

## The student population within the Nursing degree course of the University of Modena and Reggio Emilia: social and cultural features

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Within the FIRB AM-Learning project, the local Unit of the University of Modena and Reggio Emilia focused on a population consisting of students from the Faculty of Medicine, who could be considered “disadvantaged” from the socio-cultural point of view. In order to identify the socio-cultural disadvantage, the following variables were used: 1) secondary school diploma; 2) parents’ educational qualifications.

The following excerpt recalls the objectives of the AM-Learning project.

“Particular attention will be given to solutions which will allow learners with special needs to access instructional materials. Physical disadvantages must be distinguished from socio-cultural ones. In the case of the first group, solutions must be adapted to accessible tools. The challenges facing the second group are more complex, particularly in the case of adult users, due to a regressive trend in their basic literacy skills. The idea is to use both assessment and formative tools to identify cultural deficiencies and find appropriate solutions.”

The Research Unit of the University of Modena and Reggio Emilia has chosen to focus on the second group.

This “draft document” is divided into two parts. In the first part, we will summarize the analyses conducted on data collected from the first survey (November 2009). In particular, we shall focus exclusively on students enrolled in first year of the Degree Programs in Nursing at the University of Modena and Reggio Emilia, Modena site, and in Medicine and Surgery at “La Sapienza” University in Rome (Courses C and D). The purpose of this comparison is to describe the “disadvantage” with reference to the two target groups of students selected for our project.

In the second part, we will examine some of the data contained in the 2009 AlmaLaurea report on the 2008 Graduate Profile in order to provide information on the general socio-cultural profile of the student population, which has recently completed successfully the same Degree programs which are currently a part of the experimental sample of the AM-Learning Project. This is aimed at identifying a parameter of comparison for Nursing students, in order to determine their socio-cultural disadvantage.

With a view to determining the specific characteristics of Nursing graduates from Modena, we are proposing here to draw a comparison between this cohort and that of graduates in Medicine and Surgery from the same University. The two cohorts are then compared with the aggregate data on a national level for their respective Degree programs and, in the case of Medicine and Surgery, with the documentation referring to the same degree course at “La Sapienza” University of Rome.

The statistical data from administrative sources pertaining to the current student population which was, and will be involved in the experimental activities of the AM-Learning Project, is being collected at this time, but is still unavailable.

## PART 1

### Data collected from the first survey: students enrolled in first year of degree program in Nursing (Modena) and Medicine and Surgery (Roma)

#### Introduction

The following report presents several analyses conducted on data collected from the first survey (November 2009) administered to students enrolled in first year of the Degree programs in Medicine and Surgery at the “La Sapienza” University of Rome (programs C and D) and in Nursing at the University of Modena and Reggio Emilia, Modena site.

In particular, we will consider only background variables and the responses to some questions contained in the questionnaire which were aimed at identifying the students’ methods of approach to reading and studying.

The purpose of this brief description is to outline the specific situation of Nursing students in terms of their biographical characteristics and socio-cultural background.

It is important to point out that the first survey was administered to almost all of the reference population in both of the selected contexts.

Specifically, the questionnaire was completed by 120 students enrolled in their first year of the Degree program in Nursing at the Modena site. According to statistical sources of the University of Modena and Reggio Emilia, a total of 134 students are registered in the program for the 2009/10 academic year.

#### Age and Sex

Our study sample reveals that, in the first year of study, students in the Nursing Program (Modena) are, on the average, three years older than students in Medicine and Surgery (Rome) (see Table 1). This difference is statistically significant (Chi-Square Tests  $p < .05$ ; see Table 2).

**Tab. 1 – The age of participants in the study**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					Medicine & Surgery	210		
Nursing	107	22,19	5,458	,528	21,14	23,23	18	45
Total	317	20,38	3,654	,205	19,98	20,79	18	45

**Tab. 2 – The age of participants in the study (ANOVA)**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	524,519	1	524,519	44,721	,000
Within Groups	3694,528	315	11,729		
Total	4219,047	316			

With respect to sex, there is no significant statistical difference between the two degree programs (Medicine and Surgery, Rome; Nursing, Modena): in general, there are a greater number of female students enrolled, particularly in the Nursing program (see Tab. 3).

**Tab. 3 – Sex**

			Sex		Total
			Male	Female	
Degree course	Medicine & Surgery	Count	81	150	231
		% within Medicine & Surgery	35,1%	64,9%	100,0%
	Nursing	Count	34	80	114
		% within Nursing	29,8%	70,2%	100,0%
Total		Count	115	230	345
		% within All	33,3%	66,7%	100,0%

### Presence of foreign students

Our findings concerning non-Italian students present various problems. Firstly, they should be compared with official data from various universities, both on a national and local level, and with reference to the specific degree programs, as well as for each individual year of enrollment. Such data is not being collected at this time.

While keeping this limitation in mind, our findings reveal that, in the Nursing program (Modena), the number of foreign students (11,5%), is significantly greater than the number in Medicine and Surgery (Rome) (Tab. 4). Foreign students in their first year of Nursing have been in Italy for a considerable length of time, specifically, an average of five years (range: 1-18; M = 5.23; SD = 5.23)

**Tab 4 – Foreign students**

			Country of born		Total
			Italy	Abroad	
Degree course	Medicine & Surgery	Count	219	11	230
		% within Medicine & Surgery	95,2%	4,8%	100,0%
	Nursing	Count	100	13	113
		% within Nursing	88,5%	11,5%	100,0%
Total	Count		319	24	343
	% within All		93,0%	7,0%	100,0%
Pearson Chi-Square = 5,261 <sup>a</sup> df = 1, p < .05, n = 343					

### Educational qualifications of students and educational level of their parents

Our findings indicate that first-year Nursing students (Modena) come from more heterogeneous educational backgrounds, compared to students in Medicine and Surgery (Rome), most of whom come from the Liceo Classico [Secondary School Specializing in Classical Studies] (50.9%) and the Liceo Scientifico [Secondary School Specializing in Scientific Studies] (43.9%). Specifically, most of the nursing students originated from the Liceo Scientifico (34.5%) and the Istituto Tecnico [Technical Institute] (26.5%) (see Tab. 5) On the whole, the programs studied by the Nursing students (Modena) were prevalently of a technical-professional nature.

**Tab 5 – High school attended**

			High school diploma						Total	
			Classical Secondary School	Scientific Secondary School	Linguistic/European Secondary School]	Pedagogical Secondary School	Technical Institute	Professional Institute		Other
Degree course	Medicine & Surgery	Count	117	101	3	2	3	0	4	230
		%	50,9%	43,9%	1,3%	,9%	1,3%	,0%	1,7%	100,0%
	Nursing	Count	13	39	7	13	30	4	7	113
		%	11,5%	34,5%	6,2%	11,5%	26,5%	3,5%	6,2%	100,0%
Total	Count		130	140	10	15	33	4	11	343
	%		37,9%	40,8%	2,9%	4,4%	9,6%	1,2%	3,2%	100,0%

In a similar manner, although more pronounced, with respect to the educational qualifications of students in first year, while also considering the educational level of their

families, there is a notable and statistically significant difference between the two degree programs being considered (Chi-Square Tests  $p < .05$ ; see Tables 6 and 7).

On the whole, Nursing students come from families with a considerably lower level of education. The following data is particularly significant:

- 1) approximately 39% of fathers and 36% of mothers of students in Medicine and Surgery (Rome) have a university degree, compared to 7% of fathers and 11% of mothers of students in Nursing (Modena);
- 2) In the Nursing program, the highest educational qualification of fathers (47%) is the Middle School Diploma (in Medicine and Surgery this applied to less than 9% of fathers).

**Tab 6 - Family background: father's high school diploma**

			Father						Total
			Primary School Certificate	Middle School Certificate	Professional Three-Year Diploma	Secondary School Diploma	University Degree	Postgraduate Degree	
Degree course	Medicine & Surgery	Count	2	20	8	82	88	26	226
		%	,9%	8,8%	3,5%	36,3%	38,9%	11,5%	
Nursing		Count	11	52	8	29	8	3	111
		%	9,9%	46,8%	7,2%	26,1%	7,2%	2,7%	
Total		Count	13	72	16	111	96	29	337
		%	3,9%	21,4%	4,7%	32,9%	28,5%	8,6%	

**Tab 7 - Family background: mother's High school diploma**

			Mother						Total
			Primary School Certificate	Middle School Certificate	Professional Three-Year Diploma	Secondary School Diploma	University Degree	Postgraduate Degree	
Degree course	Medicine & Surgery	Count	3	14	9	98	82	22	228
		%	1,3%	6,1%	3,9%	43,0%	36,0%	9,6%	
Nursing		Count	11	37	8	44	12	1	113
		%	9,7%	32,7%	7,1%	38,9%	10,6%	,9%	
Total		Count	14	51	17	142	94	23	341
		%	4,1%	15,0%	5,0%	41,6%	27,6%	6,7%	

### Cultural consumption: reading of newspapers and non-university texts

Our findings indicate that students in Nursing (Modena) read fewer newspapers than students in Medicine and Surgery (Rome); this difference is statistically significant.

Table 8 shows that, Nursing students (Modena), regard reading newspapers as a rare or sporadic "event". Conversely, students in Medicine and Surgery (Rome) read more "regularly".

Similarly, Nursing students read fewer fiction books than their fellow-students in Medicine (see Tab. 9).

**Tab 8 – Cultural consumption: reading of newspapers**

			Do you read a newspaper regularly?				Total
			No, only rarely	No, only a few times a month	Yes, two or three times a week.	Yes, every day	
Degree course	Medicine & Surgery	Count	20	43	81	85	229
		%	8,7%	18,8%	35,4%	37,1%	100,0%
	Nursing	Count	41	32	32	7	112
		%	36,6%	28,6%	28,6%	6,3%	100,0%
Pearson Chi-Square = 63,560 <sup>a</sup>			df = 3, p < .001, n = 341				

**Tab 9 – Cultural consumption: reading of fiction**

			In the last month have you read fiction books for pleasure?			Total
			No	Yes, one book	Yes, one or two books.	
Degree course	Medicine & Surgery	Count	71	103	56	230
		%	30,9%	44,8%	24,3%	100,0%
	Nursing	Count	61	38	13	112
		%	54,5%	33,9%	11,6%	100,0%
Pearson Chi-Square = 6,538 <sup>a</sup>			df = 2, p < .05, n = 342			

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 8,84.

### Reading and study habits: activities performed when new words are met

The following section presents the responses of first year Nursing students in Modena to the battery of questions on their typical behaviors when reading for study purposes. Specifically, respondents were asked how they react when they encounter unfamiliar words.

On the whole, there is no statistically significant difference when compared to students in Medicine and Surgery (Rome), however, with respect to which strategies were used more or less frequently, there are some trends which are typical of Nursing students.

Firstly, Nursing students (Modena) tend mainly to continue reading, while trying to “deduce the meaning of unfamiliar words from the context”, and they tend not to ask for “help from fellow students” (see Tab. 10).

**Tab 10 – Activities performed when new words are met**

<b>I continue reading trying to deduce the meaning from the context</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Often or very often	89	74,2	86,4	86,4
	Rarely or never	14	11,7	13,6	100,0
	Total	103	85,8	100,0	
Missing	System	17	14,2		
Total		120	100,0		
<b>I ask for help from my fellow students</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely or never	64	53,3	63,4	63,4
	Often or very often	37	30,8	36,6	100,0
	Total	101	84,2	100,0	
Missing	System	19	15,8		
Total		120	100,0		

### Reading and study habits: university text which contains images

When reading a university text which contains images, Nursing students (Modena) generally tend to try to “get the main information contained in the image with the help of the written text” (see Tab. 11). Moreover, compared to students in Medicine and Surgery (Rome) Nursing students (Modena) tend to focus less on the information contained in the image (see Tab. 12):

**Tab. 11 – Obtaining the main information contained in the image with the help of the written text**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Often or very often	93	77,5	89,4	89,4
	Rarely or never	11	9,2	10,6	100,0
	Total	104	86,7	100,0	
Missing	System	16	13,3		
Total		120	100,0		



**Tab. 12 – Focusing on the information contained in the image**

			I focus on the information contained in the image		Total
			Rarely or never	Often or very often	
Degree course	Medicine & Surgery	Count	30	197	227
		%	13,2%	86,8%	100,0%
		Std. Residual	-2,0	1,0	
	Nursing	Count	33	71	104
		%	31,7%	68,3%	100,0%
		Std. Residual	3,0	-1,4	
Total		Count	63	268	331
		%	19,0%	81,0%	100,0%
Pearson Chi-Square = 15,866 <sup>a</sup>			Df = 1 Sig. < .001, n = 331		

### Reading and study habits: post-reading activities

In general students in Nursing (Modena) report that they perform each of the proposed strategies less “often” than students in Medicine and Surgery (Rome), with the exception of “to read the main points aloud”.

**Tab 13 – Reading the main points aloud**

			I read the main points aloud		Total
			Rarely or never	Often or very often	
Degree course	Medicina e chirurgia	Count	104	122	226
		%	46,0%	54,0%	100,0%
		Std. Residual	,9	-,8	
	Infermieristica	Count	34	69	103
		%	33,0%	67,0%	100,0%
		Std. Residual	-1,4	1,2	
Total		Count	138	191	329
		%	41,9%	58,1%	100,0%
Pearson Chi-Square = 4,916 <sup>a</sup>			Df = 1 Sig. < .05, n = 329		

However, the strategy used the most by nursing students is “recalling the whole meaning” of what was read (90.4% of the subjects do this often or very often).

## PART 2

### Data collected from the AlmaLaurea 2009 Survey: Nursing and Medicine 2008 Graduate Profile

#### Introduction

In this section we will examine some of the data published in the 2009 Report on the **2008 Graduate Profile**, the most recent of the annual surveys conducted by the AlmaLaurea Interuniversity Consortium, with specific reference to the two following cohorts from the Faculty of Medicine and Surgery of the University of Modena and Reggio Emilia:

- graduates (first-level degree) in 2008 from the Degree Program in Nursing, Modena site (legal duration of the course: three years);
- graduates (specialized single-cycle degree) in 2008 from the Degree Program in Medicine and Surgery (legal duration of the course: six years).

These two cohorts were not involved in the experimental activities associated with the AM-Learning Project. Therefore, for our purposes, the pertinent documentation is of limited relevance for creating a socio-cultural profile of students who have recently successfully completed these same degrees which are currently a part of the experimental sample of the Project. From the available data, we are considering the information which permits a comparison (which must be performed cautiously due to its inexact nature) with data collected from the AM-Learning questionnaires.

To determine the specific characteristics of Nursing graduates from Modena, this cohort is being compared to graduates in Medicine and Surgery at the same Faculty, therefore, within the same territory. The two cohorts are then compared with the aggregate data on a national level for their respective Degree programs. In the case of Medicine and Surgery, we also plan to compare the data with the documentation concerning the same Degree program of the La Sapienza University of Rome.

To produce an annual survey on the **Graduate Profile**, AlmaLaurea uses all of the following data:

- documentation from the administrative archives of 49 Universities belonging to AlmaLaurea;
- information collected from AlmaLaurea questionnaires.

The documentation used to produce the **2008 Graduate Profile** refers to:

- **all** graduates (187,359) with respect to their statistical profiles, secondary school studies, and academic success at University. This information comes from the administrative archives of the university, except in the case of the secondary school diploma (the administrative data was replaced by information contained in the AlmaLaurea questionnaire, where available);
- graduates **who completed and returned the questionnaire** (169,558, or 90.5% of the total) for all the other sections of the Profile.

With respect to the two Modena cohorts, it should be pointed out that the **rate of return of the AlmaLaurea questionnaires** was less than 60% of the total number of graduates, and consequently, the resulting documentation must be interpreted with particular caution.

## Age and Sex

The average age at graduation is basically homogeneous despite the difference in the legal duration of the courses (three years for Nursing, six years for Medicine)

**Tab. 1 – Age at graduation (%)**

Age at graduation (%)	NURSING MO	NURSING IT	MEDICINE MO	MEDICINE ROMA1	MEDICINE IT
under 23 years	27	26	-	-	0
23 to 24 years	17	25	23	20	21
25 to 26 years	17	12	56	46	51
27 years and over	39	37	22	34	28
age at graduation (average)	27,2	27,6	27,0	27,2	26,7

There is a marked difference in the age at which the students enrolled in the two programs.

**Tab. 2 – Enrolment age (%)**

Enrolment age (%)	NURSING MO	NURSING IT	MEDICINE MO	MEDICINE ROMA1	MEDICINE IT
At standard enrolment age or 1 year above	42,9	50,2	87,9	94,5	94,9
2 or more years above standard enrolment age	57,1	49,8	12,1	5,5	5,1

This statistic is in line with the findings in the first questionnaire of the AM-Learning project, which was administered to first year students in the 2009/2010 academic year. It showed that Nursing students in Modena have a higher enrollment age by approximately three years, compared to students in Medicine. This is further confirmed by the data on the regularity of studies, which shows average values that are not significantly different for the two University of Modena programs.

**Tab. 3 – Degree completion time**

	NURSING MO	NURSING IT	MEDICINE MO	MEDICINE ROMA1	MEDICINE IT
Average duration of studies (in years)	3,4	3,6	6,5	7,3	7,1
Delay in degree completion times (averages, in years)	0,3	0,4	0,5	1,1	0,9
Average delay at graduation index (relationship between delay at graduation and prescribed course duration)	0,12	0,13	0,08	0,19	0,16

The gender composition of graduates in both courses is prevalently female, with a higher number of females in Nursing, confirming the data from the AM-Learning questionnaires conducted on first-year students. Proceeding with an inexact comparison (because it was made among various years of enrollment), we can suggest that between the time of enrollment and the completion of the degree, the male component gains several percentage points to the detriment of the female component.

**Tab. 4 - Genre**

Genre (%)	NURSING MO	NURSING IT	MEDICINE MO	MEDICINE ROMA1	MEDICINE IT
male	21,4	25,6	41,1	37,8	37,0
female	78,6	74,4	58,9	62,2	63,0

### Presence of foreign students

The percentage of non-Italian students attaining a degree in Nursing from Modena in 2008 is considerably less than that of non-Italian students enrolled in first year of the same program in 2009. Furthermore, the percentage of non-Italian graduates in Medicine from Modena in 2008 is greater than that of Nursing graduates at the same Faculty, while among first-year students in 2009, the AM-Learning questionnaire revealed a markedly higher number of non-Italian students in the Nursing Program.

**Tab. 5 – Foreign citizens**

	NURSING MO	NURSING IT	MEDICINE MO	MEDICINE ROMA1	MEDICINE IT
Foreign citizens (%)	6,0	4,8	7,3	9,9	6,7

### Educational qualifications of students and educational background of parents

Unlike the AM-Learning questionnaire, for the variable of **parents' educational qualifications**, the AlmaLaurea survey takes into consideration the parent with the highest educational qualifications, making a distinction between cases where both parents are university graduates and those in which only one parent is a graduate.

Aside from this different approach, the documentation concerning 2008 graduates confirms that students in the Nursing program come from families which are considerably less educated than the families of students in Medicine.

**Tab. 6 – Parents' educational qualification**

Parents' educational qualification	NURSING MO	NURSING IT	MEDICINE MO	MEDICINE ROMA1	MEDICINE IT
both parents are degree holders	2,2	2,2	23,6	31,0	27,1
only one parent is a graduated	6,5	6,8	27,8	25,6	25,9
secondary school-leaving certificate	52,2	41,4	33,3	32,6	31,4
lower educational qualification or no educational qualification	34,8	44,5	13,9	7,6	12,6

The survey also confirms that Nursing students come from more heterogeneous secondary school programs, mostly technical-professional, compared to students in Medicine (who almost all come from classical or scientific high schools). A further statistic concerns the final mark on the middle-school diploma (out of 100), which, in the case of Nursing graduates, is approximately 15 points lower than that of graduates in Medicine.

**Tab. 7 – Secondary education**

	NURSING MO	NURSING IT	MEDICINE MO	MEDICINE ROMA1	MEDICINE IT
secondary school-leaving certificate					
secondary school specialising in classical studies	6	6	23	42	33
secondary school specialising in foreign languages studies	2	4	3	2	2
secondary school specialising in scientific studies	23	22	57	44	53
secondary school specialising in socio-psycho-pedagogical studies or teachers' training	12	13	2	2	2
technical secondary school	36	38	7	3	3
vocational school	11	10	1	0	0
secondary school specialising in artistic studies	4	3	-	-	0
foreign secondary school leaving certificate	6	4	8	8	6
secondary school-leaving certificate mark (averages, out of 100)	75,3	75,7	89,6	90,0	90,7

## Social background

The AlmaLaurea survey dedicates a section to the social background of graduates.

The **Methodological Notes** of the Profile specify that, for the **social class** of graduates, a system proposed by A. Cobalti and A. Schizzerotto, *La mobilità sociale in Italia*, [Social Mobility in Italy] Bologna, il Mulino, 1994. was adopted. The social class, defined on the basis of a comparison between the *socioeconomic position* of the father and that of the mother of the graduate, refers to the highest position held by one of the two (“dominance” principle).

The socioeconomic position of each parent refers to the most recent position held in their profession, as indicated in the following table:

Most recent position in the profession	Socioeconomic position
<ul style="list-style-type: none"> <li>• self-employed professionals</li> <li>• managers</li> <li>• entrepreneurs with at least 15 employees</li> </ul>	MIDDLE CLASS
<ul style="list-style-type: none"> <li>• clerical workers with coordination responsibilities</li> <li>• managers or executives</li> <li>• middle management</li> </ul>	WHITE COLLAR MIDDLE CLASS
<ul style="list-style-type: none"> <li>• self-employed workers</li> <li>• family helpers</li> <li>• partners in cooperatives</li> <li>• entrepreneurs with less than 15 employees</li> </ul>	LOWER MIDDLE CLASS
<ul style="list-style-type: none"> <li>• workers, subordinates and similar positions</li> <li>• administrative clerks</li> </ul>	WORKING CLASS

Our findings show that graduates in Medicine have a markedly different composition tending towards socioeconomic positions which are higher than those of graduates in Nursing, with a more heterogeneous social background.

In this case, the data for the University of Modena reveals a difference in the class composition of the two programs, but this difference is far less pronounced when compared to national data.

**Tab. 8 – Social class (%)**

Social class (%)	NURSING MO	NURSING IT	MEDICINE MO	MEDICINE ROMA1	MEDICINE IT
middle class	15	11	36	45	43
clerical middle class	33	23	26	30	29
lower middle class	24	19	21	9	13
working class	24	38	13	12	12