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*Evidence from Aalborg University*

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# **Does Student Nationality Affect Their Project Writing? Evidence from Aalborg University**

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## **INTRODUCTION**

This exploratory study focuses on the students' approach in conducting academic research. It explores whether student nationality affects their project writing by examining the differences between domestic and international students at Aalborg University. The aim of the study is two-fold. Primarily, it investigates the learning approaches and, in particular, methodologies used by the students in their projects. At the same time, we are interested in the demographic factors (primarily, nationality) as influencing the way of approaching academic problem solving.

Since 1980s, the role of universities has changed from being autonomous academic entities to institutions serving market needs and preparing graduates for the industry; this change is commonly addressed as an ideological shift (Boden and Nevada 2010; Prokou 2008). Having a close relationship between the university and business, the students' employability became the central concept. Mass media and academic research point out a mismatch between skills acquired in higher education and those required for employment (Mason et al. 2003; Wilton 2008). Therefore, a question rises whether teaching and learning activities are consistently aligned to the requirements and needs of the businesses, organizations and other stakeholders who are the potential employers for the graduates.

The question can be approached from several directions: 1) through investigation of the industry requirements related to entry-level positions, 2) a study of university curriculum aimed at developing a set of academic competences, and 3) through the examination of the students'

approach to solving business problems while completing their university projects. Figure 1 demonstrates this triangle University-Business-Students relationship. Furthermore, we are going to compare the results of the student survey to the demands of the industry and university curriculum, in such a way that links the elements of University-Business-Students triangle together and obtain a holistic picture. Business studies being a popular career choice nowadays, this study focuses on the case of the BSc and MSc programs from the department of Business and Management at Aalborg University.

*Figure 1 about here*

### **THEORETICAL BACKGROUND**

The concept of employability evolved from being described as “the capability to move self-sufficiently within the labor market to realize potential through sustainable employment” (Hillage and Pollard 1982) to a *characteristic of an individual* (Harvey 2001; Yorke and Knight 2007). Yorke (2006), for example, was defining employability as “a set of achievements – skills, understanding, and personal attributes – that makes graduates more likely to get employment and be successful in their chosen occupation, which benefits themselves, the workforce, the community, and the economy” (Yorke 2006, as cited in Aamodt and Havnes 2008, 235-236). This definition identifies a more direct link between the knowledge/skills obtained in higher education (learning outcomes from the study program) and the individual’s ability to operate efficiently and succeed at work (employability itself) (McQuaid and Lindsay 2005). Although, a growing number of researchers accentuate the importance of the generic skills, because employability is more and more approaching the idea of ‘being flexible and adapt quickly at a new working place’ (Prokou 2008; Wilton 2008), In this study we suggest that the work prospects of graduates and their ability to match the demands of the labor market cannot be equated to only key transferrable skills. Rather,

both subject-specific and generic skills are important for the individual to be able to match the demand of the job market. Therefore, we draw attention to developing university curriculum as employability-enhanced curriculum (Speight et al. 2013).

However, if employability is a characteristic of an individual, apart from the subject knowledge, there are other factors influencing the successes of a graduate in the labor market. These individual characteristics among others can be cultural and prior educational background, gender, nationality and so on. Taking into consideration the contemporary situation of international education and massive student mobility, the nationality, as a factor influencing the learning outcomes and consequent employability of the graduates, moves to the foreground. Previous studies, from international classrooms, report the existence of learning diversity and various learning style preferences between the representatives of different nationalities (Li et al. 2010; Ramburuth and McCormick 2001; Ramburuth and Welch 2005). This study goes in line with the idea of learning diversity based on national factor and questions the correlation between the study approach and a student's nationality.

## **METHODOLOGY**

The empirical data for the study were collected by reviewing student projects from the department of Business and Management at AAU. As a result of data collection activities a project database was created. The projects were sampled through the process of stratified random sampling. At first, a list of projects names for each degree (BSc in International Business Economics (IBE), Bachelor in Business Economics (taught in Danish), MSc in International Business Economics, MSc in International Marketing, MSc in Innovation, Knowledge and Economic Dynamics (MIKE-E), MSc in Innovation, Knowledge and Entrepreneurial Dynamics (MIKE-B), MSc. in Organization and Strategy, and MSc. in Management Accounting and Control submitted within the last 5 years were

received from the relevant study secretary. The lists were of various lengths, dependent on how many project reports have been handed in during the last 5 years. If the list contained more than 50 projects, all the titles were put into Excel, where each title acquired a “random sample”-value. Next, the projects were arranged after this random sample value, in order to get a random selection of the projects. Then the first fifty projects (I don’t understand this. I thought all 126 projects were coded (See the third paragraph below in this page) were coded and put into SPSS, so that the names of the authors became not directly accessible. The coding contains the name of the degree, and a number. To test the developed data collection template, a pilot study of 5 randomly selected projects was conducted. Based on the availability of the projects, we randomly selected one hundred and twenty six bachelor and master projects for data collection and analysis.

## **FINDINGS AND DISCUSSION**

In order to examine whether students’ nationality affect their project writing for graduation from a university program a two-stage data analysis was performed. In the first stage, data was analyzed using a one-way analysis of variance (ANOVA). This sheds light on the students’ decision to write a thesis in order to complete their program. The results presented in Table 1 suggest that most international students are enrolled at Master programs, while Bachelor programs are taken practically solely by the Danish students. Mean values reported in Table 1 also indicate that most international students tend to be female, while their Danish counter parts are male. When international students conduct their thesis research, they study mostly service industries. In contrast, the Danish students tend to study both manufacturing and service sectors. As expected, international students tend to conduct their research in foreign countries more (most likely their own homeland), than Danish students. With respect to research methodology used in their thesis, international students tend to use more quantitative, as well as, case studies. On the other hand, Danish students use ‘action’ research, ‘discourse’ analysis, ‘narrative’ analysis, etc. The results also

indicate that Danish students are more likely to report their sources of data than international students. Although Danish students tend to use more variety of sampling strategies than international students, they do not use as many criteria in their research activities as the international students. Finally, when conducting quantitative research, international students tend to use more descriptive and analytical statistics compared to Danish students who conduct case analysis.

*Table 1 about here*

Among the studied cases, international students wrote thirty four percent of the projects. Being greatly represented at the study programs, one might question the uniformity of the study approaches used between the two groups of cases. In the second stage, a step-wise discriminant analysis was performed in an attempt to distinguish between the two groups of students in terms of multiple characteristics. This procedure is preferred because it enables the researcher to study differences between the groups in relation to the discriminating variables. Based on the classification matrix, shown in Table 2, discriminant analysis correctly classified 77.6 percent of students to their respective groups. The classification accuracy was 27.6 percent higher than the proportional chance criterion of 50 percent. One interesting finding in this table is that 24 Danish (29.3 percent) exhibit the same behavior as their international counterparts. In order to eliminate the upward bias in estimating the percentage of correct classification if the same data were used to arrive at the discriminant function and to classify the cases, a classification matrix was calculated using a "hold-out" method. The students in the sample were randomly divided into two halves. A discriminant function was generated for the half of the students in the one group, which was then used to classify the students of the other. The same variables were selected in the subsample. The

percentage of cases correctly classified in the subsample that was used for computation of discriminant function was also 77.6 percent.

*Table 2 about here*

Since the discriminant function coefficients are not unique, (only their ratios are unique) their statistical significance may not be meaningful. Sometimes it is tempting to interpret the magnitudes of the coefficients as indicators of their relative importance. Therefore, variables with large coefficients are thought to contribute more to overall discriminant function. However, the magnitude of the unstandardized coefficients is not a good index of relative importance when the variables differ in the units in which they are measured. When the coefficients are standardized to adjust for the unequal means and standard deviations of the independent variables, the magnitude of the variables could be used as an indicator of the importance of their contribution to overall discriminant function. Therefore, the value of the discriminant coefficients, regardless of sign, suggests the relative power of each variable to discriminate between groups. The larger the coefficient, the more that particular variable discriminates between the two student groups in the study.

The standardized canonical coefficients of the discriminant functions are presented in Table 3. Of the nine variables that were included in discriminant analysis as independent variables, only three variables were found to discriminate between the two groups of students. These variables are: use of quantitative sampling, gender, and research methodology.

*Table 3 about here*

The use of quantitative sampling in project writing by students is the first coefficient. This finding suggests that quantitative research is a very powerful discriminator between two groups of students. Danish students are more likely to use more variety of quantitative techniques than the international students. The second coefficient represents students' gender in conducting their research. The positive sign indicates that Danish students are more likely to be male than their foreign counterparts. The methodology used in the thesis research by students is the final discriminating coefficient. These results confirm that international students tend to provide specific methodological approach in their research than the Danish students.

### **CONCLUSION**

The results of this exploratory study provide an insight into the approaches of the students to writing academic projects at the Department of Business and Management at Aalborg University. Overall, it appears that the variety of quantitative sampling, gender, and the research methodology are the key factors discriminating between the Danish and International students. Although there is no *a priori* reason to believe that behavior of students from Denmark is significantly different from students from other countries, this sample is not intended to be a general representative of students throughout the world. As such, students in different parts of the world may pursue different research. The above findings should be interpreted in light of this limitation. However, the difference between study approaches in the two groups of cases support the idea of nationality-related study diversity and requires further investigation.

The results of the current study identify the major approaches used by students in their academic problem solving; they can be used by the university study boards for enhancing the current curriculum, in order to raise employability of the graduates. The composition of the student population in terms of their attribution to the Danish and International cohort can also assist in



finding effective approaches to the further development of the international study programs and provide better conditions for the students.

The outcome of this exploratory study can also be of interest to the industry as it provides an insight into mechanics of students' project writing. The companies can just accept the information or provide their feedback, which in turn, can be taken into consideration for adjusting of curriculum or just emphasizing particular methodologies in order to make the graduates more employable in the future. In such a way, the results of the study can be used as a springboard for further collaboration between the university and industry demand.

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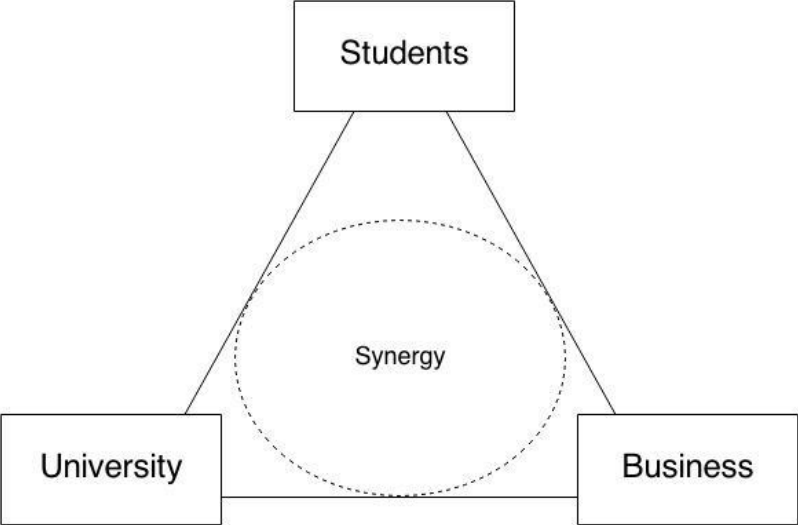
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**Figure 1. University-Business-Students Triangle**



**Table 1. Univariate Test of Significance**

Variables	Means		<i>P</i> *
	Danish Students	International Students	
Year of Submission	2.56	2.87	
Degree Level	2.74	3.77	0.000
Gender	1.95	1.35	0.000
Industry Sector	2.71	1.88	0.000
Company Location	2.05	1.70	
Research Location	1.34	1.56	0.033
Research Methodology	4.51	2.79	0.000
Data Collection Instrument	4.94	5.21	
Data Source	1.65	1.19	0.000
Quantitative Sampling	13.68	7.81	0.000
Sampling Criteria	1.70	1.37	0.001
Quantitative Sample Size	1.90	1.77	
Qualitative Sample Size	1.84	1.72	
Data Analysis	3.40	2.42	0.038
Quality Issues Addressed	1.26	1.26	
Quantitative Copy Request	1.88	1.77	
Quality Interview Guide	1.85	1.81	
Output	1.76	1.65	
Recommended Implications	1.76	1.63	
Theories	2.66	4.05	

\* Only those *P* values significant beyond the 0.05 level are shown.

**Table 2. Classification Matrix**

Actual Group Membership	Predicted Group Membership					
	Danish Students		International Students		Total	
	#	%	#	%	#	%
Danish Students	58	70.7	24	29.3	82	100.0
International Students	4	9.3	39	90.7	43	100.0
Predicted Total	62	100.0	63	100.0	125	100.0

Correct Classification = 77.6 percent  
 To compute the proportional chance criteria, we look at the output titled Prior Probabilities for Groups and see that the percentage sizes of our two groups are 0.5 and 0.5. Computing the proportional chance criteria, we compute  $(0.5)^2 + (0.5)^2 = 0.50$ . A twenty five percent increase over 0.50 is equal to 0.625. Our accuracy rate of 77.6% is well above the required standard.

**Prior Probabilities for Groups**

Nation	Prior	Cases Used in Analysis	
		Unweighted	Weighted
Danish	0.500	82	82
International	0.500	43	43
Total	1.000	125	125

**Table 3. Standardized Canonical Discriminant Coefficients**

<b>Variables</b>	<b>Coefficient</b>
Quantitative Sample	0.570
Gender	0.499
Methodology	0.381
Wilk's Lambda: 0.683	
Chi-square: 46.357	
DF: 3	
Sig.: 0.000	