

Effect of Student's Enrollment on Their Achievement Amongst Libyan Dentistry Students: Today's Vision Tomorrow's Reality

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Abstract:

Introduction: Success in collage means fulfilling academic requirements: a student earns a degree by taking and passing exams. Several factors rather than the academic may affect on the student achievement. One of these factors may be the increasing number of students in universities.

Aim: The aim of this study was to investigate the effect of the student increasing number on their achievement.

Methods: This study highlights the relation between student number and their achievement using a dataset of 4928 grading from the Tripoli dental faculty since it launched in 1992 till 2011. Linear regression analysis was used to investigate how the success rate of the student changed in relation to their increasing to the dental school. It is difficult to recognize the problems that will confront our profession; this project attempts to create a vision of challenges that are likely to emerge in the coming years. The study is based upon reasonable evaluation and interpretation of current information and observable trends.

Results and Conclusion: the result of this study revealed that a positive correlation between the success rate and student increasing number were existing in all the years tested, and the correlation analysis determined a strong strength of the relationship between the two.

Key words: Libyan dentist; student success; non-academic factors; increasing student number

Introduction:

Success in collage means fulfilling academic requirements: a student earns a degree by taking and passing exams. Several factors rather than the academic may affect on the student achievement. The reflection about the teaching and learning process in dentistry should focus not only on information acquired during the undergraduate courses, but also on the process through which knowledge is acquired. Accordingly it is unclear how the increasing number of student each year may affect their achievements. This question has not been addressed so far for university teaching. In spite of, increasing in student enrollment effects has been studied extensively in elementary school especially in US. Hedges et al (1994) and Hanushek (1998)

In this trail, the concern was in the Tripoli Dental School as the number of students enrollment each year were dramatically increased, and to know if this phenomenon has an effects on the student achievement, a research study decided to be done.

Many questions have to be answered in related to this issue:

- Does the increasing number of dentistry students have an effect on their achievement?

So, this study was conducted aiming to answer this question.

Aims and Objectives:

The aim of this study was to investigate the effect of the student increasing number on their achievement by using a dataset of 4928 grading from Tripoli Dental Faculty since it launched in 1993 till 2011.

Materials and Methods:

The study was conducted at the Faculty of dentistry in Tripoli University; permission has been taken from the dental collage to calculate the students graduated from the collage since it launched. The subjects in the study consisted of 4928 students from the dental school. By using the dataset of the student each year starting from 1993 till 2011 the increasing number were noticed as the student enrolled in year 1993 were 34 students and in year 2011 were 850 students.

Data Analysis:

The collected data were entered to SPSS (statistical package for social science, Ink Illinois, USA) version 20. Linear regression analysis was used to investigate how the success rate of the student changed in relation to their

enrollment to the dental school and the correlation analysis determine the strength of the relationship between the two.

Results:

The study consisted of 4928 students from the dental school. 72% (3549) of the subjects were female and 28% (1379) were male students with female to male ratio 72:28 (**Fig. 1**). By using the dataset of the student each year starting from 1993 till 2011, an increasing number were noticed as the student enrolled in year 1993 were 34 students and in year 2011 were 850 students.

The correlation between the success rate and the enrollment, calculated to investigate if there was any association between the two, revealed a positive correlation between student's success rates in different enrollment categories for all students. (**Fig. 2**). **Table (1 and 2)** and (**Fig. 3**) demonstrate the positive correlation between the success rate and student enrollment in all the years tested.

To examine if a relationship exist between the enrollments of student and their success rate, linear regression and correlation analysis were used to ... such a relationship. (**Table 3**)

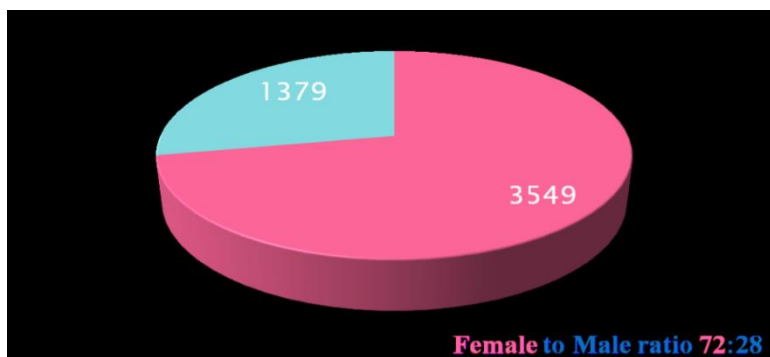


Figure (1): Demonstrate female to male ratio of enrolled students

Table (1, 2): Demonstrate the positive correlation between the success rate and student enrollment in all the years tested

| | | enrollment | succseed |
|-------------------|---------------------|-------------------|-----------------|
| enrollment | Pearson Correlation | 1 | .910 |
| | Sig. (2-tailed) | | .000 |
| | N | 17 | 17 |
| succseed | Pearson Correlation | .910 | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 17 | 17 |

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

| ANOVA ^a | | | | | | |
|------------------------------------|------------|----------------------|-----------|--------------------|----------|-------------------|
| Model | | Sum of Quares | df | Mean Square | F | Sig |
| 1 | Regression | 927096.359 | 1 | 927096.359 | 72.356 | .000 ^b |
| | Residual | 192193.523 | 15 | 12812.902 | | |
| | Total | 1119289.882 | 16 | | | |
| a. Dependent Variable: enrollment. | | | | | | |
| b. Predictors (constant) succeed. | | | | | | |

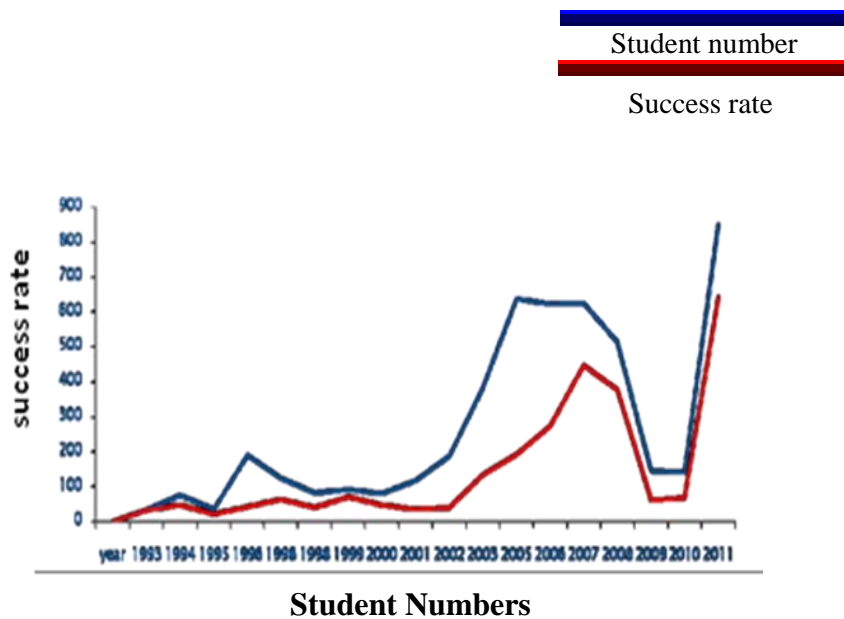


Figure (2): Demonstrate slope of student enrollment and their success rate

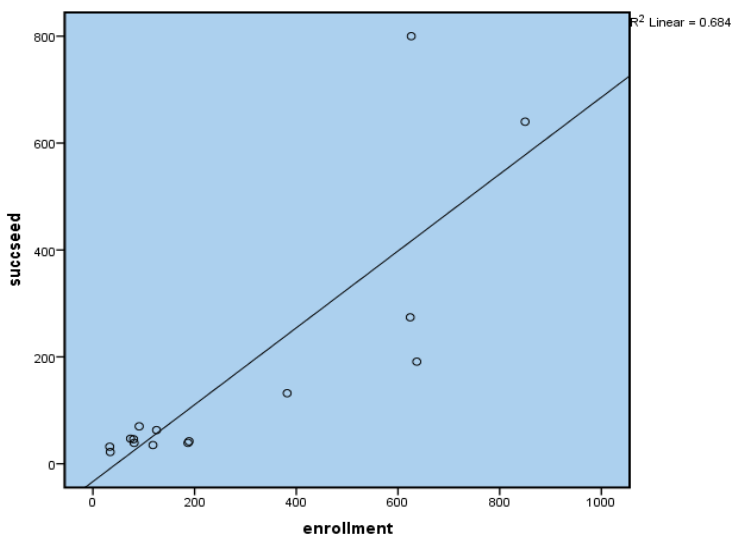


Figure (3): Demonstrate the positive correlation between the success rate and student enrollment in all the years tested

Table (3): Demonstrate results of linear regression analysis.

| Coefficients ^a | | | | | | |
|------------------------------------|------------|-----------------------------|------------|---------------------------|-------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 80.907 | 36.202 | | 2.235 | .041 |
| | succseed | 1.337 | .157 | .910 | 8.506 | .000 |
| a. Dependent Variable: enrollment. | | | | | | |

Discussion:

It was difficult to make comparisons with previous studies reported in the literature as no similar study was found. By calculating the correlation coefficient (r) (**Table 1**).

A positive correlation was found between the student increasing number and success rate. The value of the statistical test acquired from **table (2)** for 2 tailed at 0.01 level of significant is 0.910. Hence there is evidence against the null hypothesis (there is no linear relationship between the student increasing number and their success rate) and a positive association consistent with the notion given by shattered plot (**Fig. 3**).

Hanushek found no consistent relationship between class size and student achievements as 35 studies report a weak positive effect of smaller classes, but 18 studies found the opposite. This seems to be a paradox as the results would make large cost cutting possible without affecting student achievements and that is probably what generated the large amount of observed research on this topic in the seventies and eighties in the US. Unclear results have been reached also on the effects of class size on student performance: whereas some studies conclude that small classes do not improve student achievement (**Hanushek, 2003**), other researches find evidence of a positive impact (**Krueger 1999, Krueger 2003**).

In disagreement with **Madsen, 2011** whose estimations show a large negative effect of larger number on the grade level of students, it further shows that there is no significant in increasing student number effect on grading of

classes below 30 students, but from 30 to 70 students the student achievements decrease significantly.

As the result revealed that a positive relation exists between the students' enrollment and their success rate one may ask is this good sign.

Some factors may have affected this result

- Teaching methods
- Exams methods

Conclusion:

The result of this study revealed that a positive correlation between the success rate and student enrollment in all the years tested were exist (as the student number increased the success rate increased), and the correlation analysis determined a strong strength of the relationship between the two. Successful planning is not easy. It requires a clear-eyed assessment of the past, of what obstruct progress at one point, what push it at another. Clearly, much must be done to guarantee the most desirable future for the profession and the public. To achieve that goal, all issues that touch dentistry must be identified and addressed. The first step of those issues is dental student who enrolled to university each year and graduated to be a good dentist. However, science and technology cannot solve all problems, political will. The dental profession has a bright and glamour future that can be achieved only by a commitment to think creatively, eliminate barriers, and create new alliances.

Limitations of the Study:

Concerning this aspect, we can say that some limitations can be noted. The study is limited to the students of only one institution, namely the Faculty of Dentistry, Tripoli University. Secondly, the study is limited to the subject variables such as: grade and achievement scores of the students. Lastly, background education is not a variable. As a conclusion, considering the study is limited to the University students.

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