related difference to report from Singapore concerns the demand of 'expert professors' – male students there show a slightly stronger agreement.

Next, a closer look was taken at the influence which the type of institution has on the differences in attitudes towards learning. This was especially warranted as there are two distinct university tracks in Austria and Germany – traditional universities with a stronger emphasis on academic disciplines and a stronger orientation towards theory, and the so-called universities of applied sciences which have a stronger orientation towards the needs of specific industries and which are more applied in their teaching. As Table 1.4 shows, running t-tests we were able to find several small, but nevertheless statistically significant differences in the attitudes towards learning among students in these different types of universities.

In overview, the results in Table 1.4 show that students in Austrian universities of applied sciences are more open to different abilities of student peers and to exams other than written ones. They seem to be more active in class (criticism, discussion) and more demanding or used to higher standards related to professor's expertise, seating arrangement and use of technology. Job prospects are more relevant to them than to their peers from traditional universities. Especially in the case of Austria these observations may be rooted in the fact that Austrian universities of applied sciences have rather strict entry requirements and tend to attract students who are more competitive, whilst entry into traditional universities is completely open to all students regardless of their merit or aspirations. This may well have created an atmosphere in which challenge and performance are valued. To a lesser extent, the same holds true for Germany. However, in this case the reasons may be rooted solely in the fact that German universities of applied sciences have a stronger application and industry orientation. The reason of merit-based admission does not apply for Germany as the German system still has stronger entry restrictions in the traditional university track.

Austrian students appear to be indifferent about the issue of job prospects (i.e., they are not more or less relevant than other motivations for study such as interest, parents' preference, etc.), while students in Germany, Singapore and Thailand seem to take job prospects into consideration, with Thailand and Singapore scoring highest of the surveyed countries. Furthermore, students from all surveyed countries agree that

Table 1.4: Differences in attitudes towards learning by type of university

Aspect of learning	Germany		Austria	
	University	University of Applied Sciences	University	University of Applied Sciences
1. Relevance of job prospects (degree to which students choose programmes / courses on the basis of job prospects)	—	—	2.4	2.2
2. Initiative, excellence in classroom (degree to which students' initiative and excelling in the classroom is accepted / preferred / pursued)	3.0	2.7	—	—
3. In-class discussion for better understanding (degree to which students' prefer to have in-class discussions on the course content)	3.5	2.3	2.3	1.9
4. Non-equal interaction (degree to which students see themselves as different in status to their professors)	—	—	2.7	2.8
5. Professors as experts (degree to which students expect their professors to be recognized experts in their area of teaching)	—	—	2.1	1.6
6. Criticism not allowed (degree to which students think it is not acceptable to criticize their professor)	—	—	3.4	3.7
7. Written exam (degree to which students prefer to have assessments in the form of written exams)	—	—	2.7	3.0
8. Grading based not only on exam (degree to which students' prefer that grading in a course is based on one exam only)	2.1	2.0	—	—
9. Personal space in classroom (degree to which students seek personal space in the classroom)	2.4	2.2	—	—
10. Seating arrangement (addresses students' preference for specific types of seating arrangement)	—	—	2.5	2.1
11. Use and Importance of technology (degree to which students prefer the use of multimedia technology in the classroom)	—	—	2.2	2.0
12. Homogeneity of ability of student peers (degree to which students' tolerate / seek being in groups of students with different levels of ability)	—	—	2.5	2.7

Note: (5-point Likert scale: 1 = strongest agreement, 5 = strongest disagreement; n = 2400; all reported figures significant at .001 level).

interactive arrangements are conducive to learning: differences between the surveyed countries are minimal. While students from Thailand and Germany seem undecided about who bears dominant responsibility in student success, students from Austria and Singapore disagree that the professor has a responsibility in student success.

Discussion

Most of our results show some apparent links to relevant findings from the literature on cross-cultural differences, especially to those by Hofstede (2001) and the GLOBE project (House et al., 2004). For instance, several aspects of the attitudes towards learning from our results seem to be related to differences in power and status. Most evidently, students in Thailand perceive themselves as not being equal to their professors, which is in alignment with the relatively high scores on Hofstede's and GLOBE's Power Distance dimensions for Thailand. The scores on the 'Criticism not Allowed' and 'Cheating not Allowed' items can be related to the same dimensions by Hofstede or GLOBE, on which both Singapore and Thailand show relatively high values. Even the 'Memorizing' item might fit into that pattern of explanation, as the acceptance of memorization may be interpreted as an expression of showing respect and obedience towards professors. Thailand's somewhat extreme position on the 'Professor's Responsibility for Student Success' item is remarkable along the same lines. The strong belief in status differences in Thailand apparently has created a feeling of dependence on professors, which in return establishes a certain responsibility for professors towards their students – students expect the professor to watch out over them and make sure they succeed. With one of the lowest power distance scores Austrians, on the other hand, don't share the view that being critical of their professors should be avoided or even disapproved of.

When it comes to the individualism–collectivism dimension, which is also known from both the Hofstede and the GLOBE studies, links can be established between our results and these studies which confirm many of Hofstede's (1986) predictions for studying behaviour in this dimension. Students from countries with a collectivistic orientation also show a more positive attitude towards working in groups. In addition, they prefer study groups to be somewhat homogeneous which again points into the direction of collectivism. Even the responses to the item 'professors can be criticized by students' can be interpreted through this dimension in a meaningful way: in collectivistic cultures, formal

harmony is a key value which needs to be maintained at all cost. This implies that professors must not be criticized by their students. In return, in collectivistic cultures, students expect their professors to take responsibility for their success or failure, an assumption our data confirms for Thailand.

It proved to be more difficult to identify clear patterns in linking the differences emerging from our data to the concept of uncertainty avoidance, i.e., the degree to which individuals try to avoid risk, uncertainty and ambiguity, and strive for security and certainty. Students from Singapore and Thailand have relatively lower values on this dimension in the Hofstede and GLOBE studies compared to Austrian or German students and are therefore assumed to be more risk-taking, innovative, and less conservative or obedient to rules in their behaviour. This might explain why they are more willing to embrace new technology in the classroom. Other potential links between uncertainty avoidance and the results of the study, however, are rather weak. For instance, it was expected that students from cultures with high uncertainty avoidance would be looking for security which is better provided by traditional classroom seating. With interactive seating they might feel uncomfortably exposed. The results only partially (in the case of Singapore) support this expectation. The same is true for initiative and excellence; it might be expected that only students from cultures with low uncertainty avoidance such as Singapore would value these traits, but this was not confirmed by the data. Other expectations, such as that students from uncertainty avoiding cultures like Austria or Germany would feel more comfortable with the precise memorization and retrieval of texts could not be confirmed by our data.

Taking a look at questions of masculinity and gender egalitarianism it is remarkable that gender homogeneity is clearly more strongly preferred by Singaporean students than by Austrian or German students. Looking at masculinity scores this would have been the expectation for the more masculine countries, such as Austria. One possible explanation, however, may be rooted in the fact that Singapore scores higher on gender egalitarianism than Austria or Germany. As a result, the importance of gender diversity which Austrians and German students feel might not be relevant in the Singapore context. Another explanation may be that Austrians' and Germans' preference for groups which are diverse in gender is not necessarily an expression of gender equality, but quite to the contrary – as we can only make assumptions of the roles of female students in work groups – as an expression of gender inequality. As Hofstede's (1986) masculinity dimensions also carries the facet of

relationship orientation vs. task orientation, we may even use it to explain the fact that cheating seems to be a much more commonly acknowledged practice in Austria than in other cultures. The common assumption in a masculine, achievement-oriented, competitive society which values challenge and advancement may be that whatever leads to results should be allowed, including not playing by the rules. The same holds true for the question of criticizing a professor. Only in more 'feminine' societies (such as Singapore and Thailand in this sample) which value relationships and harmony over tasks and achievements would criticizing professors not be acceptable behaviour. Students in 'feminine' societies normally show more modest behaviour (Hofstede). Equally, the fact that students in Thailand see professors as being responsible for their own success or failure may be interpreted as a consequence of stronger relationship orientation than in masculine societies.

Recommendations

Based on the results outlined above and the interpretation within the wider context of national culture it is possible to make recommendations on a large number of diverse topics such as group work vs. individual work, oral vs. written exams, professors as experts, criticism vs. respect, memorization vs. application and many more. For example, based on our research, it appears that students from Austria, Germany, Singapore or Thailand are all willing to work in gender diverse groups. Nevertheless, teachers should be aware that while Germany and Austria have preferences for gender diverse groups, Thai and Singaporean students are somewhat neutral about it. When putting together study or project groups, teachers should therefore avoid having gender homogeneous groups in Austria or Germany, while these would be more likely to be tolerated by Thai or Singaporean students. Another recommendation based on our research is that when instructing students from Thailand, Singapore or Germany, professors need to be aware that students might show less genuine interest in the subject of study as they are propelled by extrinsic motivations. It might therefore be necessary for the instructor 'to go the extra mile' in order to make them enthusiastic and have them actively participate in class. What can be done, for example, is to highlight how relevant a class topic is towards the goal of landing a good job after graduation. More recommendations, by country, include the following:

For Austrian students it is not that important that professors are experts within their field. A possible explanation is offered by

Hofstede's (1986; 2001) Power Distance Index (PDI) dimension. The extremely low Power Distance index points into the direction of a less status-oriented and less hierarchically structured society which actually has a disbelief in authority, even if it is expert authority.

Another finding concerns academic honesty. If instructors are dealing with students from Austria, they are well advised to find modes of assessment which leave less room for dishonesty. Austrians generally show a more lenient attitude towards plagiarism or cheating on exams. Therefore, for instance, professors should make sure to find modes of assessment that prevent such behaviour. This type of behaviour may be explained by both moderately high Uncertainty Avoidance (UAI) which makes Austrians attempt to reduce the risk of inferior grades and a very high score on Masculinity (MAS) which induces Austrians to be very competitive, even at the expense of honesty and ethical behaviour.

German students feel free to criticize professors. There seems to be a clear link to Hofstede's (1986; 2001) Power Distance (PDI) dimension. In Germany, with a moderately low score on the PDI, there is less of a hierarchical relationship between professors and students and it is therefore allowed and common for students to criticize their professors. Students may be even expected (by fellow students and professors) to challenge the views of professors in the classroom. Would students refrain from critical contributions to in-class discussions they might be considered too timid, as lacking interest in the class, or even as less capable. German students also have a much stronger preference for written exams and dislike exams or a mix of different types of assessment. This fact may be explained through a combination of Germany's low PDI and medium Uncertainty Avoidance (UAI) scores. First, on the grounds of low PDI, knowledge is considered a matter that needs to be handled in a way that leaves little room for subjective interpretations as in the case of oral exams. And secondly, written exams also cater to the apparent need of Germans for greater certainty and security as evidenced by Germany's medium score on UAI. Instructors teaching in Germany need to respect this by adapting their grading policy so that grading is mainly based on written forms of assessment such as mid-term and end-term exams, written reports or written case study assignments.

A combination of several dimensions – low Uncertainty Avoidance (UAI), high Power Distance (PDI) and medium Masculinity (MAS) makes students in Singapore very competitive. Students are more risk-taking and subscribe to values such as challenge and advancement, and are therefore taking a very pro-active approach to their own education. They like to participate in discussions with their professors, don't mind

to be worked hard and also engage in studying beyond the required scope of classes. When professors are used to more timid and deferential behaviour in students, they may feel challenged, maybe even criticized. They need to prepare themselves for such situations by being well-prepared, by always being one step ahead of the students, and by setting a demanding pace and depth in their courses. In no way must instructors interpret Singaporean students' behaviour as rude or inappropriate. Quite to the contrary, the high Power Distance (PDI) renders the pro-active behaviour of Singaporean students an act of respect and appreciation of the professor.

Due to lower Individualism (IDV) scores, students from Thailand feel less comfortable with anything which requires them to stand out as individuals. Instructors are therefore advised to rethink their didactic approach and make it possible for students to work more in group contexts (e. g. group projects as opposed to individual assignments). Our findings also show that students from Thailand strive for better understanding through consistency and intensity of effort. This means that Thai students are usually well prepared when coming to class. Instructors teaching in Thailand therefore always have to make sure that they are equally well prepared in class. One potential explanation could be a higher score on the Power Distance (PDI) dimension. As professors generally deserve the respect of students, they will do everything not to let the professor down. At the same time, however, we found that among Thai students one of the strongest motivations to study a specific subject is job prospects. That means that they are extrinsically motivated and therefore may show less of an interest in the content presented to them during the course of their study programme. Instructors need to address this issue by choosing an approach that makes the link between their course and future job opportunities very explicit. Again, this may be related to Thailand's score on the Power Distance (PDI) dimension.

A large number of recommendations based on the results of our research have been compiled into a handbook.[3] Through the use of our results, students and professors alike will be able to adjust their behaviour to a culturally foreign environment. At the same time, a number of new, interesting questions have been unearthed. One of the most important insights has been that the idea of one 'Asian learner', especially the 'Asian rote learner' has to be discarded as has been suggested by other authors (e.g., Kember & Gow, 1991 or Watkins & Reghi, 1991). We not only identified clear differences between Singaporean and Thai students as well as between Austrian and German students, but we also

found some striking similarities between Asian and European students. In some cases Asian students unexpectedly scored even higher than European students in some aspects of learning (e.g., in the case of 'not learning beyond the required scope' where students from Singapore were wrongly expected to be less willing to engage in additional learning than Austrians or Germans). More insight into these observations can be expected through an extension of our study into other countries.[4] One potential explanation for some of the counter-intuitive results including the similarities between Asian and European countries could be globalization of teaching practices. Although there is widespread criticism of the didactic model of the US business school which fosters dialogue, interaction and criticism (Saner & Yiu, 1994) its global influence can't be ignored. Assuming that the US influence has been more readily accepted in some Asian countries, this would even explain the higher scores of Asian students – reflecting higher individualism and competitiveness.

Based on the differences identified for different types of universities (traditional vs. applied), we also recommend a closer look at the influence of factors in the internal and external environment of institutions of higher education. As learning (or teaching) styles are not necessarily only properties of the individual, but rather emerge out of an interaction between learner and the learning environment, it is important to look beyond the narrow view of individual attitudes. Richardson (1994) found evidence that learning styles 'vary systematically from one culture to another' (p. 449), but at the same time his analysis does not attribute undesirable approaches to learning to personal characteristics of individuals, but instead to students' 'attempts to cope with counterproductive institutional practices that are likely to show systematic cultural variation' (p. 464). We find it therefore important for future work to include multiple concepts of culture besides national culture, such as organizational and company culture.

From a methodological perspective it has to be admitted that our original hope, to identify a set of a few selected patterns or factors – learning styles – in our data which would enable us to classify learners from different countries into a typology has not materialized. Instead we identified a larger number of meaningful attitudes towards learning with significant differences between countries. The results will be more meaningful once additional countries are integrated in the survey. In addition, further research must include more representative samples from various regions of countries and it also has to account for different

subjects of studying, different types of institution, teachers and their style of teaching which all can have an impact of students' approaches to learning.

Reflection questions

1. Look at Table 1.1. From your perspective, how would you respond to the nine items which showed significant differences between countries?
2. Based on question 1, where do you see the greatest need for adaptation of your own teaching style when moving into a culture which holds attitudes in contrast to your own?
3. Think about the studying behaviour of students in your context. In your view, what influences their behaviour most – national culture, institutional culture or personality traits?
4. If you have teaching experience in both the Western and the Asian parts of the world, would you endorse the stereotype of the 'Asian rote learner'?

Notes

1. In alphabetical order.
2. Student flows in this context refers to students pursuing a degree outside their home country. It does not include short- and medium-term foreign student exchanges.
3. Available from the authors upon request.
4. Projects in such diverse countries as Argentina, Colombia, France, India, Mexico and Peru are already under way.

Resources

Gordon, L. (1993). *People types and tiger stripes*. Gainesville, FL: Center for Applications of Psychological Type.
Classic book on differences in learning styles. A must-read for all interested academics.

Hofstede, G. (1986). Cultural differences in teaching and learning. *International Journal of Intercultural Relations*, *10*, 310–20.
An article on how the dimensions of Power Distance, Individualism/Collectivism, Uncertainty Avoidance and Masculinity/Femininity relate to teaching and learning.

http://eu-india.fh-joanneum.at and http://eu-alfa.fh-joanneum.at
Websites on follow-up projects involving universities in Argentina, Austria, Colombia, France, Germany, India, Mexico and Peru. Includes a complete

documentation of the project, including reports, presentations, further links and contact information.

www.communicon.info/

The website accompanying the research project at the heart of this chapter. The website provides a complete documentation of the project, including reports, presentations and further links.

www.ed.ac.uk/etl/

A very informative website on a project titled 'Enhancing Teaching-Learning Environments in Undergraduate Courses' at the University of Edinburgh. A number of articles on state of the art research in learning styles is available from this site.