Studies’ Success in Tertiary Technological-Education: A Case in Nutrition-Dietetics

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http://dx.doi.org/10.15405/book.5.2

Abstract

We have proceeded to data analysis concerning specific indicators of a sample which consisted of 692 students that graduated from the Department of Nutrition & Dietetics of the Technological Education Institute (TEI) of Crete, with academic years of entrance from 2000-2001 until 2011-2012. Our aim was to assess how specific indicators-parameters, could possibly affect their academic performance. Some of the indicators-parameters which have being assessed were the following: “studies’ length”, “high-school marks”, “entrance-exams marks”, “entrance rank”, “degree mark”, “population range of student’s residency”, “characteristics of secondary-education schools”, “ethnicity”, etc. Concerning the “ethnicity” of the students included in our sample, 92.8% were Greeks and 6.1% Cypriots. Concerning gender, 84.2% were female, and 15.8% male. The “high school marks” correlated positively with the “degree mark” of the students’ sample. The “degree mark” was graded as “excellent” for 4.5%; “very good” for 4.5%, and “good” for 24.3% of the students. The mean “degree mark” for those that graduated until 2012 was 7.66/10.00; while in the years 2012-2015 was 6.50/10.00. The greater percentage of students (about 36.5%) is successfully fulfilling the academic program of our Department in ten or eleven semesters. For both problems detected (lower degree marks, and extensive studies), relevant educational interventions are needed and have to be designed and implemented in the future. This study is a part of the ongoing internal assessment process and the preparation of the next external assessment to be carried out.

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Keywords: Assessment; learners’ evaluation; tertiary technological education.
1. Introduction

The “success” or “failure” of tertiary education students, in their studies, is of major educational, social, and economic interest (Ghia & Miller 2008). Several problems are identified in the field, as: abandoning studies, long times required to get a degree, “bottleneck” exams that systematically prolong the studies etc (Greene & Foster 2003). Especially, completion within the minimum period of studies (4 years) seems to be not very common in Greece, possibly due to the fact that students don’t finally manage to study what they really want; may not be satisfied with the educational content an/or the directions of the studies, or don’t possess adequate background to copy with the studies educational level. In addition, as reported in other countries (Aina 2010), the fact that there are no restrictions (minimum success required in the exams) to enroll at the academic years subsequent to the first one, possibly allows students to follow not a “regular” path to get a degree and in this manner increases graduation time. The Department of Nutrition & Dietetics, of the School of Agriculture, Food and Nutrition - Technological Institute of Crete, accept students from the year 2000 until today. Each year our Department accepts almost 100 students. Their training lasts 8 semesters and includes lectures and lab classes, which must be attended during 7 semesters. The reason which has led us to conduct such a study was mainly to provide answers concerning how the diversity of educational and social factors may contribute to the educational performance of a student from day one of his enrolment until graduation date, and furthermore to provide specific statistical results regarding their academic success, marks and score grades during the academic years etc. The improvement of the education in the Department can, to an extent, be based on the present analysis.

2. Problem Statement

How the diversity of educational and social factors appears to contribute to the educational performance of a student from the day one of his/her enrolment until the graduation date. This definition is of course too general, so specific educational indicators has to be set and monitored.

3. Research Questions

Copy Paste from another document to here Times New Roman 10 If we do follow effectively the performance of students in tertiary Technological Education in Greece, can we depend on data extraction/analysis to design improving educational interventions in the future?
4. **Purpose of the Study**

We aimed to analyze how specific indicators (Herzog 2005, 2006), (such as the “studies’ length”, “high-school marks”, “entrance-exams marks”, “entrance rank”, “degree mark”, “student’s residency”, “ethnicity” e.a.), appear that affected the academic performance of Nutrition-Dietetics students of the Technological Education Institute (TEI) of Crete, Greece, that graduated between 2004 and 2015.

5. **Research Methods**

We have proceeded to data analysis by comparing and combining relevant indicators, such as: entrance rank (graded according to the entrance exams- marks) in relation with high school marks; entrance rank in relation with graduates’ degree score; degree score in relation to year of enrolment; degree score in relation to degree’s serial number; degree score in relation to the population range of the student’s home-town; studies-length period until graduation date in relation to the population range of the student’s home-town; studies-length period (semesters) until graduation date in relation to educational qualifications acquired before the matriculation in the department; “bottleneck” delays in the studies, etc. The sample used in this study was 692 students that graduated from the Department of Nutrition and Dietetics, of the Technological Education Institute (TEI) of Crete, Greece, among the years 2004-2015. The students’ records kept by the Department were used; the collected data were processed by using the Statistical Package for Social Science (S.P.S.S.-v.19). Our findings were, to an extent, compared by a previous study presented in Rhodes between 11-13th of July 2013, in the twentieth International Conference on Learning (Fragkiadakis et al. 2013).

6. **Findings**

Concerning the parameter ‘ethnicity’ of the graduated students participated in our sample, 92.05% were Greeks, 6.07% were Cypriots, while the rest of the students originated from Albania, Romania, Bulgaria, the Netherlands etc. The 84.25% of the students (Mc Nabb et al. 2002) were of female gender and 15.75% were of male gender. Our statistic analysis have concluded that the indicator “entrance rank”, is positive correlated to “high school marks” & “degree score” of the students sample (Spearman’s correlation coefficient Sig., 2-tailed with “high school marks”, rs = 0.260, p-value<0.01; while with “degree score”, rs = 0.129, p-value<0.01 statistical significant).
The indicator “degree score” (overall marks), was “Excellent” for 4.46% of the students, “Very Good” for 71.24% and “Good” for 24.28%. The mean of the parameter “degree score” for the academic years 2000-2001 was estimated at 7.667; while during the academic year 2012-2015 was estimated at 6.50. Each degree has a number, starting from No1, and increasing as the graduates increase. As presented in Figure 1, the “degree score” in relation to the “degree serial number” over the academic years, is decreasing. Analysis of the indicator “study length” showed that the largest percentage of students (more than 60%) is successfully fulfilling the academic program of our Department during an average time period between 8 to 12 semesters (Figure 2).
Concerning the possibility of existing “exams bottlenecks” in the Department, we have proceed to data analysis from a series of more than 2000 written tests, in the time frame between academic year 2003 until 2015 (data not shown). We concluded that only in a very small percentage (4%) of the exams, the success rate is between 0-20%. That leads us to the conclusion that there are no indications for the existence of bottlenecks, at least due to failure in specific courses.

Fig. 2. Study length period until graduation date, in semesters
7. Conclusions

The students’ abilities, as developed in high school prior to enrolment in the Department (Light. & Strayer 2000) appeared to be important for academic success. The “degree score” of the students graduating from the Department of Nutrition and Dietetics, TEI of Crete, appears to be decreasing. On the other hand, the greater percentage of students (about 36.5%) is successfully fulfilling the academic program of the Department in ten or eleven semesters. For both the problems detected (lower degree marks, and extensive studies), relevant educational interventions (Häkkinen & Uusitalo 2003) are needed and have to be designed and implemented in the future. This study is a part of the ongoing internal assessment process and the preparation of the next external assessment to be carried out.
References


