Editorial Manager(tm) for Advances in Business Education and Training
Manuscript Draft

Manuscript Number: ABET-D-09-00007R2

Title: Academic and social integration of international and local students at five business schools, a cross-institutional comparison

Article Type: Original Papers

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Abstract: An increasing number of students choose to study at a university in a foreign country. A common belief among educators is that international students are insufficiently academically adjusted. Recent research has found a mixed picture on whether international students underperform in academic integration and academic performance. Therefore, Morrison et al. (2005) argue that research should extend its focus to understanding the underlying reasons for these performance differences of international versus local students.
In a cross-institutional comparison among 871 students of five business schools, we investigated the differences in academic and social integration amongst local and international students. International students value their faculty and educational system more than local students. However, international and local students have limited social contact with each other and spend their private time differently. Finally, students with a non-Western background are less integrated than Western students, have considerable lower academic and social integration scores and have (marginally) lower GPA and ECTS scores. Institutes with small classes and collaborative learning settings seem to provide a more favourable learning environment for international students.

Response to Reviewers:

Academic and social integration of international and local students at five business schools, a cross-institutional comparison

Abstract

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Keywords: Academic integration, International students, Social integration, Cross-institutional comparison.

Introduction

An increasing number of students choose to study at a university away from their home country (EUROSTAT, s.d.). Next to the enriched, more international atmosphere at the host universities (Van der Wende, 2003), there are some reservations among educators regarding the academic and social integration of international students. A common assumption in higher education is that *academic integration*, that is the extent to which students adapt to the academic way-of-life (Tinto, 1975), of international students is not well aligned with the requirements of higher educational institutes (Asmar, 2005; Barrie, 2007; Morrison, Merrick, Higgs, & Le Métais, 2005). Recent research has found a mixed picture on whether international students underperform in academic integration and academic performance. Therefore, Morrison et al. (2005) argue that research should extend its focus on comparisons in performance of international versus local students to the underlying reasons for these differences.

According to Tinto (1975, 1998), students not only need to persist at university in order to graduate but they also need to participate in the student culture, both within and outside the immediate context of the learning environment. Severiens and Wolff (2008) found that students who feel at home, who are well connected to fellow students and teachers and who take part in extra-curricular activities are more likely to graduate. In addition, Wilcox et al. (2005) found that social support by family and friends (i.e. social networks of students) has a positive influence on the study-success of first-year students. Having a sufficient number of

friends, sharing accommodation with other students as well as contacts with the university staff can influence social integration. We define *social integration* as the extent to which students adapt to the social way-of-life at university. Recently, researchers are broadening the focus on academic integration and academic performance to the social integration of students (Severiens & Wolff, 2008; Wilcox et al., 2005; Yazedjian & Toews, 2006). The goal of this paper is first to identify whether academic and social integration differs for local and international students. Second, we will identify the underlying reasons why academic and social integration between local and international students are different. Third, we will assess whether (potential) differences in academic and social integration between local and international students also has an impact on study-success. Finally, we will investigate whether institutional differences can explain why some business schools are more able to facilitate the adjustment processes of international students than others.

Academic Integration

Baker and Siryk (1999) have assessed that academic integration has a large influence on study performance. Baker and Siryk (1999) distinguish four concepts in academic integration, namely academic adjustment, social adjustment, personal and emotional adjustment and attachment. *Academic adjustment* refers to the degree of a student's success in coping with various educational demands such as motivation, application, performance and satisfaction with the academic environment. *Social adjustment* on the other hand describes how well students deal with the interpersonal-societal demands of a study, such as working in groups. The scale *personal and emotional adjustment* indicates the psychological and physical level of distress experienced while adapting to the academic way-of-life. Finally, *attachment* reflects the degree of commitment to the educational-institutional goals. In a large number of studies in U.S. colleges, the four concepts of academic adjustment are positively related with study progress and study performance (Baker & Siryk, 1999).

In contrast to the U.S., in Europe there is a distinction between universities of applied science (Uas) and universities (Uni). A main distinction between these two types of universities is the degree of *professional orientation*, that is degree of practical relevance of education to specific jobs such as accountants, marketers or sales managers. While universities are mainly research-driven with a strong theoretical focus in education, universities of applied science offer education of professional and practical relevance. Research in the Netherlands indicates that ethnic minorities are more likely to register for Uas due to the practical applications (Severiens & Wolff, 2008; Wolff, 2008). Therefore, we have added professional orientation of students to academic integration.

Social Integration

Current research indicates that institutes and the social networks of students have a large influence on how first-year students adjust (Christie, Munro, & Fisher, 2004; Severiens & Wolff, 2008; Tinto, 1998; Wilcox et al., 2005). Therefore, in line with Severiens and Wolff (2008) we distinguish two elements in social integration among students, namely the social integration facilitated by the institute (i.e. formal social integration) and the social integration facilitated by the social network of students (i.e. informal social integration).

Based upon an extensive literature review, we have identified two factors for formal social integration: the perception of the faculty and the educational system. The *perception of faculty*, that is the perceived esteem of the faculty by family, friends, the general public and future employers, influences the social integration of students (Gloria, Castellanos, Lopez, & Rosales, 2005). Higher Educational Institutes are increasingly aware of impacts of ranking lists such as those published in the Financial Times on the choices that students make when selecting a new business programme. Therefore, business institutes spend considerable effort in providing non-academic facilities to students (e.g. campus, ICT-facilities, social life, cultural programmes) in order to differentiate them from other institutes (Bok, 2003). An business institute with a well-perceived reputation by the social network of the student is expected to have a positive influence on the persistence of study. The *educational system* used at the institute has a strong influence on academic and social integration of students (Christie et al., 2004; Eringa & Huei-Ling, 2009). For example, Christie et al. (2004) found that institutes with smaller classes and intensive mentoring are more successful in retaining students during the first year of studies than institutes with large classes. Research on constructivist learning methods like Problem-Based Learning (PBL) has highlighted that students are more likely to develop social relationships with other students than when students are following education in large lecture halls (Hmelo-Silver, 2004; Lindblom-Ylänne, Pihlajamäki, & Kotkas, 2003). In addition, a common educational method among universities of applied science is Competence-Based Education (CBE), whereby education is focussing on relevant professional competences and skills of students rather than theoretical and general knowledge (Baartman, Prins, Kirschner, & Van der Vleuten, 2007; Segers, Dochy, & Cascallar, 2003).

With respect to the informal social integration of students, we distinguish three factors, namely: social support by family and friends; social life; and national/ethnic identity. Wilcox et al. (2005) found that *social support by family and friends* has a strong influence on study-success of first-year students. In general, the role of the family on the attitudes and motivation of students has been consistently found in educational psychology (Attewell, Lavin, Domina, & Levey, 2006; Cokley, Bernard, Cunningham, & Motoike, 2001). The *social life* outside of the academic environment has a strong influence on academic integration. Having a sufficient number of friends, sharing accommodation with other students, being member of a study association, student fraternity or sports club can influence social integration (Bok, 2003; Severiens & Wolff, 2008). This allows students to become part of a social life that is closely attached to the university setting (Tinto, 1998). Finally, research on cross-cultural differences has highlighted that both *national and ethnic identity* (Asmar, 2005; Eringa & Huei-Ling, 2009; Phinney, 1990; Yazedjian & Toews, 2006) influence how students learn in social networks. For example, Skyrme (2007) found that Chinese students who entered at a New Zeeland university had significant transitional problems. German students differed significantly with respect to learning styles and study performance to Dutch students at a Dutch business school(Tempelaar, Rienties, & Gijselaers, 2007). In addition, recent research on interaction patterns among international and local students indicates that local and international students live in separate social groups and therefore lead different social lives(Rienties, Grohnert, Nijhuis, Kommers, & Niemantsverdriet, 2009). Last-but-not-least, research on cultural differences has highlighted that an individual's self-concept is influenced

by the sense of belonging to a particular ethnic group (Phinney, 1990). For example, Yazedijan and Toews (2006) found that self-esteem, ethnic identity and acculturation among Hispanic students were more important than parental education and attachment to the institute. Gloria et al. (2005) found that perceived social support from friends, mentorship and perception of the university significantly influence whether Hispanic students successfully remain in college. Asmar (2005) found substantial differences integration between local Muslims from Australia and international Muslims who studied in Australia.

Research questions

- To what extent do international students differ from local students with respect to academic and social integration?
- To what extent do non-Western students differ from Western students with respect to academic and social integration?
- To what extent do non-Westerns students differ from Western students with respect to study-success?
- To what extent do institutional settings influence the academic and social integration of international students?

Methods

Setting

In this research, academic and social integration will be compared among local and international students using a dataset that was composed from nine institutes of higher education in the Netherlands. In this study, we will focus on five business schools who offer business and economics programmes to first-year bachelor students. Four out of five institutes in our setting are universities of applied science (see Table 1). Three of these Uas offer International Business and Management (IMBS). The HHS and HES are located in The Hague and Amsterdam, while NHTV, HZ and UM are located in the smaller cities of Breda and Maastricht. The largest foreign group of students in four out of five institutes are German. Finally, four out of five institutes use CBE as a pedagogical approach, while NHTV also uses PBL. Finally, UM uses primarily PBL. Given that the five business schools use a variety of student support systems and pedagogical approaches, we expected that some business schools will be more able to support their international students in adjusting to the institute than others. In particular, business schools with small-scale education and a professional orientation were expected to better facilitate academic and social integration of international students. Next to the SACQ and professional orientation, five variables were hypothesized to mediate a student's social integration: perception of the faculty; educational system; support by friends and family; the social life; and nationality/ethnic identity.

Participants

The integrated questionnaire was distributed to 2647 students in February-April 2009 among nine Dutch Higher Educational Institutes. The students had been at their institute for six to seven months (see Table 1). Particular care was taken to target programs that had a significant portion of international and local students in order to be able to make direct comparisons on both the institute and the aggregate level. In total, 1340 (50.6%)

questionnaires were returned, with the subset of five institutes consisting of 959 (50.8%) respondents. 871 respondents fully completed the questionnaire. In return for their effort, students were offered a feedback on their scores relative to other students from their institute. In addition, students could win an iPod Nano or one of five vouchers of 25 Euros.

Table 1 Respondents per institute and educational program

Insert table 1 about here

Measurements

Academic integration

Student Adaptation to College Questionnaire and Professional Orientation

Academic integration was measured by the Student Adaptation to College Questionnaire (Baker & Siryk, 1999), which consists of four scales and a total score. Firstly, academic adjustment was measured by 24 items such as 'I know why I am at this institute and what I want out of it' and yielded a Cronbach alpha (α) of .824. Secondly, social adjustment was composed of 20 items like 'I am meeting as many people and making as many friends as I would like at the institute' with α = .838. Thirdly, personal-emotional adjustment consisted of 15 items such as 'I have been feeling tense and nervous lately' with α = .838. Lastly, attachment to institute was measured by 15 items like 'I expect to stay at this university for my master degree' with α = .847. Applications of SACQ in Belgium and the Netherlands have confirmed that SACQ is also useful in a European context (Beyers & Goossens, 2002; Niculescu, Nijhuis, & Gijselaers, 2009). In addition, professional orientation was included in academic integration, which consisted of four items like "My study is oriented to the actual developments of future professional activities" with α = .731.

Social Integration

Social Integration Questionnaire

Social integration was measured by the Social Integration (SI) instrument developed at Maastricht University (Rienties et al., 2009), which consists of 37 questions in six subscales. Firstly, perceptions of the institute by others was measured by three items like "I think that employers have a good perception/image of my study", yielding α = .747. Secondly, the appropriateness of the educational system used by the institute was measured by two items like "The reason to go the Maastricht University was mainly Problem-Based Learning" with α = .627. Thirdly, the support of the social network of the students by family and friends was measured by three items like "My family encourages me to stay in the faculty" with α = .796. Fourthly, the satisfaction of social life was assessed by six items like "I am satisfied with my social life outside of class" with α = .778. Fifthly, the national/ethnic identity was measured by four open questions, namely mother's mother tongue, father's mother tongue, own mother tongue and official citizenship(s). In total 79 nationalities and 129 ethnic identities were present in the database. Therefore, in order to prevent a fragmented approach of comparing a limited amount of students within each ethnic category, students were categorized according to the "degree of Westernness". We assumed that the more Western influences a student had,

the easier it would be for the student to adjust to the Dutch culture. Thus, in each of the four categories a distinction was made between Western cultures (European Union, USA, Canada, Australia, New Zealand) and non-Western cultures. Consequently, four groups (Dutch, Western, mixed-Western, non-Western) were distinguished. Dutch students can thus compared to students that had a completely Western background (e.g. German student with German parents), a mixed-Western background (e.g. a German student with Turkish parents who was born and raised in Germany), or a purely non-Western background (e.g. Chinese students with Chinese parents). Finally, students were asked whether they were member of fraternities or study associations, had a part-time job and what their degree of contact was with local students, with students of the largest foreign groups (German or Chinese students) and with other international students.

Study-Success

The study-success of participants was assessed by comparing the number of ECTS credits obtained after one year of study as well as the GPA. In total 68% of the ID-numbers could be linked with the study-success data of the five business schools. Data from HHS and HvA was missing due to the policies of privacy at the respective institutes.

Analysis

The interrelationships between all measures were assessed using ANOVAs, Chi-Squares tests and effect sizes (Cohen's d). Cohen d express the distance between two group means in terms of their pooled standard deviation (Cohen, 1998). Cohen (1998) recommend that d = 0.20 (small effect), d = 0.50 (moderate effect) and d = 0.80 (large effect) serve as general guidelines across disciplines. Finally, a k-means cluster analysis was conducted in order to compare clusters over all academic and social integration variables. Here, four clusters provided the most appropriate model fit and allowed further identification of causes of variances and group differences.

Results

In Table 2, the mean and standard deviations of the ten academic and social integration variables are illustrated. As was found previously (Baker & Siryk, 1999; Beyers & Goossens, 2002), the four subscales and total scores of SACQ are highly intercorrelated. In addition, there is a positive correlation between the SACQ scales and professional orientation. The two formal social integration variables (perception of the faculty, educational system) are positively correlated with the academic integration variables. The perception of the faculty is particularly correlated with the attachment and professional orientation of the institute. The choice for a particular educational system is positively correlated with academic adjustment and professional orientation. For the two informal social integration variables, support of family and friends is mainly correlated with perception of the faculty and professional orientation, while social life is mainly correlated with social adjustment and attachment to the institute.

Table 2 Correlations among academic and social integration variables

Insert Table 2 about here

Table 3 shows the aggregated results for the academic integration of local (Dutch) and international students. International students score significantly higher on professional orientation (d = -0.28), while Dutch students score higher on personal-emotional adjustment (d = 0.30), but all effect sizes are small. Table 4 illustrates the social integration of local and international students. Dutch students have significantly more contact with fellow Dutch students (d = 0.91). The effect size is the largest for this variable, implying that substantial differences in social contacts occur between Dutch and international students. In addition, Dutch students are more likely to be a member of a student fraternity (26% compared to 12%) and to have a part-time job (60% compared to 39%). International students indicate that their social networks have a higher perception of their institute (d = -.34) and international students are in more contact with the largest foreign group (d = -.81) and other international students (d = -.37). Lastly, they are more likely to be the member of a study association (15% compared to 7%). In other words, by looking at the overall scores of academic and social integration of international students in comparison to Dutch students, one could conclude that there are no substantial differences on academic integration with the exception of personal and emotional adjustment. In contrast, the social life of international students is substantially different from Dutch students. A potential caveat of these findings are that aggregating all international students together in one category undermines the (expected) substantial differences in academic and social integration between Western and non-Western students.

Table 3 Academic Integration of Dutch versus International Students

Insert Table 3 about here

Table 4 Comparison of Dutch and International Students in social integration

Insert Table 4 about here

In order to gain a more detailed perspective of the different (sub)groups of international students, Table 5 and 6 illustrate the academic and social integration of Dutch, Western, mixed Western and non-Western students. In comparison to Dutch students, Western students score higher on all scales of academic integration with the exception of personal/emotional adjustment. In addition, mixed-Western student score significantly higher on all dimensions of academic integration in comparison to both Dutch and Western students. However, non-Western students score significantly lower on all elements of academic integration with the exception of academic adjustment. The lower academic integration scores for non-Western students are replicated for social integration with the exception of the educational system. Non-Western students are less satisfied with their social life and have less contact to Dutch and other Western students. Mixed-Western students score highest on support by family and friends and social life. Western students have the highest perception of their institute and are mostly in contact with the largest foreign group of students.

Overall, we can conclude that the social worlds of Dutch and international students (in general) are highly segregated. That is, Dutch students are more likely to have contact to only Dutch students, who mostly have a part-time job and who are more likely to be a member of a

student fraternity. Mixed-Western and non-Western students have mostly contacts among other mixed/non-Western students. Western students mainly have contacts to the largest foreign group, mainly Germans. In other words, the social segregation of social networks in Table 4 is replicated when we distinguish various subgroups of international students in Table 6. Finally, if we look at study-success, Western students attain higher GPA and numbers of ECTS than Mixed-Western, Dutch and non-Western students. As was expected non-Western students score significantly lower on both GPA and ECTS than Western students, while this difference disappears when we compare non-Western with Dutch or mixed-Western students.

Table 5 Academic Integration of Dutch students versus international student groups

Insert Table 5 about here

Table 6 Comparison of Dutch students and international student groups in social integration

Insert Table 6 about here

From Table 2-6, one can conclude that the standard deviation of several academic and social integration variables is substantial, indicating that some (groups of) students do better or worse than the average student. In order to further differentiate which participants are clustered according to their scores on academic and social integration, a k-means cluster analysis was performed. Due to the fourfold division of the nationality score, four cluster centres provided the best fit. As can be seen from Table 7, cluster 1 and cluster 2 contain the highest-scoring students of the sample across academic and social integration, up to the variable social life. Cluster 3 and cluster 4 contain the lowest and lower scoring students on academic and social integration. In Table 8, 69% of Dutch and Western students are present in cluster 2 and cluster 4 regarding academic and social integration. Mixed-Western students can also mainly be found in cluster 2 and cluster 4, while 59% of all non-Western students are represented among the low-adjusted students of cluster 3 and cluster 4. In other words, by using a cluster analysis, the academic and social integration and study-success indicators among local and foreign students shows an appealing picture for both proponents and opponents of further internationalisation of higher education. That is, from a proponents' point of view, we find that Western and mixed Western students do at least as well as local students, while 31% of the non-Western students also do well on academic and social integration. From an opponents' point of view, the relatively large subgroup of 59% of non-Western students who belong to the underperforming cluster 3 and cluster 4 students indicates that the majority of non-Western students is not well equipped to start at a business school.

Table 7 Cluster Centers for Academic and Social Integration

Insert Table 7 about here

Table 8: Cluster Centres by Nationality Groups (in %)

Insert Table 8 about here

Comparison among five business schools

In general, the students at NHTV score higher on academic and social integration than the other four institutes (not illustrated). Western students at NHTV score higher on academic integration than the other four institutes. With respect to social integration, Western students are more likely to have social contacts with Dutch students at HZ, NHTV and followed by HES, HHS and finally UM. Non-Western students do particularly well at NHTV on academic and social integration, while non-Western students at HES and HHS underperform relative to their Dutch and other non-Western peers.

Discussion

In this paper, we tried to determine whether academic and social integration of international students differed from local (Dutch) students at five business schools in the Netherlands. A common assumption among educators is that academic and social integration of international students, that is the extend to which students adapt to the academic and social way of life, is not well taken into consideration by institutes of higher education. In order to gain a perspective on this lack of adjustment, this study tried to identify the underlying reasons for students' successful or unsuccessful integration, as suggested by Christie et al.(2004). As a new feature of this study, student retention was explained by both academic integration Baker & Siryk, 1999; Beyers & Goossens, 2002) and social integration(Severiens & Wolff, 2008; Tinto, 1998; Wilcox et al., 2005). Finally, by extending the focus to five business schools across the Netherlands, different teaching methods could be compared with regard to their effects on student integration.

Our first main finding is that contrary to popular beliefs the academic integration of international students was not worse than local students. International students did score lower on personal and emotional adjustment than Dutch students, but this can be explained by the fact that adapting to a new culture takes time and might cause stress (Asmar, 2005; Skyrme, 2007). Given that the questionnaire was distributed after six to seven months after the start of the students' academic study, one might expect that international students were not yet fully emotionally adjusted. With time, one might expect that the emotional and personal adjustment problems of international students will disappear. This could be investigated in further research using longitudinal data on this dataset.

A second major finding is that the social worlds of international students differed significantly from local students. That is, international students were less likely to have contact to Dutch students. Furthermore, international students were less likely to have a part-time job or be member of a student fraternity. An obvious reason for this segregation of social worlds is that international students mostly need to be able to speak Dutch when becoming member of a student fraternity or working besides one's study. This might be a substantial barrier for some international students. At the same time, the limited social contacts of Dutch students to international students indicates that Dutch students, who mainly study at an international business programme and do not have difficulties to speak English, perceive substantial barriers to make contact to international students in their social life. Whether this

is due to the lack of effort of Dutch or international students to make social contacts needs to be investigate in future research.

A third major finding is that the successfulness of academic and integration is partly related to the degree of Westernness of international students. In general, (mixed) Western students performed equal or even better than Dutch students on academic integration. This is an positive and optimistic finding for all educators who are concerned with the impact of increased internationalisation (Van der Wende, 2003). Furthermore, (mixed) Western students had a higher perception of the reputation and the educational system at the institute. In contrast, 59% of non-Western students performed significantly lower on all scales of academic integration with the exception of academic adjustment. Furthermore, most non-Western students were less satisfied with their social life and received the lowest amount of social support from family and friends. Non-Western students were well represented among student fraternities and study associations. However, given that most non-Western students studied at HES and HHS who have specific student fraternities and associations for international students, it is quite likely that the actual contacts with Dutch students are limited. This was reflected by the fact that non-Western students had the lowest contacts of all three Western groups with Dutch students. Overall, there are substantial acculturation problems for 59% of non-Western students in our sample. This requires a pro-active institutional approach (e.g. study coaching, mentoring, small classes) to facilitate non-Western students with their adjustment process when studying at a business school.

A fourth major finding is that students from local (Dutch) and non-Western backgrounds seem to score lower GPA and ECTS in comparison to Western students. The fact that Dutch students underperform relative to Western students has been found before (Tempelaar, 2006; Tempelaar et al., 2007). The lower study success of non-Western students has also been found before (Morrison et al., 2005). Although we found that non-Western students obtained lower GPA, their ECTS credits were not lower than local and mixed-Western students.

Finally, in particular the NHTV and HZ were effective in facilitating the academic and social adjustment processes of international students, while in particular non-Western students at HHS and HES seemed to have more academic and social integration issues. It seems that if large groups of a certain category of international students are present at the institute, it becomes easier for international students to form separate social networks. This might explain why Western students at UM (who form 70% of the response group) have limited contacts to Dutch students. At the same time, the relatively large group of non-Western students at HHS might have sufficient size not to integrate with Dutch students, while the 4 or 5 non-Western students who study at HZ or NHTV were “automatically” stimulated to join social activities of the large Dutch community. However, given the different student populations and unequal response rates among the five business schools, one should be cautious in making inferences about the (lack of) successfulness of certain business schools to facilitate international students in their study.

Limitations and future research

A first limitation of this research is that we used self-reported scores of students on academic and social integration. Besides the known issues with using self-reported scores,

groups or persons who are "at risk" might not have returned the questionnaire or would have filled in the questionnaire in a socially desirable manner. By distributing the internationally validated questionnaires in class on paper, we tried to limit this selection bias. In addition, we indicated that each student would be given feedback on their academic and social integration scores, hoping to encourage students to report true scores.. A second limitation of this research is that the questionnaire was distributed after six to seven months, which might (possibly) prevent us to incorporate (international) students who had already dropped out. Last but not least, the actual academic study success of HHS and HVA was not taken into account in this study. Nonetheless, previous research (Baker & Siryk, 1999; Beyers & Goossens, 2002; Gloria et al., 2005; Niculescu et al., 2009; Severiens & Wolff, 2008) has consistently found that low scores on academic and/or social integration leads to poor academic performance of students. In addition, the primary focus in this paper was to assess how international students perceive the academic and social worlds in which they study, in line with recommendations of Christie et al. (2004).

Given the above limitations, we aim to do a second measurement of the questionnaire among to new first-year students in December 2009. In addition, we will gather longitudinal study performance data of these respondents in order to assess what the impact of academic and social integration is on their learning outcomes and validate our findings. Finally, in the NAP acculturation project nine online acculturation courses among nine higher educational institutes in the Netherlands were implemented in spring-autumn 2009 to a large number of international students in a range of disciplines. By offering these courses, we focussed on getting international students acquainted with the Netherlands and the specific issues at the institute. In this way, we hope to facilitate in particular non-Western students who have according to our findings the largest adjustment problems in our business schools.

Acknowledgements

This research has been financed by SURF Foundation as part of the NAP acculturatie project (http://www.acculturation.nl/). We found like to thank the following people who helped with the data collection and the overall implementation of the NAP project: Paul Jacobs, Wim Swaan, Ilja Kogan and Albert Lamberix from UM, Bert Kamphuis and Marleen van der Laan from HZ, Mascha Lommertzen and Sylvia Hermans from NHTV, Toke Hoek, Sofia Dopper and Dagmar Stadler from TU Delft, Jan Brouwer from HHS, Brechtine Detmar and Peter Dekker from HvA, Carien Nelissen, Henk Frencken and last but not least Ria Jacobi from Universiteit Leiden.

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Institute	Educational programme	Uas/Uni	Educational system	Largest Foreign Group	Total respond-ents	%
Hogeschool Zuyd (HZ)	International Business and Management Studies (IBMS), HEBO and Hotelschool	Uas	CBE	German	65	17
NHTV Breda	International Media and Entertainment Management (IMEM), International Leisure Management (ILM)	Uas	PBL & CBE	German	159	53
Haagse Hogeschool (HHS)	International Communication Management (ICM), International Business Management Studies (IBMS)	Uas	CBE	Chinese	172	57
Hogeschool van Amsterdam (HES)	International Business Management Studies (IBMS), International Financial Management (IFM)	Uas	CBE	German	40	51
Maastricht University (UM)	International Business (IB), International Business Economics (IBE)	Uni	PBL	German	435	52
Total					*871*	*46.2*

	M	SD	Tot	AA	SA	PEA	A	PO	PF	ES	SFF
SACQ Total (Tot)	414.42	51.48	1								
Academic Adjustment (AA)	146.43	22.22	.82**	1							
Social Adjustment (SA)	124.08	20.12	.74**	.50**	1						
Personal-Emotional Adjustment (PEA)	91.82	18.36	.73**	.51**	.41**	1					
Attachment (A)	102.41	16.40	.71**	.56**	.78**	.45**	1				
Professional Orientation (PO)	18.48	3.20	.37**	.44**	.35**	.16**	.45**	1			
Perception of Faculty (PF)	11.21	2.18	.22**	.21**	.26**	.14**	.38**	.42**	1		
Educational System (ES)	6.11	1.88	.18**	.26**	.11**	.03	.15**	.32**	.11**	1	
Social Support by Family and Friends (SFF)	13.35	2.78	.18**	.17**	.19**	.07*	.25**	.26**	.28**	.08**	1
Social Life (SL)	33.59	7.21	.66**	.39**	.87**	.32**	.66**	.31**	.23**	.10**	.19**

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

	Dutch		International			
	M	SD	M	SD	t-test	d-value
SACQ Totaal	415.86	49.15	409.75	50.59	1.69†	0.12
Academic adjustment	142.36	20.54	144.78	20.82	-1.62	
Social adjusment	123.22	17.87	124.03	20.60	-0.57	
Personal/Emotional adjustment	94.71	17.78	89.43	18.47	4.02**	0.30
Attachment	103.87	15.05	104.31	16.28	-0.36	
Professional Orientation	18.31	2.76	19.14	2.93	-2.88**	-0.28

Independent sample T-test (2-sided) and Cohen d-value of Dutch students (n=289) vs. Foreign students (n=582)

**Coefficient is significant at the 0.01 level (2-tailed).

*Coefficient is significant at the 0.05 level (2-tailed).

† Coefficient is significant at the 0.10 level (2-tailed).

	Dutch		International			
	M	SD	M	SD	t-test	d-value
Perception of institute	10.87	1.95	11.58	2.13	-4.73**	-0.34
Educational system	5.96	1.75	6.08	1.88	-0.93	
Support family & friends	12.25	2.21	12.00	2.45	1.49	
Social Life	34.17	6.36	33.66	7.04	0.94	
Contact with Dutch	4.01	1.02	2.95	1.23	12.63**	0.91
Contact with largest foreign group	2.62	1.40	3.77	1.41	-11.29**	-0.81
Contact with other nationalities	2.55	1.31	3.03	1.27	-5.17**	-0.37
Member student fraternity (%)	0.26		0.12		51.12**	
Member study association (%)	0.07		0.15		13.76**	
Part-time job (%)	0.60		0.39		33.69**	

Independent sample T-test (2-sided) and Cohen d-value of Dutch students (n=289) vs. Foreign students (n=582) and Chi-Square analysis for last three variables

**Coefficient is significant at the 0.01 level (2-tailed).

*Coefficient is significant at the 0.05 level (2-tailed).

	Dutch		Western		mixed Western		non-Western		
	M	SD	M	SD	M	SD	M	SD	F-value
SACQ Totaal	404.54	43.64	408.31	47.98	417.65	46.20	388.58	55.10	5.84**
Academic adjustment	141.57	20.01	144.17	20.13	151.17	21.66	145.23	23.72	3.38**
Social adjusment	123.65	17.21	126.03	20.04	128.51	16.00	116.13	22.45	13.47**
Personal Emotional adjustment	94.93	17.75	89.84	18.46	92.03	18.32	86.40	16.36	8.31**
Attachment	103.91	14.51	106.35	15.40	105.21	15.93	95.40	17.57	14.82**
Professional Orientation	18.18	2.60	19.17	2.56	19.96	3.13	18.63	2.89	4.17**

ANOVA F-Test for Dutch students (n=260), Western students (n=428), mixed-Western students (n=79) and non-Western students (n=86).

**Coefficient is significant at the 0.01 level (2-tailed).

*Coefficient is significant at the 0.05 level (2-tailed).

† Coefficient is significant at the 0.10 level (2-tailed).

	Dutch		Western		mixed Western		non-Western		
	M	SD	M	SD	M	SD	M	SD	F-value
Perception of institute	10.89	1.97	11.80	2.09	10.92	2.10	10.83	1.96	15.18**
Educational system	5.98	1.75	5.93	1.90	5.94	1.82	6.83	1.67	6.08**
Support family & friends	12.23	2.20	12.09	2.38	12.29	2.72	11.46	2.45	2.5†
Social Life	33.53	6.26	33.98	6.90	36.67	5.77	30.82	7.72	9.54**
Contact with Dutch	4.01	1.01	2.91	1.24	3.44	1.23	2.90	1.20	51.22**
Contact with largest foreign group	2.61	1.39	3.92	1.38	3.17	1.47	3.42	1.39	49.23**
Contact with other nationalities	2.46	1.29	2.88	1.29	3.41	1.17	3.48	1.06	20.64**
Member student fraternity (%)	0.27		0.09		0.17		0.24		167.00**
Member study association (%)	0.07		0.14		0.13		0.19		107.88**
Part-time job (%)	0.61		0.39		0.44		0.44		36.74**
GPA	6.64	0.99	7.02	0.93	6.84	0.75	6.55	0.96	7.74**
ECTS	54.16	9.15	56.31	6.99	53.33	5.33	54.04	9.11	4.13**

ANOVA F-Test for Dutch students (n=260), Western students (n=428), mixed-Western students (n=79) and non-Western students (n=86).

**Coefficient is significant at the 0.01 level (2-tailed).

*Coefficient is significant at the 0.05 level (2-tailed).

† Coefficient is significant at the 0.10 level (2-tailed).

	Cluster Centers				
	highest n=152	2nd highest n=308	3rd highest n=258	4th highest n=139	F
SACQ Totaal	475.38	426.09	382.34	332.93	1606.95**
Academic adjustment	171.73	150.14	134.41	118.74	448.86**
Social adjusment	145.46	132.3	116.74	99.3	355.47**
Personal/Emotional adjustment	112.16	96.4	83.91	70.78	252.91**
Attachment	120.76	111.43	99.57	81.23	435.23**
Perception of the Faculty	11.93	11.65	11.12	10.57	8.91**
Educational System	6.5	6.13	6.02	5.33	9.72**
Social Support by Family and Friends	12.57	12.33	11.84	11.53	5.93**
Social Life	14.63	14.08	13.07	12.59	171.57**
Contact with Dutch	3.53	3.45	3.1	3.02	7.97**
Contact with largest foreign group	3.56	3.47	3.3	3.27	0.6
Contact with other nationalities	3.12	2.89	2.76	2.81	2.06
Member of student fraternity	0.49	0.44	0.47	0.45	0.78
Member of study association	0.15	0.18	0.14	0.17	0.7
Part-time Job	0.1	0.13	0.11	0.13	0.72
GPA	7.01	7.02	6.69	6.70	5.46**
ECTS	56.19	56.47	51.36	55.45	9.88**

K-means cluster analysis with four cluster centers (n=828)

**Coefficient is significant at the 0.01 level (2-tailed).

*Coefficient is significant at the 0.05 level (2-tailed).

†Coefficient is significant at the 0.10 level (2-tailed).

Cluster Centers					
	highest	2nd highest	3rd highest	4th highest	F
Dutch Students	16	38	32	14	0.82
Western Students	17	38	29	16	0.78
mixed Western Students	25	33	22	9	2.87*
non-Western Students	16	20	31	33	5.61**

K-means cluster analysis with four cluster centers (n=663)

**Coefficient is significant at the 0.01 level (2-tailed).

*Coefficient is significant at the 0.05 level (2-tailed).