Working Paper

Shared experiences and awareness from learning in a student multicultural environment: Measuring skills' development in intercultural intensive programs

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Abstract

Purpose - The aim is to analyze the skills and attitudes development of multicultural teams. In todays' environment, business interconnectivity and multicultural societies are becoming the normal way of living. Although students are increasingly facing multicultural learning environments, their awareness and willingness or harmonious and productive learning in these environments need to be prepared for in a systematic manner. Therefore, it is necessary that the students are conscious of their commonalities and differences with other students to gain cultural competence. Students' progress in developing their cultural intelligence is determined by co-operative social skills and the amount of interactions in a multicultural environment.

Design/methodology/approach - The research was conducted using a quantitative methodology. The questionnaire development roots in a students' self-assessment scheme proposed by Armstrong (Wharton School, University of Pennsylvania) covering the progress made during the participation in an intercultural project.

Findings - Our research findings relate to attitudes towards developing and sharing knowledge, stress, learning and task orientation, intercultural communication and cultural awareness skills related to the impacts of culture on the different ways of learning when working in multicultural teams. The study confirmed that knowledge gains and competence progress are higher in international teams compared to national teams.

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Research limitations/implications – In order to provide for better differentiation as to the student profile, e.g., nationality, cultural categories, a larger sample size is suggested.

Practical implications – The study might be seen as a road map for universities and international companies alike for imparting both cognitive, affective and behavioral competencies.

Originality/value – This study complements previous studies investigating the phenomenon of stress with multi-cultural complexity in more long-term durations. It implies stress factors to appear also in short-term multi-cultural exposures.

Keywords Multicultural learning, Teaching, Culture shock, Intercultural competences

Paper type Research paper

Introduction

The globalization's implications for countries and companies are perceived in terms of economic turnover but also—and more importantly— mainly in terms of people freely moving and working around the world. Therefore, Ho, Lin and Yang (2015) consider international knowledge and skills crucial to succeed and to win in the current competitive global marketplace.

In todays' environment, multicultural societies are becoming the normal way of living. In the words of Wekke and Lubis (2008), the societies are ever more interdependent. However, recent migration waves are challenging societies to cope with cultural diversity. Hence, students are increasingly facing multicultural learning challenges, and the readiness or awareness for such harmonious relationships needs to be prepared for. For this reason, Wardle (2008) as well as Wekke and Lubis (2008) stress that an important goal in today's education environment is to help students to recognize differences and similarities between students from different cultural background and to encourage the development of co-operative social skills. The latter scholars emphasize the acknowledgment of these different cultural identities as a link between the teacher and the students to improve the learning process and learning outcome. Moreover, Mikhaylov (2015) suggests that in order to meet this challenge, the educational environment should increase both the international and multicultural student presence and should encourage and facilitate meaningful interactions among diverse student groups. This request epitomizes the mission and aim of the MARCIEE project. This EU funded project is focusing on Marketing Communication Innovativeness of European Entrepreneurs. It brings students, entrepreneurs and professors from nine European countries together. The aim of the paper is to analyze the skills' and attitudes' development of the students who participated in the project and worked in multi-cultural teams

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This aim is aligned to the observation of Mak, Daly and Barker (2014) who stress that, in higher education, cultural diversity has become the norm. In addition, the projects meets the call for research by Scott (2015) who summarized the current situation as a need to develop new ways of learning or transform traditional learning methodologies to be able to cope with this learning complexity.

The remainder of the paper is structured as follows: first, from mainstream literature on intercultural learning and skills development as well as on the phenomenon of resistance to stress in multicultural settings hypotheses are derived; then, the design of the methodology follows preceding the presentation and discussion of findings; finally, the conclusions, implications and suggestions for further research are provided.

Learning in a multicultural environment

According to Ross (2015), a multicultural classroom is a combination of different people in a diverse environment including the students' country of origin, age, sex and socioeconomic background. These factors refer to what Wekke and Lubis (2008) denominate ethnic identity. Moreover, Gorski (2000) regards multicultural education more as a phenomenon of social justice and the right of education for every individual avoiding any type of discrimination.

Additionally, Levin (2005) identifies that intellectual teamwork skills are also developed and re-shaped when the actual multicultural learning experience takes place. He further emphasized that not only the intellect plays a role but the emotions as well. Emotions as excitement, frustration or demotivation contribute to the development of the international learning skills of the learner. Furthermore, Woods, Hibbins and Barker (2016) evaluating the experiences of multicultural groups (62 students) elicited that the following requirements are important for successful multicultural teams: respect for other cultures, personal traits such as patience and openness, skills like building and integrating teams and knowledge related to the understanding of each other's culture. In terms of understanding of each other's culture, international students identify that they are part of the world as a whole as they get a sense of global identification leading them to be more cosmopolitan or citizens of the global community (Wekke and Lubis, 2008; He and Chen, 2010). From a creative point of view, Maddaux, Adam and Galinsky (2010) underlined that cognitive complexity and flexibility increase when learning in multicultural teams due to learning how to handle problems from more than one viewpoint. Additionally, He and Chen (2010) argue that multicultural learning enhances self-image, contributes to broaden one's worldview and inspires personal growth. By providing multicultural education, schools and universities contribute to transform societies and to reduce oppression and injustice helping learners to develop their full potential (Gorski, 2000).

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Teaching in a multicultural environment and the cultural impacts on learning styles

According to Young (2010, p. 427), a learning style can be defined as "an attempt to categorize people's habitual cognitive, affective and psychosocial responses and approaches to new information". Therefore, in a multi-cultural learning environment the integrative complexity of teachers and students faces constant challenges in order to employ a teaching methodology, which works well for everyone (Maddux et al., 2013). This is a complex task and consequently, some tailor-made methodologies need to be developed to reach the best outcome. Woods et.al. (2011) confirm that learning styles and learning preferences call for tailoring. An example of how these learning styles differ across cultures is provided by Witsel (2003) explaining that Asians students remain at a certain distance toward the lecturer while Western students are more approachable. Chinese classrooms are quieter in comparison to the Western classes because Chinese students wait for instructions and permission from lecturers before working on a problem. Furthermore, the author explains that this behavior affects the way they stress their logic, by being less enthusiastic compared to students from the West. Related to memorizing, Watkins (1996 in Telbis, Helgenson and Kingsbury, 2014, p. 333) explained: "Asian students typically combine the processes of memorizing and understanding in ways not commonly found among Western students". In addition, it is important to be careful when giving comments or asking for participation in class. The author highlighted that for Chinese students, who are born and raised in a high-context society, normally do not object lecturers, and unless explicitly required, no opinion will be given.

An earlier research conducted by Wierzbicka (1991) indicated that students from Germany and the Netherlands have a higher acceptance level of directness than the Greeks, although in this case the three countries have in common to be Europeans. The difference in attitude among students was also indicated in the study of Klugman and Xu (2008) exploring the USA education system between white and colored students. The authors point to a gap to exist between the level of confidence in education between colored and white students. In contrast to the common assumption, colored students are amazingly more confident than white students are. Finally, the survey conducted by Ramburuth and Tani (2009) explored 2,200 Australian and Asian undergraduates' learning behavior in an Australia university. They identified differences in the preparation before entering in the university, as well as, the degree of participation and interaction with peer and teachers.As indicated before raising awareness of these differences will contribute to the teachers developing appropriate teaching methods to have an effective learning outcome.

Resistance to stress in learning in a multicultural environment

Learning in a multicultural environment can cause varying degrees of stress among the students involved. The stress impact for this research focuses only on the stress experienced by students learning in an intercultural environment. This stress can be initially reasoned by the symptoms derived from a culture shock. Since the seminal work of Oberg (1960), the appreciation of a cultural shock, its effects and its phases has been a widespread tenet of any cross-cultural analysis. Entering into contact with people of another culture makes most of the well-known cues for understanding the behaviour and the meaning of other people almost useless. This leads to anxiety and frustration with the "others".

The phenomenon of culture shock affects, to a greater or lesser extent, all people who go to foreign countries. In Oberg's work as well as in following works that codified this model, culture shock results in a process articulated in four phases (only those who are successful in adjusting to the different culture reach the fourth phase). The phases are: *honeymoon* (when the person is fascinated by the novelty); *crisis* (the person rejects the alien culture and has a hostile attitude towards it); *recovery* (when the person becomes used to different ways, still considering them strange); and *adjustment* (when the person accepts the ways of the different culture simply as another way of living).

Initially, culture shock is defined as "an occupational disease of people who have been suddenly transplanted abroad" (Oberg, 1960, p. 177). It affects people who are posted to a foreign country for work and their family (when the family moves together). In the wave of the large increase of students leaving their home country and families moving to other countries to further their studies implies that culture shock also affects students (Church, 1982), because they suffer acculturative stress (Feba and Sumathi (2016); Telbis, Helgenson and Kingsbury,2014). In this respect, the focus of the studies was the process of adjustment and adaptation to the different culture taking place in the relatively long period that the student spends in the foreign country to conclude the study programme. The acculturation model developed to understand the adjustment process as experienced by working people (usually managers or government officials) in their posting abroad (Ward, Bochner and Furnham, 2001) was adapted to the case of international students in higher education (Zhang et al., 2008). However, all these studies and models considered the case of longer-term permanence in a foreign country. The present paper contributes to the academic debate by relating to a much shorter-term contact with foreign culture(s) experienced by students bundled together in small multinational/multicultural teams for a short but intensive period.

This situation gives rise to interesting questions about the phases of cultural shock and even its existence in such a short period. Anecdotal evidence gathered in many years of involvement in such programmes suggest that for a proportion of students – even selected students in international programmes (first self-selected, and then going through a selection process) – face a difficult process of adjustment to different culture-determined behaviours. It is possible to suffer culture shock even if one does not spend any long amount of time in a foreign country, simply by having to interact intensively with people of another culture. Several reasons to face the cultural shock refer to the difference between the local culture and a student's ethnicity (Tavakoli et al., 2009), or living and studying in the different cultural environment and its linguistic and educational systems (Campbell, 2012). Another reason relates to communication skills. Kim (2011) explains that when the students have a low level of English knowledge, the students experience limitation in expressing their own thoughts, or have limitations in understanding leading at the end to a poor students' performance. Collectivistic societies as India and China classified by Hofstede (1991) face also multicultural learning stress because the students coming from these societies are more dependent on one another (Telbis, Helgenson and Kingsbury, 2014). The authors conclusively highlight that "stress reduction could be the single most important factor in contributing to international students' success" (p. 331).

Notably, all above mentioned studies agree that working in multi-cultural teams substantially supports the students in enhancing their intercultural competences and related communication capabilities. However, as an English proverb goes: there is no such thing as a free lunch. An interesting question that was not addressed by previous research is the extent to which the stress and additional effects might hamper or support the learning progress in the core topics the students are studying. Guiding the research, the following hypotheses were derived from the sources discussed:

H1. Working in international teams increases individual knowledge more than working in national teams.

Relating to the first, the second hypothesis addresses the skill development:

H2. Working in international teams expands individual skills more than working in national teams.

With the third hypothesis, we aim to challenge the relevance of student's individual goals:

H3a. The increase in knowledge depends on learning goals defined by the student. The level of stress increases when working in international teams.

H3b. The expanding of skills depends on learning goals defined by the student.

Methodology and Sample

The research was conducted pursuing a quantitative descriptive approach. In order to gather the data, a questionnaire was developed based on Armstrong (Wharton School, University of Pennsylvania) students' self-assessment. They rate their progress made during the participation in the MARCIEE project. The EU funded project is thematically focusing on Marketing Communication Innovativeness of European Entrepreneurs.

The participants filled in the questionnaire at three stages: in the beginning, in the middle and at the end of the course answering the following three questions: (1) What do you know? (2) What do you want to learn? (3) What have you learned? With this procedure, the teachers got a direct feedback about the knowledge, the needs and the learning success for each individual topic. For the international intensive program evaluation, it was decided to assess the improvements relating to (1) knowledge, (2) know how and (3) soft skills. The questions in the questionnaire related to the knowledge, were derived from the content of the program and the lectures during the program. Questions relating to the soft skills and knowledge assessment were derived from Beard, Schwieger and Surendran (2008), Betz and Hackett (1983) and Bandura (1977). The questionnaire was pretested and improved based on the testing feedback.

The sample consists of 40 females and 34 males coming from 9 European countries. The overall sample consists of N=74 students participating in the MARCIEE ISP in Budapest from the 18.-23. May 2015. As 5 students did not send back their evaluation, the basis for our analysis are 69 participants. 9 students did not fill in their scores at the end, so some of the outcomes are based on 60 participants who completed the questionnaires.

The students had to fill in the questionnaire three times.

1. At the very beginning of the project in January 2015 (Start). From this assessment onwards, students worked on national assignments for the project in their national teams.
2. On May 18th, 2015, the ISP in Budapest (Begin) started. From this assessment onwards, students worked on international assignments for the project is international teams.
3. On May 23rd, 2015, the ISP in Budapest ended.

The total time spent on the national assignments (40 hours) per student was the same as the total time spent on the international assignment during the week in Budapest (40 hours) per student.

The national assignment consists of reading and reviewing literature on the different topics of entrepreneurship, preparing and conducting interviews with national entrepreneurs. The interviews were analyzed and final reports were created.

In order to complete the international assignment, the students received classes of the different topics of entrepreneurship. Additionally, the students have to set up their own company working in their international team. Related to the data analysis the program was the SPHINX (Paired Samples Statistics, Paired Samples Correlations and Paired Samples Test).

Findings presentations

First, we checked reliability of the topics (items) of knowledge and the topics of skills for the three questionnaires.

Knowledge and Skills both have a high reliability (Cronbach's α >.88 on all the three questionnaires for the items of knowledge and Cronbach's α >.85 on all the three questionnaires for the items of skills).

Because of repeated measurements (at three different moments), Mauchly's test of sphericity has been performed on the Average Knowledge and the Average Skills at these different moments.

Mauchly's test indicated that the assumption of sphericity had been violated for the Average Knowledge ($\chi^2(2) = 20.8$, $p < 0.000$); therefore, the degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\varepsilon = .77$). The results show that the average knowledge was significantly affected by the moment of the test ($V = .796$, $F(1.57, 90.69) = 165.75$, $p < 0.000$, $\omega^2 = .34$ (strong effect)).

Mauchly's test indicated that the assumption of sphericity had been violated for the Average Skills, $\chi^2(2) = 37.6$, $p < 0.000$, therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\varepsilon = .68$). The results show that the average skills were significantly affected by the moment of the test $V = .597$, $F(1.35, 79.88) = 71.70$, $p < 0.000$, $\omega^2 = .06$ (medium effect).

Knowledge
To test the first hypothesis 'working in international teams increases individual knowledge more than working in national teams' the following variables have been analyzed:

For every topic of knowledge, the increase from Start to Begin and the increase from Begin to End was calculated for every participant. After this process, the sum of the increases on the different topics of knowledge were calculated: Totalknowledge_I1 (the total increase per participant from Start to Begin) and Totalknowledge_I2 (the total increase per participant from Begin to End).

Thereafter, a Paired Sample T-test was performed. At the first assessment, the averaged knowledge had a mean of 6.6 increasing to 14.2 at the end. The overall increase of knowledge during the time working in international teams (14.2) is significantly higher (t-value= 4.850 p=0.000) than the overall increase of knowledge during the time working in national teams (6.6). So, the first hypothesis can be confirmed.

To be able to get deeper insights, we checked the individual categories as well (see Table 1).

Table 1 *Increases of student scores on the different topics of knowledge from Start to Begin, from Begin to End and the p-values on differences in increases of the MARCIEE ISP Budapest 2015*

Your Knowledge about ...	Increase I (Begin - Start)	Increase II (End - Begin)	N	Sig.
Entrepreneurship (e.g., definiton, concepts)	0.9	1.2	61	0.09
Entrepreneurial orientation dimensions	1.0	2.4	62	0.00
Causation logic and effectuation logic	1.4	3.0	62	0.00
Influences of cultural contexts on business communication processes	0.4	1.0	61	0.00
Assessing culture	0.3	0.8	62	0.00
Local adaptation of global strategy	0.4	0.9	62	0.01
International marketing campaigns	0.5	0.9	62	0.02
Financial impact on entrepreneurial projects	0.6	1.5	62	0.00
Incorporation of new media in business strategy	0.5	1.4	62	0.00
Social media techniques in the entrepreneurial context	0.6	1.1	62	0.03
Average Knowledge	0.7	1.4	60	0.00

The knowledge increase of the topics marked red from Begin to End is significantly stronger than the increase from Start to Begin

For all the topics except 'Entrepreneurship (e.g., definitions, concepts)', the knowledge increase is significant. So, during the time working in international teams, the students gained more knowledge than during the time working in national teams. It is not surprisingly that this does not refer to 'Entrepreneurship'. As the main topic of the MARCIEE project was entrepreneurship, the students were already familiar with the basic definitions and concepts a priori. In the other entrepreneurship related items, the increase was much higher (especially entrepreneurial orientation dimensions, causation logic and effectuation logic).

Table 2 shows the mean scores and the standard deviation on the different topics of knowledge at the Start, Begin and End of the MARCIEE project. At the start of the project the students worked in national teams. At this stage, their knowledge on most of the topics was sufficient (score > 5.5) with exception of the topics 'Causation logic and effectuation logic (score 3.4)', 'Entrepreneurial orientation dimensions (score 4.3)' and 'Financial impact on entrepreneurial projects (score 5.2)'. The standard deviation of the scores on the different topics is quite high. It varies from 1.2 up to 2.4. Especially the topics with a low mean score have a high standard deviation. This means that

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some of the students have sufficient knowledge about these topics, while other students hardly know anything about entrepreneurship at the start of the project.

Table 2 *Mean student scores on the different topics of knowledge at the Start, Begin and End of the MARCIEE ISP Budapest 2015*

Statistics Knowledge						
	Start		Begin		End	
N	69		69		61	
Your Knowledge about …	Mean	Std	Mean	Std	Mean	Std
Entrepreneurship (e.g., definiton, concepts)	6.0	1.9	6.9	1.4	8.2	1.2
Entrepreneurial orientation dimensions	4.3	2.4	5.3	2.4	7.7	1.3
Causation logic and effectuation logic	3.4	2.4	4.9	2.5	7.9	1.3
Influences of cultural contexts on business communication processes	6.8	1.8	7.2	1.6	8.1	1.1
Assessing culture	7.0	1.7	7.3	1.6	8.1	1.1
Local adaptation of global strategy	6.7	1.5	7.1	1.5	8.0	1.1
International marketing campaigns	6.6	1.2	7.1	1.2	8.0	0.9
Financial impact on entrepreneurial projects	5.2	2.1	5.8	2.0	7.4	1.2
Incorporation of new media in business strategy	5.9	2.0	6.5	1.8	7.9	1.1
Social media techniques in the entrepreneurial context	6.1	2.1	6.7	1.7	7.8	1.2
Average Knowledge	5.8	1.4	6.4	1.3	7.9	0.8

There are several explanations for the differences in knowledge at the start of the project:
- Differences in levels of education: some of the participants are bachelor and some are master students;
- Differences in study content: some of the participants are studying (International) Business Studies, some Marketing Studies, etc.;
- Differences in universities' curricula: Even though the study is the same, the emphasis of the program can vary between the different universities;
- Work experience: A few of the participants have besides their study their own company.

During the period of working in national teams, the increase of knowledge was for all the topics significant (p <.00). The standard deviation of the scores on the different topics is still high. This is true especially on the topics mentioned before: 'Causation logic and effectuation logic (score at the start 4.9, Std. 2.5)', 'Entrepreneurial orientation dimensions (score at the start 5.3, Std. 2.4)' and 'Financial impact on entrepreneurial projects (score at the start 5.8, Std. 2.0)'.

Table 3 *Differences and standard deviation on different topics of knowledge between the scores at Begin and Start and between End and Begin with their p-values based on Paired Samples t-Test of MARCIEE ISP Budapest 2015*

Statistics knowledge differences Begin - Start and End - Begin						
N	69			61		
	Difference Begin - Start			Difference End - Begin		
Your Knowledge about …	**Mean**	**Std**	**Sign.**	**Mean**	**Std**	**Sign.**
Entrepreneurship (e.g., definiton, concepts)	0.9	1.2	0.00	1.2	1.1	0.00
Entrepreneurial orientation dimensions	0.9	1.3	0.00	2.4	2.4	0.00
Causation logic and effectuation logic	1.5	1.9	0.00	3.0	2.5	0.00
Influences of cultural contexts on business communication processes	0.4	0.7	0.00	1.0	1.1	0.00
Assessing culture	0.3	0.6	0.00	0.8	1.0	0.00
Local adaptation of global strategy	0.4	0.7	0.00	0.9	1.2	0.00
International marketing campaigns	0.6	0.7	0.00	0.9	0.8	0.00
Financial impact on entrepreneurial projects	0.6	0.9	0.00	1.5	1.7	0.00
Incorporation of new media in business strategy	0.5	0.8	0.00	1.4	1.3	0.00
Social media techniques in the entrepreneurial context	0.6	1.0	0.00	1.1	1.3	0.00
Average Knowledge	0.7	0.7	0.00	1.4	1.0	0.00

Table 3 shows that during the period of working in international teams the increase of knowledge was for all the topics significant (p <.00) and higher than the increase during the time of working in national teams. In addition, the standard deviation on increases during this time is for most of the topics higher than during working in national teams reflecting a different learning curve of the students

Table 4 shows that the correlations between the scores on the different topics at the start and at the begin is strong (r > 0.7) and even half of the correlations is very strong (r > 0.9). It means that students with a higher score at the start also have a higher score at the beginning of the project. Interestingly, by working on the same assignment in national teams, the increase in knowledge is for all the students nearly the same independent from the previous knowledge. Every student is benefitting from the project.

Table 4 *Correlations on different topics of knowledge between the scores at Start and Begin and between the scores at Begin and End of MARCIEE ISP Budapest 2015*

Statistics knowledge correlations			
N	69		61
Your Knowledge about ...	Start/Begin		Begin / End
Entrepreneurship (e.g., definiton, concepts)	0.78		0.66
Entrepreneurial orientation dimensions	0.84		0.29
Causation logic and effectuation logic	0.70		0.27
Influences of cultural contexts on business communication processes	0.93		0.72
Assessing culture	0.93		0.79
Local adaptation of global strategy	0.90		0.61
International marketing campaigns	0.83		0.78
Financial impact on entrepreneurial projects	0.91		0.52
Incorporation of new media in business strategy	0.92		0.70
Social media techniques in the entrepreneurial context	0.87		0.69
Average Knowledge	0.88		0.67

Furthermore, table 4 shows that the correlations between the scores on the different topics of knowledge between begin and end of working in international teams is much lower than during the working in national teams. On the topics of 'Entrepreneurial orientation dimensions', 'Causation logic and effectuation logic' the correlation is weak; on the topics of 'Entrepreneurship', 'Local adaptation of global strategy', 'Financial impact on entrepreneurial projects' and 'Social media techniques in the entrepreneurial context' the correlation is moderate; only on the topics of 'Assessing culture', 'International marketing campaigns' and 'Incorporation of new media in business strategy' the correlation is still strong.

This leads to the following conclusion: During the week in Budapest, where the students worked in international teams, the scores on the different topics of knowledge increased much more than during the time students worked in national teams. Especially the students who started with less knowledge gained on the different topics more than students with more knowledge did (see Table 2: the drop in standard deviations of the mean scores on the different topics of knowledge at Begin of the project in Budapest and the End).

Skills
To test the second hypothesis 'Working in international teams expands individual skills more than working in national teams', the following variables have been calculated: For every topic of skills the increase from Start to Begin and the increase from Begin to End was calculated for every participant. After this process the sum of the increases on the different topics of skills were

calculated: TotalSkills_I1 (the total increase per participant from Start to Begin) and TotalSkills_I2 (the total increase per participant from Begin to End).

Thereafter a Paired Sample T-test was performed. The overall increase of skills during the time working in international teams (3.0) is significantly higher (T-value= 3.740 p=0.000) than the overall increase of skills during the time working in national teams (1.4). So the second hypothesis can be confirmed.

In a similar way, the increases for the different topics of skills were calculated and a paired samples t-test was performed (see Table 5).

Table 5 *Increases of student scores on the different topics of skills from Start to Begin, from Begin to End and the p-values on differences in increases of the MARCIEE ISP Budapest 2015*

Your Skills about …	Increase I (Begin - Start)	Increase II (End - Begin)	N	Sig.
Working in cross-cultural teams	0.3	0.8	61	0.01
Business interactions in English	0.3	0.6	61	0.05
Using office tools (video, pptx,excel, word) to deliver high quality outcomes	0.2	0.2	62	0.84
Resistance to stress	0.1	0.4	61	0.06
Organisational skills	0.3	0.4	61	0.35
Adaptiveness	0.2	0.3	61	0.63
Persuasiveness (Convince the others without anoying them)	0.2	0.6	60	0.00
Average Skills	0.2	0.4	60	0.00

The topics marked red the increase from Begin to End is significant stronger than the increase from Start to Begin

For all the topics except 'using office tools', 'organizational skills' and 'adaptiveness' the skill development increase is significant. It is not surprising that the increase on 'working in cross-cultural teams' and 'business interactions in English' is stronger during the time working in international teams than during the time working in national teams. Most of the participants do not work at their universities in cross-cultural teams and the main language of instruction is not at all English. During the work in national teams, they have to read English articles and write a report in English but the conversation between the participants in a national team is not in English. In Budapest, the participants had to work in cross-cultural teams and the main language was English. Not only in reading and writing but also in conversations. Also for the topics 'resistance to stress' and 'persuasiveness' the higher increase during working in international teams compared to working in national teams is understandable. The participants were already used to work in national teams and knew how they have to persuade others rather than having to do this in a strange environment. The same applies for resistance to stress. How to handle stress is easier in familiar surroundings than in an unfamiliar ones.

Table 6 shows the mean scores and the standard deviation on the different topics of skills at the Start, Begin and End of the MARCIEE project. At the start of the project the students worked in national teams. Their skills on all the topics was at the start not lower than 7.1. The standard deviation of the scores on the different topics is quite high. It varies from 1.2 up to 2.4. This means that some of the students have quite good skills at the start of the project and others not. Still, at all consecutive project stages, an increase of all skill levels is notable.

Table 6 *Mean student scores on the different topics of skills at the Start, Begin and End of the MARCIEE ISP Budapest 2015*

Statistics Skills	Start		Begin		End	
N	69		69		61	
Your Skills about …	**Mean**	**Std**	**Mean**	**Std**	**Mean**	**Std**
Working in cross-cultural teams	7.2	2.4	7.6	2.0	8.4	1.3
Business interactions in English	7.4	1.9	7.7	1.7	8.3	1.2
Using office tools (video, pptx,excel, word) to deliver high quality outcomes	7.8	1.4	7.9	1.3	8.1	1.2
Resistance to stress	7.6	1.7	7.7	1.6	8.0	1.5
Organisational skills	7.3	1.5	7.6	1.3	8.0	1.2
Adaptiveness	7.8	1.3	8.0	1.2	8.3	1.1
Persuasiveness (Convince the others without anoying them)	7.1	1.3	7.2	1.2	7.8	1.1
Average Skills	7.5	1.2	7.7	1.1	8.1	0.9

There are several explanations for the differences in skills at the start of the project:
- Differences in education: some of the participants are bachelor and some are master students;
- Differences in study: Some of the students do an international study whereby the main language is English and the students are originally from different countries;
- Work and study experience: Some of the participants did already a study or an apprenticeship abroad.

Table 7 *Differences and standard deviation on different topics of skills between the scores at Begin and Start and between End and Begin with their p-values based on Paired Samples t-Test of MARCIEE ISP Budapest 2015*

Statistics skills differences Begin - Start and End - Begin						
N	69			61		
	Difference Begin - Start			**Difference End - Begin**		
Your Skills about …	**Mean**	**Std**	**Sign.**	**Mean**	**Std**	**Sign.**
Working in cross-cultural teams	0.3	0.8	0.00	0.8	1.0	0.00
Business interactions in English	0.3	0.6	0.00	0.6	0.9	0.00
Using office tools (video, pptx,excel, word) to deliver high quality outcomes	0.2	0.4	0.00	0.2	0.5	0.01
Resistance to stress	0.1	0.5	0.16	0.4	1.1	0.01
Organisational skills	0.2	0.5	0.00	0.4	0.7	0.00
Adaptiveness	0.2	0.5	0.00	0.3	0.6	0.00
Persuasiveness (Convince the others without anoying them)	0.1	0.4	0.00	0.6	0.7	0.00
Average Skills	0.2	0.3	0.00	0.5	0.4	0.00

Table 8 *Correlations on different topics of skills between the scores at Start and Begin and between the scores at Begin and End of MARCIEE ISP Budapest 2015*

Your Skills about ...	Start / Begin	Begin / End
Working in cross-cultural teams	0.95	0.86
Business interactions in English	0.94	0.87
Using office tools (video, pptx,excel, word) to deliver high quality outcomes	0.95	0.91
Resistance to stress	0.95	0.74
Organisational skills	0.94	0.86
Adaptiveness	0.93	0.88
Persuasiveness (Convince the others without anoying them)	0.95	0.79
Average Skills	0.97	0.91

Table 7 shows that during the period of working in international teams the increase of skills was for all the topics significant (p <.01) and higher than the increase during the time of working in national teams. Also the standard deviation on increases during this time is for all of the topics higher than during working in national teams.

Table 8 shows that the correlations between the scores on the different topics of skills between begin and end of working in international teams is slightly lower than during the working in national teams.

We conclude that during the week in Budapest, where the students worked in international teams, the scores on the different topics of skills increased much more than during the time students worked in national teams. The slightly lower correlation during this second period means that nearly all the students benefitted in expanding their skills.

Learning goals
Table 9 shows that in general, the students find it more important to work on their knowledge than to work on their skills. The difference in average aim between working on their skills on the ten topics and working on their skills on the seven topics is 1.1 (p = 0.02 Paired sample t-Test on differences between Aim Average knowledge and Aim Average skills).
The variety per topic is quite high. Minimum standard deviation is 3.3 and the maximum is 5.4.

The expected negative correlation between aim and scores at the start on knowledge did not occur. Only for the topic of 'Entrepreneurship', there is a significant weak correlation. Maybe the focus of the students is not related to their scores at the start but much more to where they are interested

in. The expected positive correlation between aim and increase in scores on knowledge did also not occur. Only for the topic of 'Assessing culture', there is a weak significant positive correlation. The increase not only depends on what the students want to gain on knowledge but also depends on the program of the project.

The expected negative correlation between aim and scores at the start on skills occurred only for the topics 'Business interaction in English' and 'Resistance to stress'. Also on these two topics, a weak significant positive correlation between the total increase in scores on these topics and the aim on these topics can be observed

Summarizing, The third hypothesis 'The increases in knowledge and expanding of skills depends on learning goals defined by the student' should be rejected. This is only valid for the topics 'Assessing culture', 'Business interaction in English' and 'Resistance to stress' but not at all for the other topics.

Table 9 *Aim on different topics of knowledge and skills and correlations between aim and scores at start and correlation between aim and increase in scores between start and end of MARCIEE ISP Budapest 2015*

Correlation between Aim and Scores at begin and Scores total increase

	Aim		Scores at Start		Scores Increase		Correlation	Correlation
Your Knowledge about …	Mean	Std	Mean	Std	Mean	Std	Aim and Start	Aim and Increase
Entrepreneurship (e.g., definiton, concepts)	6.6	3.8	6.0	1.8	2.1	1.6	**-0.30**	0.09
Entrepreneurial orientation dimensions	5.7	4.8	4.3	2.6	3.4	2.3	0.05	0.00
Causation logic and effectuation logic	5.6	5.1	3.4	2.2	4.4	2.3	0.13	0.02
Influences of cultural contexts on business communication processes	5.8	4.1	6.8	1.8	1.3	1.3	0.04	-0.07
Assessing culture	5.9	4.0	7.0	1.9	1.1	1.2	-0.14	**0.25**
Local adaptation of global strategy	6.2	3.8	6.7	1.0	1.3	1.3	-0.05	-0.16
International marketing campaigns	7.8	4.5	6.6	1.4	1.4	1.0	0.00	-0.06
Financial impact on entrepreneurial projects	7.1	5.4	5.2	2.7	2.1	1.8	0.05	0.11
Incorporation of new media in business strategy	7.2	5.1	5.9	1.8	1.9	1.5	0.00	0.03
Social media techniques in the entrepreneurial context	6.8	4.8	6.1	2.8	1.7	1.7	-0.01	-0.05
Average Knowledge	6.3	1.5	5.8	1.4	2.1	1.1	0.00	0.05
Your Skills about …								
Working in cross-cultural teams	6.6	3.9	7.3	2.6	1.1	1.3	-0.22	0.23
Business interactions in English	6.1	4.5	7.4	1.6	0.9	1.1	**-0.50**	**0.37**
Using office tools (video, pptx,excel, word) to deliver high quality outcomes	4.0	3.5	7.8	1.6	0.3	0.7	-0.24	0.11
Resistance to stress	4.4	3.5	7.6	1.7	0.4	1.2	**-0.41**	**0.28**
Organisational skills	6.0	4.4	7.4	1.6	0.7	0.9	-0.01	-0.08
Adaptiveness	5.5	3.7	7.8	1.9	0.5	0.7	-0.21	0.15
Persuasiveness (Convince the others without anoying them)	5.5	3.4	7.1	2.0	0.7	0.8	-0.10	0.08
Average Skills	5.2	2.1	7.5	1.2	0.7	0.5	**-0.26**	0.22

Figures in Bold means a significant correlation

Conclusions

At the end of the intensive but fruitful week in Budapest, it could be identified that the starting level in entrepreneurial knowledge and skills were quite different between the delegations. For some university students the topic related to entrepreneurship was well known or has even been part of their curriculum. On the other hand, for other university students it seems that entrepreneurship was a new topic and, therefore, they could make the most out of the learning experience.

Working in an international setting together with international students was for many of them the first intercultural experience. Learning in a cross-cultural team elicited issues such as cultural complexity or language proficiency, which raised the levels of stress among some students. Latter aspect is an innovative contribution of the paper as the perception of stress, so far, was relating to long-term durations only. Gaining knowledge or improving students' skills is quite different between the respective delegations during the time they worked together in national teams. It was acknowledged by the students that during the whole project, especially during the week in Budapest, students gained a lot of knowledge of topics related to entrepreneurship and improved their skills significantly. The development of these skills could be easily observed as the days during the week were passing.

On the other hand, the differences or even the lack of knowledge and skills identified at the beginning of the week decreased. Despite the complexity, it is important to acknowledge that the students have benefitted to a great extent from the intercultural learning experience.

Implications and Limits of the study

Limitations

The paper has a number of limitations, mostly based on the sample used. Obviously, the sample is not representative of any larger student body but limited to the students participating in the ISP in Budapest. Therefore, no generalization is possible on the findings of this study.

An additional limitation is due to the sample size: the usable questionnaires were 60. The small number of cases available made it difficult to attain a good differentiation of students' profile. Further research allowing for a better understanding of the influence of variables such as nationality, age and gender (even if in the latter case the number of cases for each possibility was higher) would require larger samples. A larger sample would also allow for applying explanatory multivariate analytical approaches and investigating potential moderating or mediating effects.

Moreover, the sample is basically self-selected: all the students who participated in the ISP had volunteered to do so and, consecutively, went through a selection process, given that in many partner universities there were more applicants than places available. It can be surmised that those students are particularly tuned to operate in an international and multicultural environment. Therefore, their higher rate on improvement knowledge during the ISP might not be replicable by a body of students who are less international-minded.

Finally, the paper presents the results of a research involving students who worked in national teams for the first part of the programme (before the IPS) and in international teams during the ISP. Although the hypotheses in terms of a higher knowledge and skills increase by working in international rather than national teams were confirmed, future research is suggested to test if the increase might be due to a different type or intensity of work carried out in the two periods.

Implications

Despite the limitations, this study offers relevant insights on the effectiveness of multinational and multicultural teams in improving knowledge and skills of their members. This has major implications for universities: they can enhance the intercultural knowledge and skill development results at least for students who have already an international inclination –by opening recruitment for many degree courses to foreign applicants. This applies also to international companies that might find the early involvement in mixed teams conducive to a better preparation of their employees slated for an expatriate mission. Stepping out of the comfort zone of culturally homogeneous teams might support learning within the companies in a similar manner and, thus, provide companies with competitive advantages. In this respect, the study at hand opens a promising venue for further research in management-related functional domains, e.g., R & D, sales and marketing.

The parallel improvement the sample showed in theoretical knowledge acquisition, capability development to apply this knowledge, and behavioural skills, indicates that the process adopted by the MARCIEE team entails useful results. The procedure followed by the MARCIEE programme for its ISP, therefore, may be seen as a blueprint for universities and companies for the transmission of valuable intercultural competencies.

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