Correlation between Four Variables and University Achievement

دراسة حول العلاقة بين الانجاز الجامعي ومتغيرات أربعة

By

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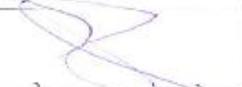
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Table of Content

List of Tables

<u>Acknowledgements</u>

<u>Dedication</u>

This paper is dedicated to my lovely and supportive family.

Abstract

The purpose of this study is to investigate if there is a relationship between four independent variables namely: students' high school curriculum, gender, mother tongue language and nationality, with the dependent variable which is academic achievement measured and limited to grade point average (GPA).

The field of study is the American University in Dubai (AUD) at which the author works. This is, hence, a convenience sample whereby data is obtained from the Registrar's Office and the Admission's Office. Two freshman cohorts from the academic years 2006- 2007, and 2007- 2008 were studied. Transient students were excluded in order to eliminate the influence of university experience factor. The sample size is 729 students which can be considered numerically meaningful for a correlational study. Results can, therefore, be generalized to the AUD campus level and probably to other UAE universities. The study can also be considered significant as American education has become more common in the Middle East recently.

The study aims to answer four research questions: 1) Does students' high school curricula type influence their academic achievement measured by GPA at the American University in Dubai? 2) Does academic attainment vary with gender? 3) Do English native speakers outperform non- English native speakers? 4) Does achievement vary with the different national groups studied in the AUD sample?

Results were obtained by using SPSS for windows. For descriptive analysis means and standard deviations were used to study each variable. Means were computed at 95% confidence interval. Alpha was computed in order to ensure internal validity and significance of findings. For inferential analysis

Post Hoc multiple comparisons were used in order to compare the different variables. One- way ANOVAs were used to investigate the differences between these variables in terms of GPA.

Results reveal the following findings: 1) Students coming from Indian curriculum high schools have significantly the highest mean GPA, followed by British, then UAE, and finally American curriculum high school students. 2) Females are found to be significantly better academic achievers than males. 3) Hindi/ Urdu mother tongue language speakers outperformed Arabic, English, Farsi and Russian native speakers. English native speakers are not necessarily better achievers than non- English native speakers. 4) There are significant differences in academic performance among the 12 nationalities studied. Indians have significantly the highest mean GPA followed by Pakistani and then Syrians.

It was concluded that variations in achievement along the four variables studied are not merely due to curriculum type, gender, student's nationality or passport per se, or their native language, but rather to the cultural and social factors that include aspects like parental involvement and expectations.

For future research of this sort, it is recommended 1) to administer a survey that can further validate the findings, 2) to study gender achievement along the various academic programs offered, 3) to investigate how many female students earn a degree compared to males, and 4) to look at TOEFL scores upon enrollment and compare them with GPA in order to highlight relationships between language proficiency and achievement.

Keywords: Curriculum, gender, mother tongue language, nationality, and achievement.

نبذة عن الدراسة

غرض هذه الدراسة هو التثبت من وجود علاقة بين ما يحرزه الطلاب من نتائج بمراعاة الشؤون الأربعة التالية : المناهج التي درسها الطلاب في القسم الثانوى، الجنس: إناث وذكور، اللغة الأم، و الجنسية التي يعود إليها الطلبة.

أما ميدان هذه الدراسة فهو الجامعة الأميركية في دبي، وهو ايضاً مكان عمل منشئة الدراسة، مما هيأ إغناء الموضوع لجهة توافر العينة، ولجهة ما يلزمه، كبيانات، أو وثائق يتسنى الحصول عليها، من مكتب رئيس القلم في الجامعة، إضافة الى مكتب القبول. وبذلك تمت دراسة أحوال أفواج من الطلبة للسنتين الدراسيتين: 2006-2007 و 2007 -2008

ولابد من الاشارة،هنا، الى أنه قد تم إستبعاد الطلبة الذين درسوا في جامعات اخرى، من قبل، تجنباً لتأثير عامل الخبرة الجامعية. كان محتوى العينة 729طالباً، ما بين شابٍ وفتاة، ولا يخفى ما لهذا العدد من فائدة لمعرفة الجوانب المختلفة ، وكشف العلاقات، والفوارق بينها، حتى ليمكن تعميم النتائج على مستوى الحرم الجامعي، وربما على مدار جامعات الإمارات العربية المتحدة. ومما يسهم في اعتبار هذه الدراسة هامةً، هو أن المناهج الأميركية أصبحت هي الأكثر شيوعاً والأعم انتشاراً، في منطقة الشرق الأوسط عموماً، خلال المدة الأخيرة.

لقد سبق لي أن تبينت، عن بعدٍ، أن غاية هذه الدراسة هو الاجابة عن الاسئلة،البحثية، الأربعة:

1-هل تختلف قدرة تحصيل الطلاب، استعداداً وتفاعلاً،باختلاف مناهج الثانويات التي درسوا فيها ؟ بمعنى : هل لتلك المناهج السابقة إضاءات مساعدة، أو مقومات ممهدة أثرت في حسن تحصيلهم الجامعي، وانسجامهم الطبيعي مع آفاق طارئةٍ، ومعلومات وافدةٍ، أم لا؟ ما دامت المعرفة تواصل قديمٍ مع جديد، يمهد السابق منها الى استقبال لاحقٍ، كماً وكيفاً، من مثل ارتقاء درجات السلم، إذ تؤثر الدرجة السابقة في سهولة أو صعوبة تجاوز مسافة النقلة، من درجة أدنى أو أقرب الى أخرى أعلى وأبعد؟ بتعبير آخر: هل يؤخذ في الحسبان ما للمرحلة الثانوية، بمناهجها، من علاقة بالجسر المؤدي الى المرحلة الجامعية: سلباً أو ايجاباً.

2-هل يؤثر جنس الطلاب — ذكوروإناث- في مستوى التحصيل المعرفي ضمن الجامعة الأميركية، في دبي؟ بما لهذا الأمر من فرضيات حول صلة بالكفاءة الذاتية، من جهةٍ، وبالعادات والتقاليد، وإنعكاس هذين على تغاير الجنس، كتصريف الوقت، والشعور بالمسؤولية تجاه المستقبل، مثلاً، من جهة ثانية؟

3-هل يسهم النطق باللغة الإنكليزية، أو بمعرفتها — سابقاً، كلغة أم، في تقدم الطلبة، أو في تفوقهم على غيرهم؟

فربما يتراءى أن اللغة في مرحلة جديدة- هي أشبه ما تكون بالعملة، يحملها الذاهب الى السوق، ليشتري ما يحتاج اليه، فإن كانت نقوداً محلية متداولة، فقد وفر على نفسه مشقات، كالبحث عن مكان التبديل وكيفيته، والتبديل هنا شبيه بالترجمة، وتجنب ما يمكن أن تتعرض له الدقة ، أو الإستيعاب الفكري السليم، على ضفة اكتساب المعرفة.

4-هل تتفاوت نسبة التحصيل العلمي، متأثرة باختلاف الأوطان التي احتضنت جذور الطلبة، وأحاطت بنشأتهم؟

مما لا يغفل شأنه، اذا ما أردنا الحيطة في تسديد ما يتوارد من أسئلة بأجوبتها الشافية، تتزاحم الفرضيات فتشتد الحاجة الى تثبيت رؤية، صار لا محيد لدرء الزلل، ما أمكن، من اللجوء الى استخدام "وندوز" أداة لادراك النتائج، ساعة التحصيل الاحصائي، في العلوم الاجتماعية. وهكذا حسبت المعدلات بمعيار ثقة يرقى الى 95% وتلا ذلك الاستعانة بحساب "ألفا". من اجل المقابلة بين المتغيرات المختلفة. وحري بالذكر أني تغاضيت من الاستفادة من " أنوفا" في اتجاه واحد، للتحقيق في الاختلافات بين هذه المتغيرات من حيث المعدل.

لقد أسفرت النتائج عن الخلاصات التالية:

1- الطلبة القادمون من ثانويات تنضوي على المنهج الهندي أحرزوا أعلى معدل يليهم، الطلاب الوافدون من ثانويات تعتمد مناهج بريطانية. يندرج دون هؤلاء الطلبة الواردون من ثانويات تتبع مناهج الامارات العربية المتحدة. وأخيرا الطلاب المقبلون من ثانويات تلتزم المنهج الأميركي.

2- جاء معدل الطالبات، الاناث، أفضل بشوط كبير من الذكور.

3- الطلاب الذين يلهجون، ملاسنة، ناطقين بالهندية/ الأردية، لغة أما، تفوّقوا أكاديميا على بالضّاد العربية، والانكليزية، كما على الناطقين بالفاريسية والروسية جميعا.

4- هنالك تباينات لافتة، باختلافها، تطالعنا خلال الأداء الأكاديمي من قبل الجنسيات الاثنتي عشرة التي جرت دراستها في العيّنة. وههنا فاز الهنود، أيضا، بأرفع معدل دراسي، يليهم الباكستانيون ومن بعدهم السوريّون.

وخلصت الى أن التحصيل الأكاديمي لا يتوقف على متغيرات المناهج الدراسية في الثانويات، وحدها، أو على جنس الطلاب ما بين فتيات وشبّان، أو أنه يقتصر على جنسيّتهم بمعزل عمّا سواها، وانما هو يعود، بالدرجة الأولى، الى اختلاف العوامل الثقافية والاجتماعية، المتعلقة بعادات وتقاليد الأنماط الحضارية، التي تكتنف أولئك الطلاب، فيحيون ضمنها، كمشاركة الآباء في الشؤون الأكاديمية من قبيل المثال، وما يعقد الآباء من آمال، ويتوقعون من ثمار منوط مصيرها بتحصيل الأبناء.

ولعلّه من الجدير بالذكر أن لدي اقتراحات، تدعو الى اعداد بحث في هذا المنحى، فمن المستحسن مراعات ما يلي:
أ- اجراء مسح صادر عن تدقيق وتحقيق لمساندة النتائج.
ب- مقارنة مستوى التحصيل العلمي، عند الجنسين، على صعيد الاختصاصات المتنوعة.
ج- التسبب من عدد الطالبات، الاناث، اللواتي نلن شهادة، ومقارنة ذلك بعدد الطلاب الذكور الذين حازوا عليها.
د- مقابلة درجة ال(توفل) الذي حصل عليها الطلبة عند دخول الجامعة، وذلك لتصليط الضوء، كاشفا، على العلاقة ما بين اتقان اللغة الانكليزية والانجاز الدراسي.
كلمات البحث : المناهج، الجنس، اللغة الأم، الجنسية، والإنجاز العلمي.

Chapter 1

Introduction

The purpose of this study is to investigate the relationship between students' high school curriculum, gender, mother tongue language, and nationality, and to compare it with academic achievement. The field of study is The American University in Dubai (AUD) at which the author works. Currently there are about 2800 students enrolled at the university, and the sample size is 729 students.

Students sampled come from a variety of high school curricula types. In this study we will concentrate on four numerically significant curricula types that are: American, British, Indian and UAE curricula. The mean grade point average (GPA) of each curriculum will be derived in order to enable comparisons between the different curricula. Mean GPA of both genders are also compared. Five major mother tongue languages namely: Arabic, English, Farsi, Hindi/ Urdu, and Russian are compared. There are 86 different nationalities in the sample. The twelve numerically significant nationalities compared are: Americans, Canadians, Egyptians, Emirati, Indians, Iranians, Jordanians, Lebanese, Pakistani, Palestinians, Saudi, and Syrians. Achievement is measured in grade point average (GPA). This might be considered as a limitation as we are excluding teachers' personal reviews and/ or other awards granted to students. However, GPA can be a good indicator of whether students continue their education or not. It can also be an indicator of academic attainment. All above mentioned comparisons are done by using SPSS.

Our sample is very typical of the UAE in general. It is thought that, to some extent, findings can be applied to other American universities in the UAE as

the sample size is big enough. Moreover, other American universities in the UAE might have, more or less, students from similar backgrounds. In this sense, The American University in Dubai (and probably other universities) can devise some preparatory programs (if found necessary) for international students who are coming from backgrounds that might be different from the American education.

In addition, this topic has been chosen because American education has become so pervasive in the Middle East recently. It is beneficial to have an idea (without running into generalization) if American high school curriculum prepares students better than British, Indian or UAE curricula since the university under study is American. Again, there is no attempt to generalize any finding, however, this study can be valuable in finding correlations that can be investigated in future studies at more depth and at a bigger scale.

Furthermore, Kherfi (2008:22) notices that "Nationality is a good proxy for unobserved effort. Because students face different labor market conditions upon graduation, depending on nationality, the value of education is higher for some nationality groups and, therefore, is worth greater effort." The UAE has a wide variety of nationalities and AUD is a reflection of the society. Hence, this can be an optimal milieu in which one can investigate the influence of nationality on academic achievement. Light & Xu (1987: 260) state that "Additional insights in this area will help universities determine international students' academic potential and will help the students themselves by predicting their chances of success on American campuses."

Moreover, one important factor that can support the findings in terms of validity is that since we are using the same university, students (to a reasonable degree) share similar socioeconomic status (SES). While some students are granted scholarships, and others might come from wealthy families, and while there are differences in terms of family education and

background, still the SES can be more controlled when studying a sample of students who are in the same university.

Why study these variables and juxtapose them with university achievement? Why is achievement so important? At this "information age" education can mark the development of any society or its exclusion from the global society. Castells (1996) states that "An industrial society ...is not just a society where there is industry, but a society where the social and technological forms of industrial organization permeate all spheres of activity, starting with the dominant activities... and reaching the objects and habits of everyday life" (Castells , 1996: 21). Castells draws back to the industrial era in order to explain how information nowadays "permeates" our daily activity. Educational institutions can provide the tools to access information and to know how to handle it. Castells argues that culture and educational development shape technological development that in turn affects economic development. Economy again influences culture and educational development. "This can be a virtuous circle of development or a downward spiral of underdevelopment. And the direction of the process will not be decided by technology but by society, through its conflictive dynamics" (Castells, 1999: 4). McInerney (2010: 22) adds that "An effectively educated young population adds to a nation's capital by facilitating economic development and social harmony." A brief outline of the study will be provided below.

Chapter one includes an overview of the study and the subject in general. It also mentions the rational of the study. Chapter two will present a review of literature used. It will be divided into four sections one for each of the independent variables studied (high school curriculum, gender, mother tongue language, and nationality). Chapter three deals with the theoretical approach and methodology. It will refer to previous studies cited in the literature review, discuss the methods used, and compare them with method

used in this study. The methodology chapter will also discuss the population and sample, the procedure, the research questions, the hypotheses and the variables. Chapter four will present the results computed through data entry and comparisons. It will show the statistical correlation between each independent variable and the dependent variable. Chapter five includes the discussion obtained by comparing the literature review with our findings. Explanations will then elicit implications, recommendations and conclusions.

Chapter 2

Literature Review

As mentioned in the previous chapter, the literature review will address the four different variables in separate sections.

2.1. Literature Review: Curriculum

Since the 18th century Rousseau was aware that "…the nature of the child must be considered more important than the nature of the curriculum." Similarly Froebel cited in Doll (1996: 52) states that "the curriculum should originate within, not outside, the learner." In another study by Doll, he explains the "structuralist model" and how knowledge is constructed by doing. Therefore, learning is the outcome of development as the child would reflect on his actions. At the same time Dewey maintains that both the child and the curriculum have structures. The aim of education is to transform the child's inherent psychological structures into logical ones by constructing knowledge. For Doll the aim of schooling is to "bridge the gap" between the innate human structures and the structures of the curriculum (1979: 343).

Below is a review of some research done about American, British, Indian, and UAE curricula. Findings from literature review research will be compared later with findings of this study regarding the four mentioned curricula types. This review will consider bits and pieces of curricula aspects that might influence achievement. Chalker and Haynes (1994: 5 and 6) list a number of standards that constitute "world class schools" and therefore better academic achievement. Among these standards are: educational expenditure, time on instruction, class size, teacher training and

qualification, assessment, and home and community. In what follows we will look at these aspects relative to the four curricula types studied.

2.1.1. American Curriculum

Chalker and Haynes (1994: 33) explain that in the United States of America "The local board of education continues to govern local school districts, and compulsory education prevails." In an attempt to evaluate the USA educational system, Chalker and Haynes (1994) compare the USA with nine other countries that might be providing world class education. The countries are Canada, England, France, Germany, Israel, New Zealand, Japan, Taiwan and Korea. Since England is included in this study, we will include data regarding England in this section in order to compare it with the USA.

To begin with expenditure, the USA comes second after Canada in terms of percentage of gross national product (GNP) spent on education. Educational expenditure comprises 6.8% of the GNP (World Education Report, 1991 cited in Chalker and Haynes, 1994: 44). This means that the USA is spending a good amount of money on education. However, the authors also note that some countries spend less amount of money on education and still produce excellent scholars. In the same year (1991), England comes in the 6th place in terms of percentage of GNP spent on education.

In addition, the amount of time spent on learning is linked to school effectiveness. The number of school days per year, minutes of instruction per day, and number of years of compulsory education all constitute time of instruction. Figure 4.1 in (Chalker and Haynes, 1994: 53) shows that Great Britain has 192 school days per year, the USA has 180 days, and the highest rate is for Japan with 240 days (Saturday is half day). Taiwan and the Republic of Korea have 222 days per year. The mean of all ten countries

is 204 days. Hence, the USA is below the world class average in terms of instruction time.

The length of the school day is another indicator of instruction time. Chalker and Haynes (1994: 54) show that the USA ranks second while Britain ranks sixth in terms of "length of school instructional day in minutes". However, Britain does not provide lunch. As for average hour of instruction per school year, the world class average is 1,033.39. The USA is slightly below the average, ranking fifth and Britain ranking eighth. The USA meets the world class standards in terms of compulsory education. The average is 9.7 years between the ages of five and sixteen. In the USA compulsory education is from five to sixteen years, and in Britain it is from six to sixteen years (Chalker and Haynes, 1994: 56, 57 and 58).

Furthermore, class size might be considered as an indicator of effective learning. The world class average standard according to Chalker and Haynes is 16 students to 1 teacher in the secondary level. The ratio of pupil/ teacher in the USA is 13:1 and in England the ratio is 14:1. The USA meets the standard again.

However, Chalker and Haynes (1994: 90) note that "…the United States ranks dead last for maximum salary, indicating a major problem for teachers", while England is above the world class average.

Regarding teacher training and qualification, the world class average requires upper secondary teachers to have more than four years college degree. The USA is below the world class average except for California as more qualifications are required. England has an average of four years degree which is still slightly below the average of world class countries.

As for achievement assessment Chalker and Haynes (1994) mention that the USA tests students more frequently at several levels, while the trend in world class countries is to focus on one or two levels. "The Scholastic

Aptitude Test (SAT) and/or the American College Tests (ACT) measure a student's aptitude for higher education in the United States. Neither exam tests knowledge learned in the classroom, and usually only students interested in higher education take the examinations" Chalker and Haynes (1994: 156 to 161).

Another problem in the USA is that parents are not involved in school activities. The usual complain from school administration is that only parents of successful students are engaged in school activities. The authors affirm that Chinese and Japanese students perform better than American students because of "parental interaction". The parents are involved in schooling and they stress "education ethics". They expect their children to study hard in order to achieve better results. Chinese and Japanese parents have high expectations of their children, while American mothers seem to be satisfied with the existing results. Probably this is due to the absence of a standard curriculum that clearly defines the guidelines for achievement. In Japan, however, the guidelines are clear and parents can measure achievement accordingly.

One of the teachers in Cornbleth's study (1998: 636) describes the American history text as "very multicultural, but it's like multicultural lite. It covers a lot of different ethnic groups, but it doesn't give a lot of meat and potatoes on any of them." In the same manner, Chalker and Haynes (1994: 121) describe the American curriculum as the most fragmented curriculum developed by any nation. They refer this fragmentation to historical and political reasons. The authors note that a similar pattern of fragmentation existed in the British curriculum before the reform.

2.1.2. British Curriculum

The reform Act of 1988 in Great Britain "established national goals for education, national curriculum, and national testing." Chalker and Haynes (1994: 139) maintain that the basic curriculum is similar in all countries. They all teach languages, mathematics, science, social studies, physical education and fine arts. The major difference is at what stage these curricular objectives can be offered.

In the previous section we discussed England's expenditure on education, time of instruction (number of days per year, instructional hours per year, and compulsory education), class size, pupil/ teacher ratio, teacher salary and teacher training. It was found that England meets world class standards in most of the above. Regarding England's assessment the General Certificate of Education (GCSE) is an "established method of assessing the national curriculum. The GCSE also limits the number of students who continue with advanced study. England, Wales, and Northern Ireland administer the GCSE at age sixteen…Students achieving grades of A, B, or C on five or more examinations generally begin two years of specialized college preparatory work" (Chalker and Haynes 1994: 148). The authors add that the national curriculum provides clear standards to parents, and makes schools more accountable and targets easily measured.

Furthermore, Chalker and Haynes (1994: 223) add that Americans can learn from the British governing boards. The boards in Britain include a head teacher and two other elected teachers. Only parents elect governors and not all registered voters as in the USA. This places England in better position as only people who are interested in education are elected.

2.1.3. Indian Curriculum

In India "The fundamental responsibility for education lies with the State Governments, especially for elementary and secondary education." (Government of India ministry of Human Resource Development, 2010: 4).

The State of Education Secretaries held a three – day conference in New Delhi in January 2010 in which the Minister of Human Resources Development and the Secretary of School Education and Literacy attended. There was a general agreement that quality education must be available to all. 288,000 schools have been opened and 98% of the people have primary schools within a distance of one kilometer.

Regarding expenditure, "The financial requirements estimated are of the order of RS 1.71 lakh crores (i.e. 171,000) over five year period. Secretary stated that Education Departments in the States would need to work towards developing consensus within the State on the financial mechanism. The Finance and Planning Departments of the state should speak in one voice, and ensure that funds from Central and State sources flow in a time bound manner to the State SSA (Sarva Shiksha Abhiyan in Hindi, meaning Education for All Movement) societies." (Government of India ministry of Human Resource Development, 2010: 8). The UNESCO Institute for Statistics (2007: 3) reported that the public expenditure on education was 3.2% of the GDP in 2006. In 2003 the expenditure on education was 10.7% of the total government expenditure. The UNESCO report also shows the public distribution expenditure per school level in 2006. The pre-primary level comprised 1% of the total public expenditure, 36% for primary level, 43% for secondary and 20% for tertiary. 300 new secondary schools were approved in 2006. The Secretary of School Education stated that few secondary schools are directly under the ownership of the government. He added that planned improvements should cover both private and public schools.

Moreover, there was also a stress on the quality of teachers. The Right to Education Act allows teachers who do not have the requisite qualifications to attain those qualifications in five years at the latest. The conference minutes show that professional teacher education should include credit courses for all teachers to become "special teachers", that is to learn how to address children with special needs. At the same time, teachers are motivated by getting salary increments. Avoiding arbitrary teacher transfer from one school to another was also on the agenda.

According to the National Curriculum Framework, education should be inclusive and children of different abilities should be integrated in schools. There should be core curricula at the level of the nation in science, math, physics and chemistry. The assessment system has to be revised to ensure that it does not require students to simply memorize the textbook.

Several States have undergone curriculum reform in accordance with the National Curriculum Framework (NCF 2005). The minutes of the 2010 conference note that the curriculum has to be further improved so that core elements of the curriculum, the syllabus, the textbooks, the teaching learning material, the assessment system and the teacher training all be harmonized.

2.1.4. United Arab Emirates Curriculum

According to the UNESCO report on UAE in the year 2000, "the Minister of Education and Youth is mainly and directly responsible for decision- making and for giving the proper directives to develop the educational process for better living." (EFA Assessment, 2000:13). Article.17of the UAE constitution states that education is "compulsory and free in all cycles all over the territory." The educational system in the UAE is divided into public and private sectors, where the government funds the public sector.

Gaad et al (2006: 5) summarize the national goals of UAE secondary education in the following:

- "To achieve the curriculum planning produced and accredited by the ministry of education.
- (To Expand the) ...study of foreign languages alongside the compulsory curriculum.
- (To devise a) special curriculum for expatriate community."

These goals should be reflected in the curriculum. Gaad et al (2006) describe the national committee for curriculum development as consisting of scholars from universities and schools who are specialized in the different subject areas. This committee defines "the high-level curricular goals in different subjects, while the national committee for human resources whose members are representatives from industry and academia evaluates the availability of different skills in the country, and sets up goals for developing human resources in different areas of needs." (Gaad et al, 2006:3).

Gaad et al (2006: 3) provide an overview of the educational system. The UAE secondary program covers three years, and the age group is 15 to 18 years. By the end of the secondary level a "School Leaving Certificate" is awarded. The UAE educational system also provides a technical secondary program which is six years long and the age group is from 12 to 18 years old. When this stage is completed a "Technical Secondary Diploma" is awarded.

Regarding public expenditure on education, the UNESCO report shows 1.2% of the gross national product (GNP) spent in primary education in 1990. This figure decreased to 0.9% in 1998 and was also 0.9% in 2008 (Central Intelligence Agency website 2010). The decrease is due to a 62% increase in the country's GNP with only 23% of GNP spent in primary education. However, expenditure per student in primary education increased from 13.9% to 16.3% between the years 1990 and 1998 (EFA Assessment,

2000:28). The decrease in the percentage of GNP expenditure compared to the increase in per student expenditure between the years 1990 and 1998 is due to the decrease in the enrollment of students in primary level in public schools. It seems that several expatriates settled in the UAE during this period because of the economic boom. Naturally several international schools flourished in order to suit the needs of the market and hence, many students including UAE nationals enrolled in these private schools. It is also worth mentioning that 54.79% of Emirati children in Dubai attend private schools that follow the British, American and Indian curricula (Dubai Statistics Center 2007/2008-2009/2010).

As for teacher qualification in public schools, "The percentage of teachers having academic qualifications amounted to 21.1% in 1989/90 and remained the same in 1998/99." In private schools "the percentage of primary school teachers licensed to teach amounted to 45.3%, the percentage decreased to 41.7% in 1998/ 99" (EFA Assessment, 2000:30).

The pupil/teacher ratio (PTR) is relatively low in the UAE. It is "20:1 at kindergarten and primary levels; and 15:1 at intermediate and secondary levels" (Gaad et al 2006: 3).

Hokal and Shaw (1999 cited in Gaad, 2006: 4) explain that the school system is not effective because of "lack of cohesion" between the ministry and the school administration on one hand, and the supervisors and the school administration on the other hand. In addition, there is lack of cohesion between the employment system, the schools, and the ministry.

In a study that Gaad et al (2006) conducted, it was found that among the 27 teachers interviewed none knew what were the UAE national goals in education, and only two knew what were the goals of the subject taught. It was found that although teachers are delivering the subject content, they are failing to deliver it in the "right context". In this study even the supervisors were not evaluating if the teachers are aware of the national

goals. The supervisors instead were absorbed with the teachers' ability to "finish the text on time". Gaad et al (2006:8) concluded that "The ideal system will have development, delivery and evaluation aligned whereas the current system lacks that alignment."

2.2. Literature Review: Gender

Perreault & Hill (2000 cited in Wasonga et al 2003:70) find that females at high school usually have a more positive connection with teachers and with the administration than male students. This positive relationship may result in better academic achievement.

Consistent with above, Sullivan et al (2008: 301) maintain that males tend more to have a negative experience towards school and faculty. In addition, males report more negative attitude while females report more affiliation with school and teachers. This research looks at middle school students and while we are studying university students, however, Sullivan et al (2008: 302) assert that age is not significant in terms of affiliation, i.e., increased age did not result in more negative attitudes toward school. At the same time, Roeser et al (1998 cited in Sullivan 2008: 297) state that positive relations with teachers result in more academic achievement. Similarly, Poyrazli et al (2008: 554) found that males had a more negative perception of school and the administration. However, unlike Sullivan, Poyrazli noticed an increased negative attitude toward school with older high school students.

Lent et al (1986, cited in Hackett et al 1992: 527) theorize that academic self- efficacy is a good predictor of academic achievement among engineering students. Hackett (1992: 529) notes that lack of support from faculty members in non-traditional domains for women, such as engineering, may result in the "null environment hypothesis". This null environment affect

self- efficacy negatively, and consequently has a negative influence on achievement.

Furthermore, in order to know if achievement varies across gender, we need to know if women and men differ in their thinking abilities. Lauer (2007 cited in Berkant 2009: 1155) affirms that there is no difference in thinking abilities for both genders. Similarly, Al- Rumaidhi (2008 cited in Berkant 2009: 1155) sees no differences in the "moral thinking processes" of women and men.

On the other hand, Roots (2005 cited in Berkant 2009:1155) finds that women are better at recalling "emotional experiences", and information from long term memory than men. This is due to the fact that women use a bigger brain area for emotional experiences.

Suh et al (2007 Cited in Poyrazli et al 2008) report that there is a correlation between gender and "high school completion rates but, interestingly, not with dropout rates. In instances when gender has been found to be relevant, females tended to fare better than males in their high school completion rates."

Self esteem has been correlated with academic achievement in many studies. Ramadan (2003:30) points out that Prescott Lecky was among the first researchers to find a positive relationship between self esteem and academic achievement. Bolognini et al (1995 cited in Ramadan 2003: 5 and 28) indicate that adolescent females have lower self esteem than their male counterparts and they have lower scores on "global self worth". In addition, Cairns et al (1990 cited in Ramadan 2003: 6) show that males have better self esteem in "personal security, physical appearance, home life and family, personal mastery, and athletic competence." Al Abed (1998: 20) explains that gender differences are not only due to biological differences but also to differences in socialization at home and school. A study by Burnett, et al (1995 cited in Al Abed 1998: 20) clarify that there is a cultural bias in America toward people possessing masculine traits such as being decisive,

independent and competitive. These people were considered to have a higher self esteem.

Clifton et al (2008: 687) believe that students who use certain types of "coping strategies" usually perform better. The authors explain that females have significantly higher scores on coping strategies. They also indicated that "For the pedagogical environment variables, females have significantly higher scores than males on both comprehension of information and evaluation of arguments…"

Zimmerman and Martinez-Pons (1990 cited in Ablard and Lipschultz 1998: 95) find that girls are higher achievers than boys in high school. They also notice that girls use more self- regulated learning (SRL). For example girls keep record, use more structuring and are more involved in setting goals, planning tasks, reviewing notes, transforming and seeking help. Zimmerman (1986 cited in Ablard and Lipschultz 1998: 94) suggests that "self – regulated learners engage in academic tasks for personal interest and satisfaction and are meta-cognitively and behaviorally active participants in their own learning."

Eccles (1984 cited in Eccles 1987: 140) states that "…the effects of experience are mediated by the individual's interpretation of events rather than by events themselves…" He elaborates on how girls and boys perform equally well in math throughout formative years, yet girls do not expect to achieve as well as boys in later stages. Eccles offers another explanation of gender differences in achievement. He contends that men and women have different goals in life, and therefore, they tend to make different choices.

Alumran (2008) conducted a study to investigate learning style differences among females and males in a Bahraini university. He also clarifies the correlation between different learning styles and academic achievement. Alumran (2008: 311) finds that males and females have different learning styles. Males showed intuitive learning style, whereas females showed

sensing learning style. Felder (1996 Cited in Alumran 2008: 31) explains that sensing learners are "good at memorizing, learning facts, and solving problems by well clear and explicit methods; they are detail oriented and prefer to work in a routine predictable environment. Intuitive learners, on the other hand, are more imaginative and innovative and are good at understanding abstractions and discovering possibilities and relationships." Miller et al (1990 cited in Alumran 2008: 305) find that "males were more kinesthetic, tactual, visual, and required more mobility than females, whereas females were more confronting and more self, parent, or teacher-motivated than males."

Escotet (1997: 317) reports differences in "visual spatial tasks" favoring males. Females perform better in quantitative tasks during the early school years. However, males surpass females before puberty and maintain better performance in adulthood. Escotet adds that females perform better in verbal tasks and have higher achievement scores in literature, composition, reading, spelling and languages. Christainsen and Knussman (1987 cited in Escotet 1997: 317) find that testosterone levels in males are "correlated positively with some measures of spatial ability and negatively with some measures of verbal ability." This study also shows that when older men were given testosterone, their visual and spatial performance improved.

Hence, some researchers find that differences in physiological setup might influence perception which might in turn influence achievement. Other authors report that gender differences with regards to school administration, as well as differences in self efficacy, self esteem, coping strategies and learning styles might affect achievement among females and males.

2.3 Literature Review: Mother Tongue Language

The non- English native speakers studied at the American University in Dubai do not constitute a minority compared to English native speakers. In fact, students from various ethnicities and nationalities speak different languages, and in our sample they do number more than English natives. However, English is the only language of instruction at the American University in Dubai.

Escotet, M., (1997: 7) argues that "…each language fuses symbols with distinctive emotions. Thus, as multilingual people can attest, a single idea often "feels" different if spoken in, say, Spanish rather than in English or Chinese (Falk, 1987)… (Hence) the Sapir-Whorf hypothesis states that people perceive the world through the cultural lens of language."

Since language is essential in perception, thought and learning, it would be important to investigate what previous researchers have found, and what are the implications of not using mother tongue language on academic achievement. Vygotsky (1962 cited in Jochems 1991:309) claims that "thought development is determined by language." Will the learning outcome drop when teaching does not take place in the mother tongue language? Jochems (1991) poses this question that will be investigated in this study.

Cummins (1983 cited in Light 1987: 252) notes that immigrant students might master verbal communication within two years. However, it takes from five to seven years to reach grade level. Light (1987) also points out that academic achievement in humanities might be harder in second language than in "hard science" which is more quantitative. In order to investigate the effect of using English as a second language on academic achievement, Light (1987) studied 387 university students and compared TOEFL results with grade point average (GPA). Light (1987: 255- 259) found that GPA does correlate significantly with TOEFL scores, however, the correlation is not strong. Hence, one cannot predict academic achievement based on

TOEFL scores. Light concludes that language proficiency is one of several other variables that affect academic performance.

Ayres and Peters (1977 cited in Jochems 1991: 311) studied the relationship between academic performance measured by grade point average (GPA) and English proficiency measured by TOEFL score. A good correlation was found with (r= 0.04). However, the correlation between academic performance and mathematics scores was higher with (r= 0.55). Thus, mathematical performance can be a better indicator of academic achievement than English proficiency. Jochems (1991:312) investigated engineering students' performance in relation with their foreign language proficiency. He remarks that a little lack of foreign language proficiency is not an obstacle and can be compensated with higher mathematical achievement and hard work. This compensation can become impossible if there is a greater deficiency in knowledge of foreign language.

Rumberger and Larson (1998: 69) suggest that there are conflicting results with regard to English proficiency and academic achievement. Latino immigrants who acquire better English scores do not necessarily perform better in general. Ogbu (1992) and Ogbu and Matute- Bianchhi (1986) explain this phenomenon from a socio-cultural perspective. Ogbu (1992) differentiates between "voluntary" immigrants like Europeans and Asian Americans on the one hand, and "involuntary" immigrants on the other hand. To him this constitutes a crucial difference. The immigrant either preserves his identity, and willingly learns a new language and lifestyle, or he adopts an oppositional standpoint that influences his new language acquisition and adaptation.

Rumberger and Larson (1998: 81and 86) found that English proficient students were better achievers than those who were at a lower level in English proficiency. The authors also assert that achievement of bilingual

students is more dependent on "cultural and sociolinguistic variables" rather than socioeconomic status and other conventional variables.

Saville- Troike's (1984) research consisted of 19 children from Grade two to Grade six. Students chosen speak seven native languages- "Japanese, Korean, Hebrew, Arabic, Spanish, Icelandic, and Polish" (Saville- Troike 1984: 202 and 204). By the end of the academic year, students were given the "Comprehensive Test of Basic Skills in English" to measure their English proficiency. In addition, three other English tests were administered at the end of the year. The author affirms that native language has a major influence on the acquisition of a second language, and on academic achievement. "Most obvious was the transfer of native language forms into English." Saville- Troike (1984: 214) also finds that native language proficiency is an important indicator of English proficiency. A standardized test was not undertaken in the different native languages. However, from teachers' briefs on performances in native language, one can conclude that those who perform well in their native language tend to perform well in English.

An intriguing finding that sheds light on our study is that there is a large difference among individuals studied. This is expected as in all social science research. There is a vast diversity among students coming from different background as well as differences in students who share the same mother tongue language (Saville- Troike 1984: 215). In spite of the differences, the author comes to a common conclusion: that students who were able to discuss their ideas in their native tongue language were the better achievers opposed to those who did not get the opportunity to discuss concepts in their mother tongue language. Collier's (1992: 192) findings support the previous statement that the more instruction, or at least chance to use the native language, the more the students are prone to be better academic achievers. It is assumed that students in the AUD sample are able

to discuss their ideas outside the classroom in their mother tongue language with classmates who share the same native language.

Salamonson and Andrew (2006) studied the relationship between academic achievement and nursing students' mother tongue language in an Australian University. The study was quantitative and a survey was administered and data was collected over two years. 267 students participated in the study. The authors found that students whose native tongue language was English scored significantly better than those who were coming from "non- English speaking backgrounds". Irrespective of whether English is the native language or not, Sideridis (2002: 350) affirms that when comparing "motivational determinants" of low language achievers with high language achievers, one can find that they have significantly different "motivational profile".

2.4. Literature Review: Nationality

Ferrari & Mahalingam (1998 cited in McInerney 2010:2) state that "The manner in which learners meaningfully engage in school and other educational settings and benefit from the experiences presented reflects the social and cultural environments in which they are socialized. Personal, social and cultural histories shape student engagement. These histories include gender, class, race, religion and family."

As mentioned above, many factors influence the educational experience and student achievement. Before proceeding two points are worth mentioning. First, research studying the influence of ethnicity on academic performance is sometimes used in this section. We realize that nationality and ethnicity are two different terms that cannot be used interchangeably, and a definition of each will be mentioned later in Chapter three. However, since some distinct ethnicities include individuals from certain nationalities

other than the mainstream culture, literature studying attainment of those groups is used in this section. Second, most of the literature review cited studies Chinese, Korean, Puerto Rican, Asian, Slovenian, and European nationalities. Some of these studies are conducted in England and Australia, but the majority of them are held in the USA. It is important to be aware that immigrants in the USA face different circumstances than those in the UAE where our study is held. The concept of the melting pot does not apply to the UAE. Each national group maintains its own identity, and in general migrants are not given the UAE citizenship irrespective of the number of years they live in the UAE. Therefore, the dilemma of giving up one's nationality or culture does not necessarily apply to expats in the UAE.

McInerney (2010: 13) notes that parental involvement in their children's education tends to enhance students' achievement. This involvement, however, varies across national and cultural groups. Each group has a different outlook on its role, and the degree to which it can provide help. Ku et al (2005 cited in McInerney 2010: 15) clarify that "more than 90% of sampled Filipino, Indian, Nepalese and Pakistani students agreed or strongly agreed that their parents cared about their performance in school and had high expectations of them." Other studies cited by McInerney assert the importance of parents' high aspiration to students' academic achievement. This parental involvement seems to vary across the nationality variable in addition to other variables such as socio-economic status.

Park and Kim (1998) conducted two studies. The first was to investigate if there is a relationship between locus of control and academic achievement. The second was to assess the correlation between locus of control and academic performance of three national groups namely: Korean, Chinese Korean, and Chinese. Significant relationship was found between academic attainment and internal locus of control. The authors theorize that low achievers tend to have a higher external locus of control, thus, blaming failure on others or on uncontrollable external circumstances. The second

study which compares internal locus of control among different nationalities, found that there is a significant difference between the three different national groups studied. Koreans scored the highest on internal locus of control, followed by Korean- Chinese, and then Chinese. The authors suggest that Korean students' high locus of control, leading to high achievement, comes from the role parents have in "instilling a strong achievement motive in their children". They support their findings with a study done by Gallup Korea (1983). This cross national study found that Korean parents surpass parents in the USA, England, West Germany, France, and Japan in financial contribution towards their children's education. Although we are not studying Korean students in our sample, the Korean example sheds light on attainment differences across the different nationalities based on cultural beliefs that might influence students' locus of control, and hence, academic achievement. In addition, Park & Kim (1998) cite two other relevant studies. One of them is by Parson and Schneider (1974), and shows significant differences in locus of control between, Japanese, French, German, Canadian, Italian, Israeli, American, and Indian students. The other study was by Jensen, Olsen and Hughes (1990), and it drew a comparison between the loci of control among nine Western European countries. In all studies significant differences were observed along the nationality variable, and it was also concluded that the more individualistic the society is the more students tend to have an internal locus of control.

Male and Lee (2004: 278) argue that the difference in academic performance among ethnic groups can be referred to macro and micro influences. They clarify that at the "macro objective level" differences in attainment are due to discrimination and denial of all groups of equal opportunity. In this case, unequal opportunities and discrimination are the independent variables influencing achievement and not ethnicity. On the other hand, the authors add that at the micro level, it is the student's

personal choice and perception as to what degree his "ethnic status" is essential to him or her. In the same line of thought, researchers refer the under achievement of African Americans to either discriminatory practices or to the fact that students want to comply with their ethnic identity. Therefore, they tend to underachieve since academic success is considered a white trait. However, Flores- Gonzalez (1999) differentiates between ethnic African American minority students who tend to underachieve, and Mexican Americans who do not relate achievement with race. Mexican Americans comprise an ethnic minority, but they do not relate ethnicity to performance. They can succeed and still uphold their ethnic identity.

Barron and Arcodia (2002) note that "Confucian Heritage Culture (CHC)" students who studied at an Australian university had better academic performance than native Australian students. The authors refer this to cultural aspects. Confucian students value hard work and relate it to achievement. At the same time they tend to assume more responsibility than western students. Financial motivation is reported as another reason related to their academic attainment.

Portes (1999: 493) claims that "Assuming that social class differences were eliminated, significant differences in intellectual achievement remain correlated with culture (Potes, 1996). A culture's social and economic organization greatly sways communication, learning, and motivational patterns, to the advantage of some more than others." Furthermore, White (1982 cited in Portes 1999: 501) adds that "ethno-cultural membership" has a significant influence on academic performance. He stipulates that if socioeconomic status, and English proficiency were controlled, "ethnicity (would) account(ed) for about as much of the variance as that attributed generally to social class."

Chalker and Haynes (1994: 140) on the other hand, emphasize that the major difference in achievement between the ten "world class" countries

studied is due to "a cultural variable coming from home in terms of an attitude toward school and learning and the definition of success." The authors explain that unlike the common western assumption that Asian children experience pressure from their "demanding curriculum", studies show that the family and peer support on one hand, and the clearly defined academic goals on the other hand render the whole experience as positive. Chalker and Haynes highlight the difference between American and Asian children. They suggest that the former are motivated by rewards such as money or candies, whereas Asian children are intrinsically motivated by success.

Therefore, most studies cited find a correlation between nationality and academic achievement. Differences between nationalities are referred to parental involvement, internal/ external locus of control, minority status, and culture.

CHAPTER 3

Theoretical Approach and Methodology

This study looks at freshman students in The American University in Dubai. Two freshman cohorts from the academic years 2006- 2007, and 2007- 2008 were studied. In semester based terms we are looking at the freshman students who joined in Fall 2006 semester, Spring 2007, Summer I 2007, Summer II 2007, Fall 2007, Spring 2008, Summer I 2008, and Summer II 2008.

Since one of the variables investigated is the relationship between high school curriculum and university achievement, it was thought that only freshman students should be sampled. This is done in order to eliminate the effect of university experience factor on students' achievement.

The total number of students in this sample was 769. All transients from different universities were excluded from the study. The study only looks at students who are directly coming from high schools. The data was cleaned even further by removing students who were enrolled in the Intensive English Program and whose GPA was 0. The final number of students studied is 729. This sample size is considered big enough for a correlational study. The sample size enables us to ensure that findings are reliable and meaningful.

3.1. Population and Sample

The sample of 729 students has a mean GPA $\underline{M} =$ 2.4054 and Standard Deviation $\underline{SD}$ = 0.84510

There are four major high school curricula types from which students in our sample are coming from. They are: American (56.0%), British (20.9%), UAE (6.4%), and Indian (5.3%). There are other minority curricula types who were excluded from the study because of their numerical insignificance and they are grouped under "Other".

406 students are males and they comprise 55.7% of the total sample. 323 students are females comprising, thus, 44.3% of the total sample.

The five major mother tongue languages are Arabic (57.8%), English (9.2%), Farsi (5.9%), Hindu/Urdu (17.1%) and Russian (2.3%). Minority mother tongue languages are excluded again as they are not significant numerically.

A total number of 12 nationalities are studied excluding minority ones. Nationalities are distributed as follows: American (4.1%), Canadian (4.0%), Egyptian (5.9%), Emirati (19.3%), Indian (10.4%), Iranian (5.9%), Jordanian (7.0%), Lebanese (8.0%), Pakistani (6.4%), Palestinian (3.0%), Saudi (3.3%), and Syrian (5.8%).

3.2. Procedure

This is a convenience sample as the author works at the American University in Dubai. A letter was addressed to the President of the university explaining the purpose of the study and asking for data of the above mentioned cohorts from the Registrar's Office. Upon the President's approval, data was obtained after several reports were run in collaboration with the Admission's Office that has the students' high school curricula types, and the Registrar's Office that has other needed information.

For ethical purposes, names of the students were not revealed in the study. The author reserved the right to have a look at the family names of students

coming from American and Canadian nationalities in order to check if they are originally from other backgrounds. Therefore, data set including identifying information was deleted before conducting the analysis for confidentiality and privacy purposes.

3.3. Research Questions

1. Is there any relationship between students' high school curriculum and their academic achievement in the American University in Dubai?

2. Does academic achievement vary with gender?

3. Are English native speakers better achievers than non-English native speakers in the American university in Dubai?

4. Does students' academic achievement vary with national belonging?

3.4. Hypotheses

H1- Students' academic achievement will vary depending on the high school curriculum that they are coming from

Ho1- Students' academic achievement will not vary with the variation of high school curriculum that they are coming from

H2- Females tend to be better achievers than male students

Ho2- Males are better achievers than females

H3- Students who are English native speakers will be better achievers than students who are non- English native speakers in the American University in Dubai

Ho3- Students who are English native speakers will not achieve better than non- English speakers in the American University in Dubai

H4- Students' academic achievement will vary along national groups studied

Ho4- Students' academic achievement will not vary along national groups studied

3.5. Definition of Variables

What are the different variables and how are they obtained?

Hypothesis and Variables

Hypothesis	Dependent variable	Independent variable
1	Student academic achievement - measured in GPA	Student high school curriculum
2	Student academic achievement - measured in GPA	Student gender
3	Student academic	Student mother tongue language

	achievement - measured in GPA	
4	Student academic achievement - measured in GPA	Student nationality

Table 1

The students' high school curricula types were obtained from the Admission's Office at the American University in Dubai.

Students' gender was obtained from the Registrar's Office at AUD as per students' passports.

Mother tongue language, in our study, was inferred by the author by referring to the students' nationality. The aim was to classify students into English native speakers and non- English native speakers. As mentioned earlier, the surnames of American and Canadian citizens were checked by the author in order to ensure that the internal validity is maintained. Although some students who are Americans are originally of different background, however, we would assume that they have a good command of the language as they have the nationality. Saville- Troike (1984: 199) states that most studies investigating students' achievement consider mother tongue language as a dependent variable. In contrast, in his study as in this study mother tongue language is an independent variable along which achievement is measured.

Students' nationality in this study was obtained from the Registrar's Office as per students' passports. Because we have cited several researchers who studied the relationship between nationality/ ethnicity and academic achievement, it was thought that a definition of both terms should be

provided. Escotet (1997: 42) notes that "Nation is defined by the Encyclopedia Americana (1992: 751) as 'a large number of people who see themselves as a community or group and who generally place loyalty to the group above any conflicting loyalties….' Ethnic group on the other hand is defined as a group that shares a common ancestry, culture, history, tradition, and sense of peoplehood…" (Escotet 1997: 150).

Achievement in this study is limited to the grade point average (GPA). GPA which is the dependent variable was obtained from the Registrar's Office. The GPA usually varies from 0 to 4, and at AUD students with GPA below 2:00 are placed on academic probation.

According to Carroll's model (1989: 26) there are five variables that determine academic achievement. They are: first, aptitude- how long does it take a student to learn a unit curriculum, second, opportunity to learn, third, perseverance which is willingness of the student to spend a certain amount of time on learning, fourth, quality of instruction and fifth, ability to understand instruction. Some of the above mentioned variables are personal and differ from one student to the other. When discussing different curricula types, we studied governments' expenditure on education and compulsory education which are related to opportunity to learn. Moreover, perseverance which is related to motivation and quality of instruction are assessed in terms of aspects like teacher qualification and class size. Doll (1996: 58) relates achievement to self- concept and self- esteem. He explains that research findings correlate positive self perceptions with good school achievement. However, he confirms that improved self esteem will not necessarily improve achievement! Carroll (1989: 30) states that his "philosophy" of education is to provide equal opportunities for all children, but not necessarily equal attainment if ever possible.

3.6. Data Analysis

Data was analyzed by using SPSS for windows- version 17.0. The raw data was cleaned twice: first, to exclude those who are in the intensive English program and have a GPA of 0.00, and second, to exclude students who have missing entries (For instance, students whose high school curriculum type is missing). Cleaned data was then coded according to Appendix one. After coding data it was possible to extract descriptive and inferential data.

For descriptive analysis means and standard deviations were used to study each variable. Means were computed at 95% confidence interval. Alpha was computed in order to ensure internal validity and significance of findings. Alpha was also used because it has been found, in most studies consulted, that it is robust to deviations from normality.

For inferential analysis Post Hoc multiple comparisons were used in order to compare the different subgroups among curricula types, mother tongue languages, and nationalities. One- way ANOVAs were used to investigate the differences between these subgroups in terms of GPA.

3.7. Methodologies Used in Cited Studies

In what follows we will refer to methodologies used in some cited studies in the literature review. These studies are chosen either because they have similar research questions as the ones in this study, or because their findings are significant to this study.

Some studies cited measure achievement in relationship with similar variables by using qualitative methods. For instance, Saville- Troike (1984) investigated the relationship between mother tongue language and achievement. His research consisted of 19 children. The author studied these subjects for one year. Throughout the year the author videotaped children weekly in their English language class, interviewed them for 30 to

45 minutes once by the end of the year, conducted three English language tests towards the end of the year, and interviewed parents and teachers on aspects of using the language at home and at school. The above is a different method used to examine the same variable (mother tongue language) that is investigated in this paper. Although Saville- Troike's (1984) study provides more insight about individual students who speak various mother tongue languages, his findings about different mother tongue languages influencing the acquisition of English language cannot be significantly correlated or generalized. Usually for correlation to be significant a minimum of 100 subjects need to be used.

Similar to the approach taken by this study, Light (1987), also cited in the literature review, opted to study English language proficiency of university students by obtaining students' info from the registrar's office and comparing the GPA of 376 students with their TOEFL scores upon enrollment.

Barron & Arcodia (2002), previously cited in p. (36) determined to find links between ethnic background and learning style that might influence achievement. The research method used was quantitative and it consisted of a survey. The survey was divided into two parts, the first part provided information about age, gender, nationality, and ethnicity, while the second section included 80 questions about learning styles. The survey was administered by the authors in a controlled formal class meeting. Ticehurst and Veal (1999:138 cited in Barron & Arcodia 2002: 20) describe this method of conducting the survey as a "captive group survey". The authors claim that this approach "is expeditious and less problematic than in less controlled situations." This method resulted in 50 "usable questionnaires" out of the original 77 students enrolled in this class. Still this sample size is small compared to the sample sized used in our study. However, this survey provides first hand data from participants rather than obtaining it from the registrar's office. One might argue that findings are dependent upon participants' accuracy and willingness to reveal the truth, but at the same

time, this kind of information is better derived from the source which is the participants or the students themselves.

Flores- Gonzalez (1999) whose study was also cited in the literature review conducted a qualitative ethnographic study. He spent one academic year (1992- 93) in a school that has 2600 students among which 55 percent are Puerto Ricans. The author conducted "intensive in- depth life history interviews with 33 students and former students. Some participants were chosen randomly (mostly those who were enrolled in school) while others were selected through snowball sampling (mostly dropouts)" (Flores- Gonzalez 1999: 347). The author focused on the 11 high achievers and the 22 low achievers. Flores- Gonzalez study must have provided valuable findings about the participants. These findings can explain achievement or underachievement in a better way than merely looking at the GPA. However, again results cannot be generalized on the school level.

Salamonson and Andrew (2006) conducted a quantitative survey at a university in New South Wales, Australia. Data were collected over two academic years (2001/2002). A second year cohort students were chosen and the survey was conducted during class session. The survey included close- ended questions. Over the two years 84% of the students completed the survey and n= 267 students. This survey allowed the authors to extract conclusions about the relationship between mother tongue language and achievement measured by GPA. Mother tongue language was inferred in this study by referring to students' ethnicity. This study might allow more accuracy than our study when it comes to mother tongue language inference. In our study mother tongue language was inferred depending upon students' nationality.

Park & Kim (1998) conducted a study to investigate the relationship between locus of control and achievement on one hand, and another study to determine the influence of locus of control among three ethnicities

namely: Korean, Korean- Chinese, and Chinese students on the other hand. "A total 1,024 (477 Korean, 248 Chinese, 299 Korean- Chinese) university students in their third year participated in this study. The Korean sample was recruited from two universities in Seoul and one near Seoul. The Chinese sample was recruited from a university in Changchun, China. The Korean- Chinese sample was obtained from a university in Yanbian, China. All Korean- Chinese students who participated in this study were born in China, while their parents or grandparents were born in Korea. Those who were not Korean- Chinese were excluded from the sample." (Park & Kim 1998: 203). For the three samples questionnaire included items that revealed the locus of control, and all questionnaires were administered during class sessions. The achievement of students was obtained from the administration. For the three samples students were divided into two groups- those who have a B grade or higher, and those who have C+ grade or lower.

3.8. Why this Methodology was Used in this Study?

As discussed previously, various methods and combination of methods can be used to investigate research questions similar to the ones posed in this paper. This study is a quantitative correlational study that attempts to investigate the relationship between four variables and university achievement. Findings are the result of controlling and measuring each variable separately, without ignoring the fact that some variables like nationality and mother tongue language, or nationality and high school curriculum type are interrelated at some times. Furthermore, the sociological nature of the study implies that other cultural and family variables might interfere.

The methods used allow direct investigation of the research questions posed at the beginning of the study. In addition, the methods applied enable comparisons within subgroups and highlight significant findings as we will see in the next chapter. Results could have been supported by survey administration, and teacher/student interviews in order to add first hand data. However, the design of the study, the sample size, and the method used to analyze data, ensure internal validity and the ability to repeat this study. The methods applied enabled the author to find correlations between variables studied within the time limit, resources and framework of this study. Furthermore, the population size and the way variables have been treated allow for generalization of findings on the AUD campus level as well as among other American Universities in the UAE.

CHAPTER 4

RESULTS

4.1. Curriculum Results

4.1.1. Descriptive Data for Curriculum

A brief summary of directly relevant findings will be stated below. More detailed data is available in Appendix two.

As for the curricula type, around 56% of students are coming from schools that follow the American curriculum, and 21% of students are coming from British curriculum schools. These are the highest percentages. 6% are coming from UAE Government schools, 5% are from schools that follow the Indian system, around 3% are from Iranian systems, and the rest are minority curricula types as is shown below in Table two.

Curriculum

Curriculum	Frequency	Percent	Valid Percent	Cumulative

				Percent
1 American	408	56.0	56.0	56.0
2 British	152	20.9	20.9	76.8
3 UAE	47	6.4	6.4	83.3
4 Indian	39	5.3	5.3	88.6
5 Iranian	19	2.6	2.6	91.2
6 Other	64	8.8	8.8	100.0
Total	729	100.0	100.0	

Table 2

4.1.2. Inferential Analysis for Curriculum

When comparing the different curricula types, an analysis of variance reveals a significant difference between groups.

American curriculum (M = 2.26, SD = 0.78), British Curriculum (M = 2.57, SD = 0.94), UAE curriculum (M = 2.32, SD = 0.79), and Indian curriculum (M = 2.92, SD = 0.78).

The difference between students coming from Indian curriculum and all the other curricula types is significant.

In Table three below the Iranian and the "Other" curricula types are not included. This is done as the study looks at the biggest four categories of curricula types. The total number of students N= 646 rather than the original 729. Still there is significance in the achievement of students coming from Indian curriculum.

All Curricula Types and GPA

Curriculum	Mean	N	Std. Deviation
1 American	2.2663	408	.78752

2 British	2.5776	152	.94884
3 UAE	2.3213	47	.79836
4 Indian	2.9210	39	.78147
5 Iranian	2.2758	19	.72678
6 Other	2.6687	64	.81345
Total	2.4054	729	.84510

Table 3

ANOVA table below shows $F = (3, 642) = 11.056$,

df= 3, $p = 0.0001$ which is the significance

ANOVA Table

Anova	Sum of Squares	df	Mean Square	F	Sig.
GPA Between Combined Groups	22.777	3	7.592	11.056	.000
Within Groups	440.887	642	.687		
Total	463.664	645			

Table 4

Table five below shows a significant difference between students coming from Indian curriculum and the other three curricula types. Significance

between Indian and American is revealed in p = 0.0001, between Indian and British p = 0.021, and between Indian and UAE p = 0.001. Students from Indian curriculum have a higher mean GPA compared to all other curricula types.

The table below shows that students coming from British curriculum have a higher mean GPA that those coming from American curriculum, where p = 0.0001.

At the same time, Table five below shows no significant difference between the students coming from American curriculum and UAE curriculum with p = 0.667 and students from UAE curriculum having a higher mean GPA than the American curriculum students.

There is no significant difference between students coming from British and UAE curriculum with p = 0.64 and the British curriculum students having a higher mean GPA. Results that show significance will be highlighted in tables below.

Multiple Comparisons

(I) curriculum	(J) curriculum	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
American	British	-.31124*	.07875	.000	-.4659	-.1566
	UAE	-.05495	.12765	.667	-.3056	.1957
	Indian	-.65470*	.1389	.00	-.9274	-.3820

				0	<mark>0</mark>	
British	American	.31124*	.07875	<mark>.000</mark>	.1566	.4659
	UAE	.25629	.13831	.064	-.0153	.5279
	Indian	-.34346*	.14875	<mark>.021</mark>	-.6356	-.0514
UAE	American	.05495	.12765	.667	-.1957	.3056
	British	-.25629	.13831	.064	-.5279	.0153
	Indian	-.59975*	.17950	<mark>.001</mark>	-.9522	-.2473
Indian	American	.65470*	.13890	<mark>.000</mark>	.3820	.9274
	British	.34346*	.14875	<mark>.021</mark>	.0514	.6356
	UAE	.59975*	.17950	<mark>.001</mark>	.2473	.9522

Table 5

*. The mean difference is significant at the 0.05 level.

4.2. Gender Results

4.2.1. Descriptive Data for Gender

Table six below shows that 55.7% of the sample studied are males and 44.3% are females.

Gender

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
1 Male	406	55.7	55.7	55.7
2 Female	323	44.3	44.3	100.0
Total	729	100.0	100.0	

Table 6

4.2.2. Inferential Analysis for Gender

As for gender and GPA relationship, Table seven below reveals that there is a significant difference in GPA along gender.

Female ($\underline{M}$ = 2.68, $\underline{SD}$ = 0.83) and Male ($\underline{M}$= 2.18, $\underline{SD}$ = 0.79)

Gender and GPA

Gender	Mean	N	Std. Deviation
1 Male	2.1857	406	.79019
2 Female	2.6815	323	.83189
Total	2.4054	729	.84510

Table 7

The ANOVA Table below shows significance in the difference between the gender variable with $\underline{p}$ = 0.0001

$\underline{F}$ = ANOVA = (1, 727) = 67.57

Df = 1, $\underline{p}$ = 0.0001 which is significant

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
GPA * gender	Between Groups	(Combined)	44.219	1	44.219	67.576	.000
	Within Groups		475.720	727	.654		
	Total		519.939	728			

Table 8

4.3. Mother Tongue Language Results

4.3.1. Descriptive Data for Mother Tongue Language

57.8% of students sampled speak Arabic as their mother tongue language, 9.2% of students speak English as their first language, 5.9% speak Farsi, 17.1% speak Hindi or Urdu, 2.3% speak Russian and 7.7% are minority mother tongue languages that are grouped under "Other".

Mother Tongue Language

Mother Tongue	Frequency	Percent	Valid Percent	Cumulative Percent

Language				
1 Arabic	421	57.8	57.8	57.8
2 English	67	9.2	9.2	66.9
3 Farsi	43	5.9	5.9	72.8
4 Hindi/Urdu	125	17.1	17.1	90.0
5 Russian	17	2.3	2.3	92.3
6 Other	56	7.7	7.7	100.0
Total	729	100.0	100.0	

Table 9

4.3.2. Inferential Analysis for Mother Tongue Language

When comparing the different categories for mother tongue languages, an analysis of variance reveals significant differences between groups.

Arabic mother tongue ($M = 2.26$, $SD = 0.81$), English mother tongue ($M = 2.32$, $SD = 0.90$), Farsi mother tongue ($M = 2.457$, $SD = 0.75$), Hindi and Urdu mother tongues ($M = 2.80$, $SD = 0.77$), and Russian mother tongue ($M = 2.452$, $SD = 0.75$).

The difference between Hindi and Urdu native speakers and all other mother tongue languages is significant. Hindi/Urdu had the highest mean GPA.

GPA and Mother Tongue Language

Mother Tongue	Mean	N	Std. Deviation

Language			
1 Arabic	2.2663	421	.81621
2 English	2.3230	67	.90141
3 Farsi	2.4574	43	.75841
4 Hindi/Urdu	2.8078	125	.77110
5 Russian	2.4529	17	.75531
6 Other	2.5963	56	.93863
Total	2.4054	729	.84510

Table 10

ANOVA table below reveals that $F_{(5, 723)} = 9017$

Df= 5 and Significance p = 0.0001

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
GPA * Mother Tongue Language	Between Groups	(Combined)	31.035	5	6.207	9.179	.000
	Within Groups		488.903	723	.676		
	Total		519.939	728			

Table 11

Table 12 below shows that the lowest individual GPA is among the Arabic and the English native speakers. The highest individual GPA is among the Arabic and the Hindi/ Urdu native speakers.

Descriptive GPA and Mother Tongue Language

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean/ Lower Bound	95% Confidence Interval for Mean/ Upper Bound	Minimum	Maximum
1 Arabic	421	2.2663	.81621	.03978	2.1881	2.3445	.00	4.00
2 English	67	2.3230	.90141	.11012	2.1031	2.5429	.00	3.98
3 Farsi	43	2.4574	.75841	.11566	2.2240	2.6908	.27	3.91
4 Hindi/Urdu	125	2.8078	.77110	.06897	2.6713	2.9443	.75	4.00
5 Russian	17	2.4529	.75531	.18319	2.0646	2.8413	1.06	3.91
6 Other	56	2.5963	.93863	.12543	2.3449	2.8476	.33	3.93
Total	729	2.4054	.84510	.03130	2.3439	2.4668	.00	4.00

Table 12

Table 13 below shows a Post Hoc comparison and the following results are revealed:

There is no significant difference between Arabic and English native speakers in terms of GPA with p = 0.60 and English native speakers having a higher mean GPA than Arabic native speakers.

There is no significance between Arabic and Farsi native speakers with p = 0.14. Farsi native speakers have higher mean GPA than Arabic native speakers.

There is a significant difference between Arabic native speakers and Hindi/Urdu speakers with p = 0.0001. Hindi/Urdu speakers have higher mean GPA than Arabic native speakers.

There is no significant difference between Arabic native speakers and Russian native speakers with p = 0.35. Russian native speakers have higher mean GPA than Arabic native speakers.

Arabic native speakers have the lowest mean GPA compared to other mother tongue speakers studied.

There is no significant difference between English native speakers and Farsi speakers with p = 0.40. Farsi speakers have higher mean GPA than English native speakers.

There is a significant difference between English native speakers and Hindi/Urdu native speakers with p = 0.0001. Hindi/ Urdu native speakers have a higher mean GPA than English natives.

There is no significant difference between English native speakers and Russian speakers with p = 0.56. Russian native speakers have higher mean GPA than English native speakers.

There is a significant difference between Farsi native speakers and Hindi/Urdu native speakers with p = 0.016. Hindi/ Urdu speakers have higher mean GPA than Farsi native speakers.

There is no significant difference between Farsi native speakers and Russian speakers with p = 0.985. Farsi speakers have higher mean GPA than Russian native speakers.

There is no significant difference between Hindi/Urdu native speakers and Russian native speakers with p = 0.09. Hindi/Urdu speakers have higher mean GPA than Russian native speakers.

Post Hoc Multiple Comparisons

GPA LSD						
(I) Mother Tongue Language	(J) Mother Tongue Language	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
1 Arabic	2 English	-.05664	.10816	.601	-.2690	.1557
	3 Farsi	-.19110	.13165	.147	-.4496	.0674
	4 Hindi/Urdu	-.54150*	.08376	.000	-.7059	-.3771
	5 Russian	-.18660	.20343	.359	-.5860	.2128
	6 Other	-.32991*	.11697	.005	-.5595	-.1003

2 English	1 Arabic	.05664	.10816	.601	-.1557	.2690
	3 Farsi	-.13446	.16068	.403	-.4499	.1810
	4 Hindi/Urdu	-.48485[*]	.12451	.000	-.7293	-.2404
	5 Russian	-.12996	.22332	.561	-.5684	.3085
	6 Other	-.27326	.14889	.067	-.5656	.0190
3 Farsi	1 Arabic	.19110	.13165	.147	-.0674	.4496
	2 English	.13446	.16068	.403	-.1810	.4499
	4 Hindi/Urdu	-.35040[*]	.14538	.016	-.6358	-.0650
	5 Russian	.00450	.23559	.985	-.4580	.4670
	6 Other	-.13881	.16674	.405	-.4662	.1885
4 Hindi/Urdu	1 Arabic	.54150[*]	.08376	.000	.3771	.7059
	2 English	.48485[*]	.12451	.000	.2404	.7293
	3 Farsi	.35040[*]	.14538	.016	.0650	.6358
	5 Russian	.35490	.2125	.09	-.0624	.7722

61

				7	5	
	6 Other	.21159	.13223	.110	-.0480	.4712
5 Russian	1 Arabic	.18660	.20343	.359	-.2128	.5860
	2 English	.12996	.22332	.561	-.3085	.5684
	3 Farsi	-.00450	.23559	.985	-.4670	.4580
	4 Hindi/Urdu	-.35490	.21257	.095	-.7722	.0624
	6 Other	-.14331	.22771	.529	-.5904	.3037
6 other	1 Arabic	.32991[*]	.11697	.005	.1003	.5595
	2 English	.27326	.14889	.067	-.0190	.5656
	3 Farsi	.13881	.16674	.405	-.1885	.4662
	4 Hindi/Urdu	-.21159	.13223	.110	-.4712	.0480
	5 Russian	.14331	.22771	.529	-.3037	.5904

Table 13

*. The mean difference is significant at the 0.05 level.

4.4. Nationality Results

4.4.1. Descriptive Data for Nationality

Table 14 below shows that the sample studied belongs to 12 different nationalities in addition to minority nationalities that are grouped under "other".

The nationality composition is as follows: 4.1% American, 4.0% Canadian, 5.9% Egyptian, 19.3% Emirati, 10.4% Indian, 5.9% Iranian, 7.0% Jordanian, 8.0% Lebanese, 6.4% Pakistani, 3.0% Palestinian, 3.3% Saudi, 5.8% Syrian, and 16.9% other minority nationalities.

Nationality

Nationality	Frequency	Percent	Valid Percent	Cumulative Percent
1 American	30	4.1	4.1	4.1
2 Canadian	29	4.0	4.0	8.1
3 Egyptian	43	5.9	5.9	14.0
4 Emirati	141	19.3	19.3	33.3
5 Indian	76	10.4	10.4	43.8
6 Iranian	43	5.9	5.9	49.7
7 Jordanian	51	7.0	7.0	56.7
8 Lebanese	58	8.0	8.0	64.6
9 Pakistani	47	6.4	6.4	71.1
10 Palestinian	22	3.0	3.0	74.1

11 Saudi	24	3.3	3.3	77.4
12 Syrian	42	5.8	5.8	83.1
13 Other	123	16.9	16.9	100.0
Total	729	100.0	100.0	

Table 14

4.4.2. Inferential Analysis for Nationality

When comparing the different nationalities, an analysis of variance reveals a significant difference between groups.

Table 15 below reveals the following:

Americans (M = 2.52, SD = 0.74), Canadian (M = 2.43, SD = 0.91), Egyptian (M = 2.25, SD = 0.86), Emirati (M = 2.18, SD = 0.74), Indian (M = 2.95, SD = 0.71), Iranian (M = 2.48, SD = 0.77), Jordanian (M = 2.45, SD = 0.85), Lebanese (M = 2.31, SD = 0.84), Pakistani (M = 2.58, SD = 0.80), Palestinian (M = 2.01, SD = 1.1), Saudi (M = 2.1, SD = 0.78), and Syrian (M = 2.54, SD = 0.65).

GPA and Nationality

Nationality	Mean	N	Std. Deviation
1 American	2.5280	30	.74183
2 Canadian	2.4321	29	.91083
3 Egyptian	2.2523	43	.86200
4 Emirati	2.1884	141	.74219
5 Indian	2.9517	76	.71088
6 Iranian	2.4826	43	.77650
7 Jordanian	2.4512	51	.85237
8 Lebanese	2.3102	58	.84828
9 Pakistani	2.5857	47	.80560

10 Palestinian	2.0191	22	1.10030
11 Saudi	2.1950	24	.78590
12 Syrian	2.5424	42	.65857
13 Other	2.3272	123	.92985
Total	2.4054	729	.84510

Table 15

The ANOVA table below shows that $F = (12, 716) = 4.85$

Df = 12, p = 0.0001 which is significant.

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
GPA * nationality	Between Groups	(Combined)	39.107	12	3.259	4.853	.000
	Within Groups		480.831	716	.672		
	Total		519.939	728			

Table 16

Table 17 below shows individual minimum and maximum GPAs.

The Lebanese have the least minimum (0.00) GPA followed by the Palestinian (0.20).

The Indians have the highest least minimum GPA (1.42) followed by the Syrians (1.17).

The Indians, Lebanese and Pakistani have the highest maximum individual GPA.

65

The Saudi (3.45) has the lowest maximum GPA followed by the Egyptians (3.67).

Descriptive GPA

Descriptive GPA	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean/ Lower Bound	95% Confidence Interval for Mean/ Upper Bound	Minimum	Maximum
American	30	2.5280	.74183	.13544	2.2510	2.8050	1.14	3.98
Canadian	29	2.4321	.91083	.16914	2.0856	2.7785	.43	3.71
Egyptian	43	2.2523	.86200	.13145	1.9870	2.5176	.33	3.67
Emirati	141	2.1884	.74219	.06250	2.0648	2.3119	.33	3.76
Indian	76	2.9517	.71088	.08154	2.7893	3.1142	1.42	4.00
Iranian	43	2.4826	.77650	.11842	2.2436	2.7215	.27	3.91
Jordanian	51	2.4512	.85237	.11936	2.2114	2.6909	.43	3.99

Lebane se	58	2.31 02	.84828	.111 38	2.0871	2.5332	.00	4.00
Pakista ni	47	2.58 57	.80560	.117 51	2.3492	2.8223	.75	4.00
Palestin ian	22	2.01 91	1.1003 0	.234 59	1.5312	2.5069	.20	3.97
Saudi	24	2.19 50	.78590	.160 42	1.8631	2.5269	.60	3.45
Syrian	42	2.54 24	.65857	.101 62	2.3372	2.7476	1.17	3.98
Other	12 3	2.32 72	.92985	.083 84	2.1612	2.4931	.00	3.93
Total	72 9	2.40 54	.84510	.031 30	2.3439	2.4668	.00	4.00

Table 17

A Post Hoc comparison was made below and several differences were found. Only significant mean differences will be listed below. Differences that are not significant will be listed in Appendix two p. (100).

There is a significant mean difference between the Americans and the Emirati with p = 0.04 and the Americans having a higher mean GPA than the Emiratis.

There is a significant mean difference between the Americans and the Indians with p = 0.01 and the Indians having a higher mean GPA than the Americans.

There is a significant mean difference between the Americans and the Palestinians with p = 0.02 and the Americans having a higher mean GPA than the Palestinians.

There is a significant mean difference between the Canadians and the Indians with p = 0.004 and the Indians having a higher mean GPA than the Canadians.

There is a significant mean difference between the Egyptians and the Indians with p = 0.000 and the Indians having a higher mean GPA than the Egyptians.

There is a significant mean difference between the Egyptians and the Pakistani with p = 0.05 and the Pakistani having a higher mean GPA than the Egyptians.

There is a significant mean difference between the Emiratis and the Indians with p = 0.000 and the Indians having a higher mean GPA than the Emiratis.

There is a significant mean difference between the Emiratis and the Iranians with p = 0.04 and the Iranians having a higher mean GPA than the Emiratis.

There is a significant mean difference between the Emiratis and the Jordanians with p = 0.05 and the Jordanians having a higher mean GPA than the Emiratis.

There is a significant mean difference between the Emiratis and the Pakistani with p = 0.004 and the Pakistani having a higher mean GPA than the Emiratis.

There is a significant mean difference between the Emiratis and the Syrian with p = 0.01 and the Syrians having a higher mean GPA than the Emiratis.

There is a significant mean difference between the Indians and the Iranians with p = 0.003 and the Indians having a higher mean GPA than the Iranians.

There is a significant mean difference between the Indians and the Jordanians with p = 0.001 and the Indians having a higher mean GPA than the Jordanians.

There is a significant mean difference between the Indians and the Lebanese with p = 0.0001 and the Indians having a higher mean GPA than the Lebanese.

There is a significant mean difference between the Indians and the Pakistani with p = 0.01 and the Indians having a higher mean GPA than the Pakistani.

There is a significant mean difference between the Indians and the Palestinians with p = 0.0001 and the Indians having a higher mean GPA than the Palestinians.

There is a significant mean difference between the Indians and the Saudi with p = 0.0001 and the Indians having a higher mean GPA than the Saudi.

There is a significant mean difference between the Indians and the Syrians with p = 0.01 and the Indians having a higher mean GPA than the Syrians.

There is a significant mean difference between the Iranians and the Palestinians with p = 0.03 and the Iranians having a higher mean GPA than the Palestinians.

There is a significant mean difference between the Jordanians and the Palestinians with p = 0.03 and the Jordanians having a higher mean GPA than the Palestinians.

There is a significant mean difference between the Pakistani and the Palestinians with p = 0.008 and the Pakistani having a higher mean GPA than the Palestinians.

There is a significant mean difference between the Palestinians and the Syrians with p = 0.01 and the Syrians having a higher mean GPA than the Palestinians.

Table 26 in Appendix two shows a detailed multiple comparison between the various nationalities and GPA. Mean differences, significance and standard deviations are also revealed.

CHAPTER 5

DISCUSSION, Conclusion and Recommendations

5.1. Discussion: Curriculum

As mentioned in the previous chapter, results related to high school curricula types and achievement, reveal that students coming from the Indian system have the highest mean average GPA followed by British curriculum high school students, then UAE curriculum students, and finally American curriculum students. One should note that students in our AUD sample, who are coming from the UAE curriculum high schools, might not be representative of Emirati students in general as most of them are coming from private schools. Table 20 in Appendix two shows that around 95% of students in our sample are coming from private high schools compared to only 5% of the students coming from public high schools.

Let us try to explain why the American curriculum students have the lowest mean GPA by considering the literature review provided earlier in Chapter two.

According to Chalker and Hanes (1994: 44), although the USA is spending enough money on education, it has less number of school days, lower

teacher salaries, and less teacher qualifications than Britain, and the mean average of world class countries studied. In addition, the tests used in the USA do not measure what students have learnt in class but are rather designed for college preparation (Chalker and Haynes 1994: 156 to 161). Furthermore, parental involvement was found to be minimal in American society. Another important aspect that Cornbleth (1998:636) mentions, and that was cited earlier in p. (20), is that the American curriculum is one of the most fragmented curricula. This fragmentation does not allow the students to link previous knowledge to what is being studied at the present time. In addition, fragmentation leads to fragmented knowledge rather than holistic education. Probably this is one of the reasons accounting for underachievement of students coming from American curriculum high schools. When Cornbleth (1998: 627) talks about the fragmentation of the American curriculum, she notes that not only different classrooms observed in different schools have different perspective of American history, but the textbooks "divide history into units, chapters, sections, and subsections… (and) rarely link the parts together in any meaningful way beyond simple chronology." Doll (19996: 88) says that "…old fashioned procedure of asking pupils to think about little parts of a whole problem or situation is less effective than getting them to think holistically…(Consequently) One of the problems teachers often encounter when they engage pupils in discussion is pupils' inability to think critically."

Second, in the UAE curriculum high schools, a large amount of money is spent on education. Shaw et al (1995 cited in Gaad et al 2006: 4) argue that in spite of "adequate funding" by the government, the UAE has the highest rate of dropouts and repetition rates among the gulf states. At the same time, teachers' qualifications and training are below standard. The EFA Assessment (2000:30) reveals that only 21.1% of public school teachers had correct qualifications in the academic year of 1989/90 and the figure did not improve in 1998/99. The UNESCO report lists a number of organizations

and foreign bodies with which the UAE Ministry of Education is cooperating in order to eradicate illiteracy and improve achievement. These bodies include the United Nations Educational, Scientific and Cultural Organization, and the Arab League Educational, Cultural and Scientific Organization (EFA Assessment, 2000:19). However, as mentioned in Chapter two, the major drawback of the UAE curriculum is the "lack of cohesion" between all the parties involved in the education process. The UAE is working towards a national curriculum in all subjects, but assessment methods still require rote memorization rather than analysis and critical thinking. The major problem in the UAE curriculum is that the "right content" is not taught in the "right context" as there is lack of cohesion between the ministry and the school administration. (Hokal and Shaw 1999 cited in Gaad 2006: 4). According to Sparks and Hirsh (1997: 6 cited in Gaad et al 2006: 2) "Because educational leaders typically have not thought systematically, reform has most often occurred in piecemeal fashion".

Third, students coming from the British curriculum high schools outperformed those coming from both American and UAE curricula types. The AUD sample results match conclusions previously reported (in Chapter two p. 21) by Chalker and Haynes (1994). The authors found out that Britain meets most of world class standards. However, what significantly differentiates the American and the British curricula, is that while the first is fragmented and lacks unified assessment, the latter has clear standards of achievement thanks to the Reform Act of 1988 which brought about national curriculum and national testing.

Fourth, the best achievers are coming from the Indian curriculum high schools. According to the UNESCO report mentioned previously in (p. 22) new schools are built, teacher training is improving and expenditure on education is increasing in India. However, one can argue that a higher percentage of GNP is spent on education in "world class countries" including USA and Britain. Still students from the Indian curriculum high schools have

a significantly higher GPA. This can be related to parental involvement and high expectations as well as competitive job market conditions.

To conclude this section, researchers in education have agreed upon some variables that impact learning and achievement such as the government's expenditure on education. The USA has the highest percentage of GNP spent on education compared to Britain, India and the UAE. However, data analysis from the AUD sample shows that students coming from American system achieve the least in terms of GPA. One can argue that students coming from American curriculum high schools are not necessarily from the USA, but rather from American schools in the UAE. This is true, but still the texts, delivery process, examination methods, and the time variable might fit to a certain extent within the American curriculum context even if the school is outside the USA. At the same time if we look at the UAE expenditure in terms of Gross National Product, we note a discrepancy between economic growth and expenditure on education. Huge amounts of money might be spent on education, but it is not proportional with the accelerating growth in UAE GDP.

In fact, no direct answer can be given since the relationship between variables is not linear. However, one can conclude that culture and home do have a major impact on achievement. Data analysis supports the hypothesis that students coming from different high school curricula types vary in their academic achievement. Still it would be naive to ignore the cultural impact that is accompanying the different curricula types. Chalker and Haynes say that "…the method of teaching in Japan and the United States reflects the expectations of the parent and the child." Japanese teachers stress on understanding the process and the reasoning while American teachers rush to finish one worksheet and start with the other in order to meet the expectations of the parents. The authors illustrate that "In Japan the typical middle grades textbook may be 100 pages long, and the teacher may be expected to teach with it for 300 hours so that process can be taught"

(Chalker and Haynes,1994: 136). Yes, there are differences in academic achievement along with the different curricula types that are portrayed. However, differences can be referred to cultural variables that sometimes feed back in the curriculum.

5.2. Discussion: Gender

Results from the AUD sample, stated in the previous chapter, show that there is a significant difference between genders with p = 0.0001. Females are found to be significantly better achievers than males. Several researchers cited in the literature review, refer differences in achievement along gender to physiological, psychological and social factors. Some authors support our results while others do not find any relationship between gender and achievement, or even report that males tend to perform better.

Perreault & Hill (2000) support our findings by referring females' better performance to better relationships with the administration than male students. Similarly, Sullivan et al (2008) relate males' low achievement with their negative attitude towards the administration. Clifton et al (2008) remark that females' better achievement is due to using different types of "coping strategies". The authors also relate females' better attainment to different pedagogical variables. Zimmerman and Martinez- Ponz (1990) believe that this significant difference between genders, in the favor of females, is because females tend to use more "self- regulated learning" like taking notes, setting goals, and planning ahead.

On the other hand, some authors cited in Chapter two report that males tend to be better achievers than females. For example, Bolognini et al (1995 cited in Ramadan 2003) refers females' low achievement to low self- esteem. It

would have been beneficial to run a survey along with this study to assess the levels of self esteem among participants. Moreover, Felder (1996 cited in Alumran 2008) maintains that males and females have different learning styles. While females are good at memorizing, and screening details, males are more intuitive learners. This implies that females might be better achievers in some academic programs while males might perform better in others. This can be an implication to assess gender performance along the different majors or programs.

In conclusion, our findings regarding gender might be applicable to other universities in the UAE, but still they cannot be generalized. At the same time, one has to take into consideration that gender differences in achievement were not studied in relation to specific programs. While some authors contend that females excel in some areas, and males outperform them in other areas, this is yet to be investigated. Also, one can refer females' significant better achievement to social factors pertaining to this region in the Middle East. Although there is a big mix of nationalities in our sample, a big percentage of students are coming from the Middle East. In this region males are given more autonomy to go out and socialize, and they are granted more flexibility to return home at later hours in the night. Conversely, females are, in some instances, restricted to certain curfews past which they are not supposed to be outside home. Moreover, females have to prove that they are worth the trust, and they deserve to be sent to universities. Again this cannot be generalized to females in this region, nor to females studied in our sample. However, it might shed light on results attained. Probably the domestication of females, and the consideration of higher education as a privilege rather than a right is an incentive among females to work harder.

5.3. Discussion: Mother Tongue Language

The previous chapter reveals that among the five different mother tongue languages studied Hindi/Urdu outperformed Arabic native speakers, English native speakers, Farsi native speakers and Russian native speakers. The previous chapter also shows that Arabic native speakers have the lowest mean GPA compared to all other mother tongue speakers studied. English native speakers come at the bottom of the scale just before Arabic speakers. The purpose of studying mother tongue language was to answer the following research question: Will English native speakers outperform other students since the language of instruction at the American University in Dubai is English? Our findings refute the hypothesis that English natives tend to perform better than other native speakers although English is the only language of instruction at AUD.

If we go back to the literature review, we find out that some authors highlight that being an English native speaker, and receiving instruction in English does not result in better achievement, while others stipulate the opposite.

Salamonson and Andrew (2006) found that there is a strong relationship between nursing students in Australia who are English native speakers and good academic performance. Those who are non- English native speakers tend to underachieve. Why this is not the case in the UAE among non-English speakers? An attempt to explain this will follow shortly.

Ogbu (1992) refers differences in achievement among immigrant students to whether the immigration was voluntary or involuntary. The author clarifies that when immigration is voluntary students tend to achieve better as they do not feel that they are giving up their language and culture to the "mainstream" culture. It is worth highlighting again what was mentioned earlier that non- English native speakers do not constitute a minority in the AUD sample. Therefore, studies conducted in the USA about non- English natives' performance relative to their minority status might not be applicable to our study. Furthermore, the social structure of the UAE does not force a

mainstream culture. Although Arabic is the official language, English is the language mostly used in the country.

Moreover, Jochems (1991) asserts that lack of foreign language proficiency can result in poor achievement, however, this can only happen if there is a severe lack of proficiency. It should be noted here that non- English natives in this study might be very proficient in English. It would be beneficial in future studies to look at students' TOEFL scores upon joining AUD and compare them with GPA. Another recommendation for future research is to study proficiency in mother tongue language and compare it to English proficiency and academic achievement. Saville- Troike (1984) finds a strong relationship between mother tongue language proficiency, foreign language proficiency and academic performance.

5.4. Discussion: Nationality

Table 17 in Chapter four, p. (64) reveals that there is a relationship, in this study, between the nationality variable and academic achievement. Twelve different nationalities were studied and significant differences in achievement were found in some instances. In the previous section related to mother tongue language, all students who are coming from Arab speaking nations were grouped under Arabic speaking. The nationality section, on the other hand, pinpoints the achievement of each national group separately. The Arab world consists of several nations that have many traditions and values in common. However, this world is very much diversified when it comes to geology, natural resources, political systems, religions, history, GNP, GDP, per capita income, colonial influences, and educational systems. Similarly, in the previous section Hindi/Urdu were grouped together. In this section Indian and Pakistani students will be studied separately.

The previous chapter shows that Indians have the highest mean GPA, followed by Pakistani, then Syrians, Americans, Iranians, Jordanians, Canadians, Lebanese, Egyptians, Saudi, Emirati, and finally Palestinians. Significantly higher mean GPA was found between the Indian students and all other students. The nationality variable and mother tongue language are interrelated. This is evident in the Indian nationals and the Hindi/Urdu language results. Indian students who speak Hindi/Urdu were the best academic achievers.

Going back to the literature review, McInerney (2010) claims that there is a strong correlation between parental involvement and academic performance. It would be intriguing to study the extent of parental involvement among the different nationalities mentioned in our study. From my personal experience, having worked at the American University in Dubai, Indian and Pakistani parents usually take the trouble of visiting the campus occasionally in order to check on their children's performance. At the same time, also from a personal observation, Egyptian parents are so much keen on their children's attainment. Nonetheless, Egyptians are not on the top of the list when it comes to academic attainment. It seems that several aspects within the nationality variable do influence achievement.

The locus of control can be an important aspect as Park and Kim (1998) reported in their study about Korean, Korean Chinese and Chinese students. Some national groups tend to have higher internal locus of control which was found to be related to better academic achievement. Other authors like Parson and Schneider (1974) also remark that the locus of control varies in their cross- national study along the different European nations. This might imply that future investigations of the locus of control among Indians and Pakistani as well as other nationalities in this study might be beneficial for further validation of findings.

Furthermore, Barron and Arcodia (2002) reason that some cultures value hard work more than other cultures, and directly relate it to achievement. Let us consider the Saudi, the Emirati and the Palestinian students who have the lowest mean GPA in this study. The two gulf countries KSA and UAE are among the counties that experienced a sudden boom in their economic system due to oil discovery. People in these counties witnessed rapid transformation, within decades, from a nomadic poor social structure to an affluent life marked by abundance. It is true that the governments through proper strategic planning, recruitment of expertise, and self education brought the two counties to what they are now, however, transformation was not the result of slow, and tedious work. In this case, achievement might not be directly related to meritocracy and work ethics. Probably that is why students from these two countries are not as much socialized that attainment is the direct result of hard work as the Indians or the Pakistani might be. It is worth mentioning that this is a cheer personal analysis that is neither based on data nor on statistics, and is yet to be investigated. The Palestinians on the other hand, because of the conflicts with Israel, have suffered involuntary immigration. These people have witnessed several events taking place without being able to influence or change consequences. It could be that the Palestinians have learned self-helplessness, and have also learned to blame failure or non-accomplishment on external 'loci of control' conditions. It is possible that historical events might have influenced socialization too. This could have happened indirectly when children hear that events cannot be changed because of uncontrollable external factors. Again this is just a thought that is not verified.

To conclude this section on the relationship between nationality and achievement, Chaplan et al (1992 cited in Chalker and Haynes, 1994: 60) give an example of education ethics in relation to 500 Indo- Chinese refugee students who were admitted to American schools. These refugees were

monitored by researchers for three and a half years. By the end of this period students met "world class level" in math and science and were nearly at grade level in English understanding. The author poses an important question: if American schools are as bad as they are portrayed, why are these Indo- Chinese students meeting world class educational level while studying in American schools? The author explains that the parents of these children are directly involved in children's schooling. The whole family supports educational endeavors in the sense that after dinner all members of the family are occupied with accomplishing the homework and supporting the children.

5.5. Implications

This study attempts to find a correlation between four variables and students' academic attainment. Our findings bring to the surface some implications:

1. Students coming from American high school curriculum have the lowest mean GPA compared to other students from different curricula types. Students from the UAE curriculum have the second lowest mean GPA. At the same time, in the nationality section, American students have higher mean GPA than Emirati students. This might imply that American high school curriculum lacks in preparing students for better achievement at university level compared to other curricula types studied.

2. Females' significantly better achievement might imply that in this region, at this period of time, females are given the chance to "equal" education. However, there are still some social constraints like lack of autonomy, and the chance to be assertive. These factors can be among others that are leading females to prove themselves academically.

5.6. Recommendations for Future Research

1- A survey to validate all findings could be beneficial in later studies that are meant to be at a bigger scale. The survey can include few questions to assess "coping strategies", learning styles, and autonomy among females and males. The survey can also investigate how often mother tongue language is used at home and with family and friends compared to English language which is the language of instruction. Another area that the survey can visit is the amount of parental involvement in students' academic endeavours. Moreover, the survey can pose the question of how many years students have been studying in the UAE. All these are important questions that can be included in the survey.

2- A study of gender achievement along the different programs offered at the university would be beneficial in order to investigate if females tend to be more rote learners and detail oriented, while males are more intuitive learners as was mentioned earlier in the literature review.

3- Suh et al (2007 cited in Poyrazli et al 2008) point out that there is a correlation between completing high school and gender but no relationship was found for dropping out of school. A study of how many females earn a degree compared to males can also help us understand gender attainment at the American University in Dubai and probably in the UAE as well.

4- Looking at TOEFL scores upon students' enrolment at the university and comparing them with GPA can shed light on the relationship

between language proficiency and achievement among non- English native speakers.

5.7. Limitations

This study measures academic achievement by means of grade point average or GPA. Several researchers criticize the use of GPA as an accurate indicator of achievement. Rumberger & Larson (1998: 77) as well as Jochems (1991: 313) explain that limiting achievement to GPA is very restrictive as it does not take into account the completion of study or the attainment of the degree. In this study achievement is limited to GPA as in the study done by Flores- Gonzalez (1999) and several other studies that are cited. Light & Xu (1987: 253) argue that although the use of GPA has been criticized, it is still an indicator of whether students graduate or not. However, limiting achievement to GPA excludes teachers' evaluations or, for instance, awards given to students.

Another limitation in variables is that the mother tongue language was not obtained by interviewing students. It was rather inferred by the author via reference to students' nationality. A student who has the Iranian passport was considered to speak Farsi as his/ her mother tongue language. Similarly, students who had the Indian or Pakistani passports were classified under Hindi/Urdu mother tongue language.

Finally, some students who have the American or Canadian passports and are listed under the category of Americans or Canadians are of other origins. This was found out from the surnames that are not listed in our Appendices because of ethical restraints.

5.8 Conclusion

The purpose of this paper was to investigate the relationship between students' high school curriculum, gender, mother tongue language and nationality and their academic achievement in the American University in Dubai. Although findings merit further investigation to validate them, the following conclusions can be beneficial in studying AUD and other universities in the UAE as the sample size is big enough, and the population might be representative of other UAE universities:

1- Students coming from Indian high school curriculum are significantly the best achievers followed by British curriculum student, then UAE curriculum students, and then American curriculum students.

2- Females are significantly better achievers than male students at the American University in Dubai.

3- Students who are English native speakers are not better achievers than non- English native speakers. In fact, some non- English native speakers outperformed English native speakers significantly.

4- Achievement appears to vary significantly along national belonging. Among the twelve nationalities studied, Indians are found to be significantly the best achievers, followed by Pakistani, then by Syrians. Students' achievement do not vary according to the passport they hold per se, but rather by the cultural variables that might accompany each national group like parental involvement, locus of control, and cultural history and values.

One can conclude from the literature review, the results, and the discussion sections that the cultural variable is the most dominant factor influencing students' achievement. For instance, Indian high school curriculum, and Indian nationality have been found to be variables accounting for better achievement. This is probably due to the cultural factor that is common to

both variables. Even gender variations in achievement can be mostly attributed to socialization and culture.

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Appendix 1

Codebook for Data

Appendix 1 constitutes of a code list that was used in order to transfer the raw data into cleaned data to be used in SPSS.

Curricula Type code

There are 14 different curricula in the data collected. Only two students did not have a specific curriculum and they were labelled "No Answer" as seen in Table 2 and Figure 2 in Appendix 1. Curricula that comprise more than 2% of the total curricula count were given codes. Minority curricula are coded as "Other".

The codes are as follows

American = 1

British = 2

Govt (UAE Government) = 3

Indian = 4

Iranian = 5

Other = 6

Gender code:

Male = 1

Female = 2

Mother Tongue Language code

The mother tongue language was given to students according to their nationalities. Although this section can carry a relatively big margin of error as nationality is not always indicative of mother tongue language, still it can serve its purpose. The aim of this section is to see whether English native speakers perform better in an American University. Some students who are Canadians by nationality might be Arabs in origin, for instance, but we assume that they might have lived in Canada and they have a good command of English.

In this section all students who belong to Arab countries by nationality are assigned Arabic language as the mother tongue language.

English language is assigned to students who have the American, British and Canadian nationalities. Some Canadians who are coming from schools following the French system were included under "Other" as French speaking students including French- Canadians comprise only 0.8% of the total number of students.

Both Indians and Pakistani are assigned "Hindi/ Urdu" as the mother tongue language.

Iranians are assigned Farsi as mother tongue language.

All students coming from Russian speaking countries are assigned the Russian Language as the mother tongue language although in reality their mother tongue language might be Kazak for instance. However, this does not influence the validity of the study as the main aim is to compare native English speakers' performance to non- English natives. In this case we are merely grouping students under big categories.

All other minority nationalities are assigned "Other". Although the category "Other" comprise 7.4% of the total number of students, no single nationality was big enough and could constitute a separate group.

Codes are as follows:

Arabic = 1

English = 2

Farsi = 3

Hindi/ Urdu = 4

Russian = 5

Other = 6

Nationality: There are 49 different nationalities as shown in Table () and Figure () in Appendix (). Nationalities that comprise 3% and more will be given individual codes otherwise they will be grouped under "Other".

The codes are as follows:

American = 1

Canadian = 2

Egyptian = 3

Emirati = 4

Indian = 5

Iranian = 6

Jordanian = 7

Lebanese = 8

Pakistani = 9

Palestinian = 10

Saudi = 11

Syrian = 12

Other = 13

Appendix 2

General Review of Data

Frequencies

General Statistics About the Sample

		GPA	gender	program	mother tongue language	nationality	public/ private	curriculum
N	Valid	729	729	729	729	729	729	729
	Missing	0	0	0	0	0	0	0
Mean		2.4054	1.44	2.87	2.20	7.20	1.05	2.04
Median		2.4300	1.00	1.00	1.00	7.00	1.00	1.00
Std. Deviation		.84510	.497	2.647	1.651	3.777	.225	1.575

Table 18

Frequency Table

GPA

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid .00	3	.4	.4	.4
.14	1	.1	.1	.5
.20	1	.1	.1	.7
.21	1	.1	.1	.8
.26	1	.1	.1	1.0
.27	1	.1	.1	1.1
.28	1	.1	.1	1.2

.33	3	.4	.4	1.6
.35	1	.1	.1	1.8
.38	2	.3	.3	2.1
.40	1	.1	.1	2.2
.43	2	.3	.3	2.5
.49	1	.1	.1	2.6
.50	2	.3	.3	2.9
.55	1	.1	.1	3.0
.56	1	.1	.1	3.2
.57	2	.3	.3	3.4
.58	1	.1	.1	3.6
.60	2	.3	.3	3.8
.64	1	.1	.1	4.0
.65	1	.1	.1	4.1
.66	2	.3	.3	4.4
.72	1	.1	.1	4.5
.73	1	.1	.1	4.7

.74	2	.3	.3	4.9
.75	1	.1	.1	5.1
.79	1	.1	.1	5.2
.80	1	.1	.1	5.3
.93	1	.1	.1	5.5
.95	1	.1	.1	5.6
.96	1	.1	.1	5.8
.99	1	.1	.1	5.9
1.00	1	.1	.1	6.0
1.01	1	.1	.1	6.2
1.03	1	.1	.1	6.3
1.05	1	.1	.1	6.4
1.06	2	.3	.3	6.7
1.07	1	.1	.1	6.9
1.08	1	.1	.1	7.0
1.09	1	.1	.1	7.1
1.12	1	.1	.1	7.3

1.13	1	.1	.1	7.4
1.14	2	.3	.3	7.7
1.15	1	.1	.1	7.8
1.17	1	.1	.1	8.0
1.19	1	.1	.1	8.1
1.20	1	.1	.1	8.2
1.21	1	.1	.1	8.4
1.22	1	.1	.1	8.5
1.24	1	.1	.1	8.6
1.25	2	.3	.3	8.9
1.27	1	.1	.1	9.1
1.29	1	.1	.1	9.2
1.30	2	.3	.3	9.5
1.32	1	.1	.1	9.6
1.33	1	.1	.1	9.7
1.34	1	.1	.1	9.9
1.35	1	.1	.1	10.0

1.37	4	.5	.5	10.6
1.41	2	.3	.3	10.8
1.42	2	.3	.3	11.1
1.43	1	.1	.1	11.2
1.45	2	.3	.3	11.5
1.46	4	.5	.5	12.1
1.49	1	.1	.1	12.2
1.50	6	.8	.8	13.0
1.51	1	.1	.1	13.2
1.52	1	.1	.1	13.3
1.53	1	.1	.1	13.4
1.54	3	.4	.4	13.9
1.55	1	.1	.1	14.0
1.56	2	.3	.3	14.3
1.57	3	.4	.4	14.7
1.58	3	.4	.4	15.1
1.59	1	.1	.1	15.2

1.60	3	.4	.4	15.6
1.61	2	.3	.3	15.9
1.62	1	.1	.1	16.0
1.63	3	.4	.4	16.5
1.64	2	.3	.3	16.7
1.65	3	.4	.4	17.1
1.66	3	.4	.4	17.6
1.67	2	.3	.3	17.8
1.68	4	.5	.5	18.4
1.69	1	.1	.1	18.5
1.70	3	.4	.4	18.9
1.71	6	.8	.8	19.8
1.72	2	.3	.3	20.0
1.73	2	.3	.3	20.3
1.74	2	.3	.3	20.6
1.75	3	.4	.4	21.0
1.76	3	.4	.4	21.4

1.77	2	.3	.3	21.7
1.78	1	.1	.1	21.8
1.79	3	.4	.4	22.2
1.80	1	.1	.1	22.4
1.82	4	.5	.5	22.9
1.83	1	.1	.1	23.0
1.84	1	.1	.1	23.2
1.85	5	.7	.7	23.9
1.86	2	.3	.3	24.1
1.88	1	.1	.1	24.3
1.89	3	.4	.4	24.7
1.90	4	.5	.5	25.2
1.91	5	.7	.7	25.9
1.92	2	.3	.3	26.2
1.93	3	.4	.4	26.6
1.94	1	.1	.1	26.7
1.95	5	.7	.7	27.4

1.96	5	.7	.7	28.1
1.97	4	.5	.5	28.7
1.98	3	.4	.4	29.1
1.99	5	.7	.7	29.8
2.00	3	.4	.4	30.2
2.01	5	.7	.7	30.9
2.02	1	.1	.1	31.0
2.03	3	.4	.4	31.4
2.04	4	.5	.5	32.0
2.05	4	.5	.5	32.5
2.06	2	.3	.3	32.8
2.07	3	.4	.4	33.2
2.08	4	.5	.5	33.7
2.09	2	.3	.3	34.0
2.10	5	.7	.7	34.7
2.11	5	.7	.7	35.4
2.12	2	.3	.3	35.7

2.13	5	.7	.7	36.4
2.14	4	.5	.5	36.9
2.15	6	.8	.8	37.7
2.16	2	.3	.3	38.0
2.17	6	.8	.8	38.8
2.18	1	.1	.1	39.0
2.20	3	.4	.4	39.4
2.21	3	.4	.4	39.8
2.22	6	.8	.8	40.6
2.23	5	.7	.7	41.3
2.24	1	.1	.1	41.4
2.25	6	.8	.8	42.2
2.26	6	.8	.8	43.1
2.27	7	1.0	1.0	44.0
2.28	2	.3	.3	44.3
2.29	1	.1	.1	44.4
2.30	4	.5	.5	45.0

2.31	2	.3	.3	45.3
2.32	4	.5	.5	45.8
2.33	3	.4	.4	46.2
2.34	3	.4	.4	46.6
2.35	2	.3	.3	46.9
2.37	3	.4	.4	47.3
2.38	5	.7	.7	48.0
2.39	1	.1	.1	48.1
2.40	5	.7	.7	48.8
2.41	4	.5	.5	49.4
2.43	7	1.0	1.0	50.3
2.44	2	.3	.3	50.6
2.45	5	.7	.7	51.3
2.46	5	.7	.7	52.0
2.47	3	.4	.4	52.4
2.48	3	.4	.4	52.8
2.49	2	.3	.3	53.1

2.50	7	1.0	1.0	54.0
2.51	2	.3	.3	54.3
2.52	3	.4	.4	54.7
2.53	4	.5	.5	55.3
2.54	1	.1	.1	55.4
2.55	5	.7	.7	56.1
2.56	3	.4	.4	56.5
2.57	7	1.0	1.0	57.5
2.58	6	.8	.8	58.3
2.59	4	.5	.5	58.8
2.60	2	.3	.3	59.1
2.61	2	.3	.3	59.4
2.62	4	.5	.5	59.9
2.63	2	.3	.3	60.2
2.64	2	.3	.3	60.5
2.65	2	.3	.3	60.8
2.66	4	.5	.5	61.3

2.67	2	.3	.3	61.6
2.68	4	.5	.5	62.1
2.69	5	.7	.7	62.8
2.70	3	.4	.4	63.2
2.72	6	.8	.8	64.1
2.73	7	1.0	1.0	65.0
2.74	2	.3	.3	65.3
2.75	6	.8	.8	66.1
2.76	3	.4	.4	66.5
2.77	2	.3	.3	66.8
2.78	1	.1	.1	66.9
2.79	2	.3	.3	67.2
2.81	5	.7	.7	67.9
2.82	1	.1	.1	68.0
2.83	2	.3	.3	68.3
2.84	2	.3	.3	68.6
2.85	6	.8	.8	69.4

2.86	4	.5	.5	70.0
2.87	2	.3	.3	70.2
2.88	2	.3	.3	70.5
2.89	2	.3	.3	70.8
2.90	5	.7	.7	71.5
2.91	3	.4	.4	71.9
2.92	2	.3	.3	72.2
2.93	3	.4	.4	72.6
2.94	4	.5	.5	73.1
2.95	2	.3	.3	73.4
2.96	4	.5	.5	73.9
2.97	3	.4	.4	74.3
2.98	2	.3	.3	74.6
3.00	3	.4	.4	75.0
3.01	1	.1	.1	75.2
3.03	2	.3	.3	75.4
3.05	2	.3	.3	75.7

3.06	3	.4	.4	76.1
3.07	1	.1	.1	76.3
3.08	3	.4	.4	76.7
3.09	4	.5	.5	77.2
3.10	2	.3	.3	77.5
3.11	2	.3	.3	77.8
3.12	1	.1	.1	77.9
3.13	4	.5	.5	78.5
3.14	2	.3	.3	78.7
3.15	4	.5	.5	79.3
3.16	3	.4	.4	79.7
3.17	2	.3	.3	80.0
3.18	3	.4	.4	80.4
3.19	2	.3	.3	80.7
3.20	2	.3	.3	80.9
3.21	1	.1	.1	81.1
3.22	3	.4	.4	81.5

3.23	1	.1	.1	81.6
3.24	1	.1	.1	81.8
3.25	2	.3	.3	82.0
3.26	4	.5	.5	82.6
3.27	3	.4	.4	83.0
3.28	4	.5	.5	83.5
3.29	3	.4	.4	84.0
3.30	5	.7	.7	84.6
3.32	3	.4	.4	85.0
3.33	5	.7	.7	85.7
3.34	4	.5	.5	86.3
3.35	2	.3	.3	86.6
3.36	2	.3	.3	86.8
3.37	5	.7	.7	87.5
3.38	1	.1	.1	87.7
3.39	2	.3	.3	87.9
3.42	2	.3	.3	88.2

3.43	2	.3	.3	88.5
3.44	2	.3	.3	88.8
3.45	3	.4	.4	89.2
3.47	3	.4	.4	89.6
3.49	3	.4	.4	90.0
3.52	2	.3	.3	90.3
3.53	1	.1	.1	90.4
3.54	1	.1	.1	90.5
3.55	1	.1	.1	90.7
3.56	1	.1	.1	90.8
3.57	4	.5	.5	91.4
3.59	1	.1	.1	91.5
3.60	3	.4	.4	91.9
3.61	1	.1	.1	92.0
3.62	1	.1	.1	92.2
3.63	1	.1	.1	92.3
3.64	1	.1	.1	92.5

3.65	4	.5	.5	93.0
3.67	1	.1	.1	93.1
3.68	2	.3	.3	93.4
3.69	2	.3	.3	93.7
3.70	3	.4	.4	94.1
3.71	2	.3	.3	94.4
3.73	2	.3	.3	94.7
3.74	1	.1	.1	94.8
3.76	2	.3	.3	95.1
3.77	2	.3	.3	95.3
3.78	1	.1	.1	95.5
3.79	2	.3	.3	95.7
3.81	1	.1	.1	95.9
3.82	1	.1	.1	96.0
3.86	2	.3	.3	96.3
3.88	2	.3	.3	96.6
3.89	2	.3	.3	96.8

3.90	3	.4	.4	97.3
3.91	3	.4	.4	97.7
3.92	2	.3	.3	97.9
3.93	2	.3	.3	98.2
3.94	1	.1	.1	98.4
3.97	4	.5	.5	98.9
3.98	4	.5	.5	99.5
3.99	1	.1	.1	99.6
4.00	3	.4	.4	100.0
Total	729	100.0	100.0	

Table 19

Public/ private school

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 private	690	94.7	94.7	94.7
	2 public	39	5.3	5.3	100.0
	Total	729	100.0	100.0	

Table 20

Correlations

		GPA	Gender	Program	Mother Tongue Language	Nationality	Public/private	Curriculum
GPA	Pearson Correlation	1	.292[**]	-.030	.203[**]	-.025	-.036	.158[**]
	Sig. (2-tailed)		.000	.422	.000	.505	.332	.000
	N	729	729	729	729	729	729	729
Gender	Pearson Correlation	.292[**]	1	.204[**]	.082[*]	.039	-.003	.054
	Sig. (2-tailed)	.000		.000	.027	.297	.926	.146
	N	729	729	729	729	729	729	729
Program	Pearson Correlation	-.030	.204[**]	1	.021	.111[**]	.025	.007
	Sig. (2-tailed)	.422	.000		.565	.003	.493	.860
	N	729	729	729	729	729	729	729

Mother T Lang	Pearson Correlation	.203**	.082*	.021	1	.278**	.001	.355**
	Sig. (2-tailed)	.000	.027	.565		.000	.989	.000
	N	729	729	729	729	729	729	729
Nationality	Pearson Correlation	-.025	.039	.111**	.278**	1	.087*	.094*
	Sig. (2-tailed)	.505	.297	.003	.000		.018	.012
	N	729	729	729	729	729	729	729
Public/ private	Pearson Correlation	-.036	-.003	.025	.001	.087*	1	.257**
	Sig. (2-tailed)	.332	.926	.493	.989	.018		.000
	N	729	729	729	729	729	729	729
Curriculum	Pearson Correlation	.158**	.054	.007	.355**	.094*	.257**	1
	Sig. (2-tailed)	.000	.146	.860	.000	.012	.000	

	N	729	729	729	729	729	729	729

Table 21

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

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

Curriculum Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Gpa *curriculum	646	100.0%	0	.0%	646	100.0%

Table 22

Curriculum One way ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	22.777	3	7.592	11.056	.000
Within Groups	440.887	642	.687		

Curriculum One way ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	22.777	3	7.592	11.056	.000
Within Groups	440.887	642	.687		
Total	463.664	645			

Table 23

Gender Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
GPA * Gender	729	100.0%	0	.0%	729	100.0%

Table 24

ANOVA

Gender GPA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	31.035	5	6.207	9.179	.000
Within Groups	488.903	723	.676		
Total	519.939	728			

Table 25

Multiple Comparisons

GPA

LSD

(I) nationality	(J) nationality	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
American	Canadian	.09593	.21341	.653	-.3230	.5149
	Egyptian	.27567	.19494	.158	-.1071	.6584

	Emirati	.33963[*]	.16477	.040	.0161	.6631
	Indian	-.42371[*]	.17670	.017	-.7706	-.0768
	Iranian	.04544	.19494	.816	-.3373	.4282
	Jordanian	.07682	.18855	.684	-.2934	.4470
	Lebanese	.21783	.18429	.238	-.1440	.5796
	Pakistani	-.05774	.19150	.763	-.4337	.3182
	Palestinian	.50891[*]	.23002	.027	.0573	.9605
	Saudi	.33300	.22442	.138	-.1076	.7736
	Syrian	-.01438	.19589	.941	-.3990	.3702
	Other	.20085	.16687	.229	-.1268	.5285
Canadian	American	-.09593	.21341	.653	-.5149	.3230
	Egyptian	.17974	.19691	.362	-.2069	.5663
	Emirati	.24370	.16709	.145	-.0843	.5717
	Indian	-.51964[*]	.17887	.004	-.8708	-.1685
	Iranian	-.05049	.19691	.798	-.4371	.3361
	Jordanian	-.01911	.19059	.920	-.3933	.3551
	Lebanese	.12190	.18637	.513	-.2440	.4878

	Pakistani	-.15368	.19351	.427	-.5336	.2262
	Palestinian	.41298	.23169	.075	-.0419	.8679
	Saudi	.23707	.22614	.295	-.2069	.6810
	Syrian	-.11031	.19785	.577	-.4988	.2781
	Other	.10491	.16916	.535	-.2272	.4370
Egyptian	American	-.27567	.19494	.158	-.6584	.1071
	Canadian	-.17974	.19691	.362	-.5663	.2069
	Emirati	.06396	.14276	.654	-.2163	.3442
	Indian	-.69938*	.15638	.000	-1.0064	-.3924
	Iranian	-.23023	.17673	.193	-.5772	.1167
	Jordanian	-.19885	.16966	.242	-.5319	.1342
	Lebanese	-.05785	.16491	.726	-.3816	.2659
	Pakistani	-.33342	.17293	.054	-.6729	.0061
	Palestinian	.23323	.21481	.278	-.1885	.6550
	Saudi	.05733	.20880	.784	-.3526	.4673
	Syrian	-.29006	.17778	.103	-.6391	.0590
	Other	-.07483	.14518	.606	-.3599	.2102

Emirati	American	-.33963[*]	.16477	.040	-.6631	-.0161
	Canadian	-.24370	.16709	.145	-.5717	.0843
	Egyptian	-.06396	.14276	.654	-.3442	.2163
	Indian	-.76334[*]	.11661	.000	-.9923	-.5344
	Iranian	-.29419[*]	.14276	.040	-.5745	-.0139
	Jordanian	-.26281	.13390	.050	-.5257	.0001
	Lebanese	-.12180	.12783	.341	-.3728	.1292
	Pakistani	-.39738[*]	.13803	.004	-.6684	-.1264
	Palestinian	.16928	.18785	.368	-.1995	.5381
	Saudi	-.00663	.18095	.971	-.3619	.3486
	Syrian	-.35401[*]	.14406	.014	-.6368	-.0712
	Other	-.13879	.10111	.170	-.3373	.0597
Indian	American	.42371[*]	.17670	.017	.0768	.7706
	Canadian	.51964[*]	.17887	.004	.1685	.8708
	Egyptian	.69938[*]	.15638	.000	.3924	1.0064
	Emirati	.76334[*]	.11661	.000	.5344	.9923
	Iranian	.46915[*]	.15638	.003	.1621	.7762

	Jordanian	.50053[*]	.14834	.001	.2093	.7918
	Lebanese	.64154[*]	.14288	.000	.3610	.9221
	Pakistani	.36597[*]	.15207	.016	.0674	.6645
	Palestinian	.93262[*]	.19840	.000	.5431	1.3221
	Saudi	.75671[*]	.19188	.000	.3800	1.1334
	Syrian	.40933[*]	.15756	.010	.1000	.7187
	Other	.62456[*]	.11957	.000	.3898	.8593
Iranian	American	-.04544	.19494	.816	-.4282	.3373
	Canadian	.05049	.19691	.798	-.3361	.4371
	Egyptian	.23023	.17673	.193	-.1167	.5772
	Emirati	.29419[*]	.14276	.040	.0139	.5745
	Indian	-.46915[*]	.15638	.003	-.7762	-.1621
	Jordanian	.03138	.16966	.853	-.3017	.3645
	Lebanese	.17239	.16491	.296	-.1514	.4962
	Pakistani	-.10319	.17293	.551	-.4427	.2363
	Palestinian	.46347[*]	.21481	.031	.0417	.8852
	Saudi	.28756	.20880	.169	-.1224	.6975

	Syrian	-.05982	.17778	.737	-.4089	.2892
	Other	.15540	.14518	.285	-.1296	.4404
Jordanian	American	-.07682	.18855	.684	-.4470	.2934
	Canadian	.01911	.19059	.920	-.3551	.3933
	Egyptian	.19885	.16966	.242	-.1342	.5319
	Emirati	.26281	.13390	.050	.0000	.5257
	Indian	-.50053[*]	.14834	.001	-.7918	-.2093
	Iranian	-.03138	.16966	.853	-.3645	.3017
	Lebanese	.14100	.15731	.370	-.1678	.4498
	Pakistani	-.13457	.16570	.417	-.4599	.1907
	Palestinian	.43209[*]	.20903	.039	.0217	.8425
	Saudi	.25618	.20285	.207	-.1421	.6544
	Syrian	-.09120	.17075	.593	-.4264	.2440
	Other	.12402	.13648	.364	-.1439	.3920
Lebanese	American	-.21783	.18429	.238	-.5796	.1440
	Canadian	-.12190	.18637	.513	-.4878	.2440
	Egyptian	.05785	.16491	.726	-.2659	.3816

	Emirati	.12180	.12783	.341	-.1292	.3728
	Indian	-.64154[*]	.14288	.000	-.9221	-.3610
	Iranian	-.17239	.16491	.296	-.4962	.1514
	Jordanian	-.14100	.15731	.370	-.4498	.1678
	Pakistani	-.27557	.16083	.087	-.5913	.0402
	Palestinian	.29108	.20519	.156	-.1118	.6939
	Saudi	.11517	.19890	.563	-.2753	.5057
	Syrian	-.23221	.16604	.162	-.5582	.0938
	Other	-.01698	.13053	.897	-.2733	.2393
Pakistani	American	.05774	.19150	.763	-.3182	.4337
	Canadian	.15368	.19351	.427	-.2262	.5336
	Egyptian	.33342	.17293	.054	-.0061	.6729
	Emirati	.39738[*]	.13803	.004	.1264	.6684
	Indian	-.36597[*]	.15207	.016	-.6645	-.0674
	Iranian	.10319	.17293	.551	-.2363	.4427
	Jordanian	.13457	.16570	.417	-.1907	.4599
	Lebanese	.27557	.16083	.087	-.0402	.5913

	Palestinian	.56665*	.21169	.008	.1510	.9823
	Saudi	.39074	.20560	.058	-.0129	.7944
	Syrian	.04336	.17400	.803	-.2983	.3850
	Other	.25859	.14053	.066	-.0173	.5345
Palestinian	American	-.50891*	.23002	.027	-.9605	-.0573
	Canadian	-.41298	.23169	.075	-.8679	.0419
	Egyptian	-.23323	.21481	.278	-.6550	.1885
	Emirati	-.16928	.18785	.368	-.5381	.1995
	Indian	-.93262*	.19840	.000	-1.3221	-.5431
	Iranian	-.46347*	.21481	.031	-.8852	-.0417
	Jordanian	-.43209*	.20903	.039	-.8425	-.0217
	Lebanese	-.29108	.20519	.156	-.6939	.1118
	Pakistani	-.56665*	.21169	.008	-.9823	-.1510
	Saudi	-.17591	.24188	.467	-.6508	.2990
	Syrian	-.52329*	.21567	.015	-.9467	-.0999
	Other	-.30806	.18970	.105	-.6805	.0644
Saudi	American	-.33300	.22442	.138	-.7736	.1076

	Canadian	-.23707	.22614	.295	-.6810	.2069
	Egyptian	-.05733	.20880	.784	-.4673	.3526
	Emirati	.00663	.18095	.971	-.3486	.3619
	Indian	-.75671*	.19188	.000	-1.1334	-.3800
	Iranian	-.28756	.20880	.169	-.6975	.1224
	Jordanian	-.25618	.20285	.207	-.6544	.1421
	Lebanese	-.11517	.19890	.563	-.5057	.2753
	Pakistani	-.39074	.20560	.058	-.7944	.0129
	Palestinian	.17591	.24188	.467	-.2990	.6508
	Syrian	-.34738	.20969	.098	-.7591	.0643
	Other	-.13215	.18287	.470	-.4912	.2269
Syrian	American	.01438	.19589	.941	-.3702	.3990
	Canadian	.11031	.19785	.577	-.2781	.4988
	Egyptian	.29006	.17778	.103	-.0590	.6391
	Emirati	.35401*	.14406	.014	.0712	.6368
	Indian	-.40933*	.15756	.010	-.7187	-.1000
	Iranian	.05982	.17778	.737	-.2892	.4089

	Jordanian	.09120	.17075	.593	-.2440	.4264
	Lebanese	.23221	.16604	.162	-.0938	.5582
	Pakistani	-.04336	.17400	.803	-.3850	.2983
	Palestinian	.52329*	.21567	.015	.0999	.9467
	Saudi	.34738	.20969	.098	-.0643	.7591
	Other	.21523	.14646	.142	-.0723	.5028
Other	American	-.20085	.16687	.229	-.5285	.1268
	Canadian	-.10491	.16916	.535	-.4370	.2272
	Egyptian	.07483	.14518	.606	-.2102	.3599
	Emirati	.13879	.10111	.170	-.0597	.3373
	Indian	-.62456*	.11957	.000	-.8593	-.3898
	Iranian	-.15540	.14518	.285	-.4404	.1296
	Jordanian	-.12402	.13648	.364	-.3920	.1439
	Lebanese	.01698	.13053	.897	-.2393	.2733
	Pakistani	-.25859	.14053	.066	-.5345	.0173
	Palestinian	.30806	.18970	.105	-.0644	.6805
	Saudi	.13215	.18287	.470	-.2269	.4912

	Syrian	-.21523	.14646	.142	-.5028	.0723

Table 26

*. The mean difference is significant at the 0.05 level.

There is no significant mean difference between the Americans and the Canadians with p = 0.65 and the Americans having a higher mean GPA than the Canadians.

There is no significant mean difference between the Americans and the Egyptians with p = 0.15 and the Americans having a higher mean GPA than the Egyptians.

There is no significant mean difference between the Americans and the Iranians with p = 0.81 and the Americans having a higher mean GPA than the Iranians.

There is no significant mean difference between the Americans and the Jordanians with p = 0.68 and the Americans having a higher mean GPA than the Jordanians.

There is no significant mean difference between the Americans and the Lebanese with p = 0.23 and the Americans having a higher mean GPA than the Lebanese.

There is no significant mean difference between the Americans and the Pakistani with p = 0.76 and the Pakistani having a higher mean GPA than the Americans.

There is no significant mean difference between the Americans and the Saudi with p = 0.13 and the Americans having a higher mean GPA than the Saudi.

There is no significant mean difference between the Canadians and the Egyptians with p = 0.36 and the Canadians having a higher mean GPA than the Egyptian.

There is no significant mean difference between the Canadians and the Emirati with p = 0.14 and the Canadians having a higher mean GPA than the Emirati.

There is no significant mean difference between the Canadians and the Iranians with p = 0.79 and the Iranians having a higher mean GPA than the Canadians.

There is no significant mean difference between the Canadians and the Jordanians with p = 0.92 and the Jordanians having a higher mean GPA than the Canadians.

There is no significant mean difference between the Canadians and the Lebanese with p = 0.51 and the Canadians having a higher mean GPA than the Lebanese.

There is no significant mean difference between the Canadians and the Pakistani with p = 0.42 and the Pakistani having a higher mean GPA than the Canadian.

There is no significant mean difference between the Canadians and the Palestinians with p = 0.75 and the Canadians having a higher mean GPA than the Palestinians.

There is no significant mean difference between the Canadians and the Saudi with p = 0.29 and the Canadians having a higher mean GPA than the Saudi.

There is no significant mean difference between the Canadians and the Syrians with p = 0.57 and the Syrians having a higher mean GPA than the Canadians.

136

There is no significant mean difference between the Egyptians and the Emiratis with p = 0.65 and the Egyptians having a higher mean GPA than the Emirati.

There is no significant mean difference between the Egyptians and the Iranians with p = 0.19 and the Iranians having a higher mean GPA than the Egyptians.

There is no significant mean difference between the Egyptians and the Jordanians with p = 0.24 and the Jordanians having a higher mean GPA than the Egyptians.

There is no significant mean difference between the Egyptians and the Lebanese with p = 0.72 and the Lebanese having a higher mean GPA than the Egyptians.

There is no significant mean difference between the Egyptians and the Palestinians with p = 0.27 and the Egyptians having a higher mean GPA than the Palestinians.

There is no significant mean difference between the Egyptians and the Saudi with p = 0.78 and the Egyptians having a higher mean GPA than the Saudi.

There is no significant mean difference between the Egyptians and the Syrians with p = 0.10 and the Syrians having a higher mean GPA than the Egyptians.

There is no significant mean difference between the Emiratis and the Lebanese with p = 0.34 and the Lebanese having a higher mean GPA than the Emiratis.

There is no significant mean difference between the Emiratis and the Palestinians with p = 0.36 and the Emiratis having a higher mean GPA than the Palestinians.

There is no significant mean difference between the Emiratis and the Saudi with $p = 0.97$ and the Saudi having a higher mean GPA than the Emiratis.

There is no significant mean difference between the Iranians and the Jordanians with $p = 0.85$ and the Iranians having a higher mean GPA than the Jordanians.

There is no significant mean difference between the Iranians and the Lebanese with $p = 0.29$ and the Iranians having a higher mean GPA than the Lebanese.

There is no significant mean difference between the Iranians and the Pakistani with $p = 0.55$ and the Pakistani having a higher mean GPA than the Iranians.

There is no significant mean difference between the Iranians and the Saudi with $p = 0.16$ and the Iranians having a higher mean GPA than the Saudi.

There is no significant mean difference between the Iranians and the Syrians with $p = 0.73$ and the Syrians having a higher mean GPA than the Iranians.

There is no significant mean difference between the Jordanians and the Lebanese with $p = 0.37$ and the Jordanians having a higher mean GPA than the Lebanese.

There is no significant mean difference between the Jordanians and the Pakistani with $p = 0.41$ and the Pakistani having a higher mean GPA than the Jordanians.

There is no significant mean difference between the Jordanians and the Saudi with $p = 0.20$ and the Jordanians having a higher mean GPA than the Saudi.

There is no significant mean difference between the Jordanians and the Syrians with p = 0.59 and the Jordanians having a higher mean GPA than the Syrians.

There is no significant mean difference between the Lebanese and the Pakistani with p = 0.08 and the Pakistani having a higher mean GPA than the Lebanese.

There is no significant mean difference between the Lebanese and the Palestinians with p = 0.15 and the Lebanese having a higher mean GPA than the Palestinians.

There is no significant mean difference between the Lebanese and the Saudi with p = 0.56 and the Lebanese having a higher mean GPA than the Saudi.

There is no significant mean difference between the Lebanese and the Syrians with p = 0.16 and the Syrians having a higher mean GPA than the Lebanese.

There is no significant mean difference between the Pakistani and the Saudi with p = 0.058 and the Pakistani having a higher mean GPA than the Saudi.

There is no significant mean difference between the Pakistani and the Syrian with p = 0.80 and the Pakistani having a higher mean GPA than the Syrian.

There is no significant mean difference between the Palestinian and the Saudi with p = 0.46 and the Saudi having a higher mean GPA than the Palestinians.

There is no significant mean difference between the Saudi and the Syrian with p = 0.09 and the Syrians having a higher mean GPA than the Saudi.