



Measuring TQM of Private Higher Education

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Abstract

The age of knowledge nowadays is witnessed worldwide, which is a function of wealth and a major source of the social fabric of all activities. This is the result of the development of societies themselves and their advanced innovations in all walks of life. The higher education is the cornerstone of the knowledge society through the work of higher education organizations and scientific studies and innovations that focus on serving the community through its promising scientific outputs and raise the level of human rehabilitation to meet the needs of different societies. According to this point of view, various higher education organizations adopt modern and advanced concepts to ensure quality and academic accreditation, leading to global reliability and entry into competition. Iraq has witnessed during the last decade a wide interest by the Ministry of Higher Education and Scientific Research to improve the performance of universities and colleges, governmental and private, to take a strong competition among these organizations to obtain advanced positions in academic accreditation. The most important elements of the educational process are outputs academically qualified and academic skill which require the organizations of higher education to keep up with the development and modernity and use of the latest quality standards to reach the level of ambition that meets the wishes of the inputs of these scientific organizations. The study aims at measuring the inputs and outputs of the private colleges by measuring the level of performance of these colleges by using some statistical measures. A sample was taken from Al - Rafidain University College, Baghdad for Economic Sciences University college, Dijlah University College, in addition to Al – Turath University College, a comparison of the performance of these colleges for the academic year 2016-2017, has been done.

Keywords: Level of Performance, TQM, Labor Market Requirements, Markov Chains, Transitional Probabilities Matrix, Stochastic Process

قياس جودة التعليم العالي الاهلي

المستخلص

يشهد العالم اليوم عصر المعرفة والذي يعتبر دالة للثروة ومصدرا رئيسيا للنمو المجتمعي لجميع الانشطة, وهذا ناتج من تطور المجتمعات ذاتها وابتكاراتها المتقدمة في كافة الميادين, ويعتبر التعليم العالي الركيزة الاساسية لمجتمع المعرفة من خلال ما تقوم به منظمات التعليم العالي في ترسيخ القدرة المعرفية للمجتمع والقيام بالبحوث والدراسات والابتكارات العلمية التي تنصب في خدمة المجتمع من خلال مخرجاتها العلمية الواعدة ورفع مستوى التاهيل البشري لتلبية حاجات المجتمع المختلفة. من هذا المنطلق تتبنى منظمات التعليم العالي المختلفة المفاهيم الحديثة والمتطورة لضمان الجودة والاعتماد الاكاديمي وصولا الى الاعتمادية العالمية والدخول في المنافسة. وشهد العراق خلال العقد الاخير اهتماما واسعا من قبل وزارة التعليم العالي والبحث العلمي بضرورة الارتقاء بمستوى اداء الجامعات والكليات الحكومية والاهلية, واخذ التنافس يشتد بين هذه المنظمات للحصول على المراتب المتقدمة في الاعتماد الاكاديمي. ان من اهم عناصر العملية التعليمية هي مخرجات مؤهلة علميا واكاديميا وتمتلك المهارة اللازمة للانخراط في سوق العمل, وهذا يتطلب من منظمات التعليم العالي مواكبة التطور والحدثة واستخدام لحدث مقاييس الجودة للوصول الى مستوى الطموح الذي يلبي رغبات مدخلات هذه المنظمات العلمية. يهدف البحث الى قياس مدخلات ومخرجات الكليات الاهلية من خلال قياس مستوى اداء هذه الكليات باستعمال بعض المقاييس الاحصائية, وتم اخذ عينة من هذه الكليات اضافة الى كلية التراث الجامعة, هي كليات الرافدين, نجلة, وبغداد للعلوم الاقتصادية, وتم اجراء المقارنة في مستوى اداء هذه الكليات للسنة الدراسية (2016 - 2017).

1. Introduction

Higher education is one of the basic social and cultural conditions of any society that aspires to growth and progress. It is one of the means for the advancement of nations, and basic criterion for measurement by providing qualified persons capable of managing the wheel of development and progress, innovation and able to prepare technically qualified outputs. The concept of total quality management and its emergence in productive organizations, which has been a key factor for the development of these organizations and their competition in the world markets, has become the concept of good and academic accreditation in higher education organizations and it is an urgent need to compete and attract students as well as preparing and rehabilitating outputs capable of managing the movement of society in various disciplines. Higher education is an extension of life and a civilized message to the peoples worldwide. The possession of modern skills and technology helps these peoples to catch up with the civilization that has been racing against time and the delay in keeping pace with it means keeping the underdevelopment and delay in the national development of countries.

Higher education organizations have witnessed radical changes in teaching and learning methods in line with the technological development witnessed by the world at the beginning of this century. This has made decision makers in higher education organizations make the necessary changes to cope with this technological and cognitive explosion. That imposes itself in

all different sectors and to prepare developed and powerful outputs scientifically and technically be in the service of other organizations and the labor market associated with them, in which achieving the educational goals that the community seeks depending on mainly on the ability of higher education organizations to achieve the quality of academic accreditation in their curricula and rely on strategic planning and follow the process of comprehensive change in the form and content of scientific performance.

Scientific research is one of the important functions of the teaching staff and is a major focus in the development of teaching in keeping with the scientific and cognitive development. Scientific research is a distinctive phenomenon and one of the standards of the basic universities in the world. The scientific research process helps the huge expansion and increase in journals, periodicals, scientific books and opened websites. It is considered a basic source of scientific research, in addition to the freedom of publication available to all academics in various international journals with several languages, which it was previously confined to a small scale in one country or one university, and thus launched researchers to the open world to expand the dissemination of their scientific output and to obtain higher academic accreditation standards that will serve the order of their universities and scientific promotions.

Total quality management (TQM), is one of the modern concepts that emerged as a result of the global competition between the productive organizations in developed countries such as Japan and the USA as well as the European countries as a result of the scientific and technological progress enjoyed by Japan because of the goodness of quality of its products and the high reputation it obtained through the satisfaction of consumers. The tremendous achievement achieved by this concept adopted by higher education organizations in developed countries which applied it in their scientific organizations and scientific competition among the universities of the world began and take place to compete with these universities to get the centers in the ranking of world universities. The quality of higher education is one of the basic requirements that all universities are keen to apply for the purpose of obtaining advanced positions within the international classification. Universities focus on quality as an important source of progress and advancement in universities.

2. Markov Chains

Markov chains are known as quantitative methods, used for decisions under uncertainty, as well as for the purpose of predicting future values and changes based on current values, a special type of probabilistic process called a stochastic process.

Markov's chains were named due to the Russian scientist A. Markov, who initially confined himself to the physical applications of studying the movement of gas molecules in a closed vessel in order to predict the movement of these molecules in the future. This scientist developed its style beyond the subject of analysis and prediction to its use as a means of planning the sales and storage of goods and the maintenance of machinery produced.

Markov's chains are considered scientific mathematical methods to analyze the behavior of different phenomena in the current period for the purpose of predicting the behavior of these phenomena in subsequent periods, for example analysis of consumer desires and taste in selecting the desired commodity and predicting his desire in the subsequent period, analysis of human resources movement and predict future need.

Markov's method of analysis is based on the basic assumption (ie, a system that is initially treated in its initial state as a prelude to moving to another state), of the transitional probability law, which is the transition from one situation to another during a certain period of time.

The transition of the case (i) in time (t) into another case (j) in the next time ($t + 1$) is^[12]:

$$p[y_{t+1} = j/y_t = i] = a_{ij}, \quad \forall i, j \quad (1)$$

y_t : The observed value in time (t)

y_{t+1} : The observed value in time ($t + 1$)

a_{ij} : The probability of the transition from (i to j)

The first step in Markov's analysis is finding the matrix of transitional possibilities, and for this purpose we have to find:

The strength of retention of the student, which represents the college's ability to retain the largest number of students and this is one of the strategic plans of the organizations, calculated this force as the relationship^[12]:

$$\delta_i = 1 - \frac{\tau_i}{N_i} \quad (2)$$

δ_i : Ratio of Students Retention in college (i).

τ_i : Number of students failed in college (i).

N_i : Number of students in beginning period in college (i).

Probability of students lost by transferring to another college is^[12]:

$$\pi_i = \frac{\omega}{N_i} \quad (3)$$

π_i : Probability of losing.

ω : Number of students lost by transferring to another college.

The values of transitional possibilities (a_{ij}) can be put in the matrix below as^[12]:

$$A = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \vdots & \vdots & \cdots & \vdots \\ a_{m1} & a_{m2} & \cdots & a_{mn} \end{bmatrix} \quad (4)$$

$$a_{ij} \geq 0, \quad \sum_{j=1}^n a_{ij} = 1, \quad i = 1, 2, \dots, m \quad (5)$$

According to the application aspect, the matrix of transitional probabilities are^[12],

$$\begin{matrix} & K_0 & K_1 & K_2 & K_3 & K_4 & K_5 \\ \begin{matrix} K_0 \\ K_1 \\ K_2 \\ K_3 \\ K_4 \\ K_5 \end{matrix} & \begin{bmatrix} k_{00} & k_{01} & k_{02} & k_{03} & k_{04} & k_{05} \\ k_{10} & k_{11} & k_{12} & 0 & 0 & 0 \\ k_{20} & 0 & k_{22} & k_{23} & 0 & 0 \\ k_{30} & 0 & 0 & k_{33} & k_{34} & 0 \\ k_{40} & 0 & 0 & 0 & k_{44} & k_{45} \\ 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix} \end{matrix} \quad (6)$$

K_0 : Input

K_5 : Output

K_1, K_2, K_3, K_4 : The four studying years.

k_{00} : Accepting the student in the college before registration.

k_{00} : Accepting the student in the college and registration.

k_{02}, k_{03}, k_{04} : Students transferred from college (j) to college (i).

$k_{10}, k_{20}, k_{30}, k_{40}$: Students transferred from college (i) to college (j).

k_{11} : Number of students fail in first year.

k_{12} : Number of students pass from first year to second year.

k_{22} : Number of students fail in second year.

k_{23} : Number of students pass from second year to third year.

k_{33} : Number of students fail in third year.

k_{34} : Number of students pass from third year to fourth year.

k_{44} : Graduate Students.

0: No transitional from case (i to j).

K_5 : The final case.

3. Application Aspect

The private higher education in Iraq is considered a parallel channel to government education and complemented by it. The private sector has taken its distinguished role in the establishment of private colleges and its interest in investment, especially when passing to the rare and required disciplines such as medical and engineering groups, pathological analyzes and financial, banking and accounting sciences which is needed by labor market. This has led to an increase in the number of students enrolled in these colleges because they do not have their chance at government colleges.

We apply Markov chains as shown in the theoretical above on four private colleges in Baghdad, which are, Al – Turath University college, Dijlah University college, Rafideen University college, and Baghdad for Economic Sciences college with four parallel departments, Law, Accounting, Computer Science, and Business Administration.

Data collected on numbers of students,(pass, fail, transitions), as shown for each college, in tables below.

Al – Turath University College

Table (1): Accounting Dept.

	E_0	E_1	E_2	E_3	E_4	E_5	
E_0	0	275	0	1	0	0	276
E_1	0	38	237	0	0	0	275
E_2	1	0	1	4	0	0	6
E_3	1	0	0	38	219	0	258
E_4	0	0	0	0	64	161	225
E_5	0	0	0	0	0	1	

Table (2): Computer Science Dept.

	E_0	E_1	E_2	E_3	E_4	E_5	
E_0	0	68	0	0	0	0	68
E_1	0	9	59	0	0	0	68
E_2	0	0	6	62	0	0	68
E_3	0	0	0	3	21	0	24
E_4	0	0	0	0	13	43	56
E_5	0	0	0	0	0	1	

Table (3): Law department

	E_0	E_1	E_2	E_3	E_4	E_5	
E_0	0	287	2	1	0	0	290
E_1	0	15	271	0	0	0	286
E_2	2	0	8	406	0	0	416
E_3	1	0	0	5	280	0	286
E_4	1	0	0	0	55	338	393
E_5	0	0	0	0	0	1	

Table (4): Business Administration Dept.

	E_0	E_1	E_2	E_3	E_4	E_5	
E_0	0	317	0	0	0	0	317
E_1	0	20	293	0	0	0	317
E_2	0	0	5	313	0	0	318
E_3	0	0	0	25	149	0	174
E_4	0	0	0	0	35	115	150
E_5	0	0	0	0	0	1	

Dijla University College

Table (5): Accounting Dept.

	E_0	E_1	E_2	E_3	E_4	E_5		
F_0	0	222	0		1	0	0	223
E_1	0	4	199		0	0	0	223
E_2	1	0	7	83	0		0	91
E_3	1	0	0	15	156		0	172
E_4	0	0	0	0	4	175		179
E_5	0	0	0	0	0	1		

Table (7): Law department

	E_0	E_1	E_2	E_3	E_4	E_5	
E_0	0	239	2		1	0	0
E_1	0	14	222		0	0	0
E_2	2	0	19	237	0		0
E_3	1	0	0	18	301		0
E_4	2	0	0	0	17	475	
E_5	0	0	0	0	0	1	
							242 236 258 320 494

Rafideen University College

Table (9): Accounting Dept.

E_0	E_1	E_2	E_3	E_4	E_5		
E_0	0	238	2	0	1	0	241
E_1	0	9	229	0	0	0	238
E_2	4	0	10	126	0	0	136
E_3	0	0	0	17	206	0	223
E_4	1	0	0	0	30	156	168
E_5	0	0	0	0	0	1	

Table (11): Business Administration Dept.

	E_0	E_1	E_2	E_3	E_4	E_5	
E_0	0	337	3	0	1	0	340
E_1	3	17	334	0	0	0	317
E_2	3	0	8	243	0	0	251
E_3	1	0	0	0	257	0	257
E_4	2	0	0	0	54	198	250
E_5	0	0	0	0	0	1	

Table (6): Computer Science Dept.

	E_0	E_1	E_2	E_3	E_4	E_5		
F_0	0	68	0		2	0	0	70
E_1	0	9	59		0	0	0	68
E_2	1	0	6	62	0		0	69
E_3	0	0	0	3	21		0	24
E_4	0	0	0	0	13	34		47
E_5	0	0	0	0	0	1		

Table (8): Business Administration Dept.

	E_0	E_1	E_2	E_3	E_4	E_5		
E_0	0	282	0		2	1	0	285
E_1	0	27	258		0	0	0	285
E_2	1	0	16	152	0		0	169
E_3	1	0	0	11	209		0	221
E_4	0	0	0	0	10	115		345
E_5	0	0	0	0	0	1		

Table (10): Computer Science Dept.

E_0	E_1	E_2	E_3	E_4	E_5		
E_0	0	110	2	0	0	0	112
E_1	0	4	106	0	0	0	110
E_2	2	0	14	82	0	0	96
E_3	0	0	0	13	85	0	98
E_4	0	0	0	0	28	75	160
E_5	0	0	0	0	0	1	

Table (12): Law department

	E_0	E_1	E_2	E_3	E_4	E_5		
E_0	0	205	2		0	1	0	208
E_1	0	2	206		0	0	0	208
E_2	0	0	9	301	0		0	315
E_3	3	0	0	0	323		0	323
E_4	1	0	0	0	61	364		425
E_5	0	0	0	0	0	1		

Baghdad for Economic Sciences University College

Table (13): Accounting Dept.

	E_0	E_1	E_2	E_3	E_4	E_5	
E_0	0	295	2	0	1	0	295
E_1	0	11	284	0	0	0	295
E_2	0	0	39	320	0	0	359
E_3	0	0	0	69	329	0	398
E_4	0	0	0	0	113	230	434
E_5	0	0	0	0	0	1	

Table (14): Computer Science Dept.

	E_0	E_1	E_2	E_3	E_4	E_5	
E_0	0	145	0	0	0	0	145
E_1	0	19	126	0	0	0	145
E_2	0	0	9	67	0	0	76
E_3	0	0	0	7	40	0	47
E_4	0	0	0	0	10	57	67
E_5	0	0	0	0	0	1	

Table (15): Business Administration Dept.

	E_0	E_1	E_2	E_3	E_4	E_5	
E_0	0	304	0	0	0	0	304
E_1	0	26	278	0	0	0	304
E_2	0	0	60	318	0	0	378
E_3	0	0	0	53	252	0	306
E_4	0	0	0	0	142	216	358
E_5	0	0	0	0	0	1	

For the analysis of the above tables, we have to divide the rows elements on the sum of the row for each table, the results shown in tables below, according to the departments of colleges under study.

Accounting department

Table (16): Al - Turath

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	0.996	0	0.004	0	0
E_1	0	0.14	0.86	0	0	0
E_2	0.17	0	0.16	0.67	0	0
E_3	0.004	0	0	0.148	0.848	0
E_4	0	0	0	0	0.285	0.715
E_5	0	0	0	0	0	1

Table (17): Dijlah

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	0.996	0	0.004	0	0
E_1	0	0.018	0.982	0	0	0
E_2	0.011	0	0.077	0.913	0	0
E_3	0.006	0	0	0.087	0.907	0
E_4	0	0	0	0	0.022	0.978
E_5	0	0	0	0	0	1

Table (18): Rafideen

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	0.987	0.008	0	0.004	0
E_1	0	0.04	0.96	0	0	0
E_2	0.03	0	0.07	0.90	0	0
E_3	0	0	0	0.08	0.92	0
E_4	0.006	0	0	0	0.179	0.815
E_5	0	0	0	0	0	1

Table (19): Baghdad

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	0.996	2	0	0.004	0
E_1	0	0.04	0.96	0	0	0
E_2	0	0	0.11	0.89	0	0
E_3	0	0	0	0.17	0.83	0
E_4	0	0	0	0	0.26	0.74
E_5	0	0	0	0	0	1

Computer Science department

Table (20): Al - Turath

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	1.0	0	0	0	0
E_1	0	0.13	0.87	0	0	0
E_2	0	0	0.09	0.91	0	0
E_3	0	0	0	0.13	0.87	0
E_4	0	0	0	0	0.3	0.7
E_5	0	0	0	0	0	1

Table (21): Dijlah

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	0.97	0	0.03	0	0
E_1	0	0.13	0.87	0	0	0
E_2	0.01	0	0.09	0.9	0	0
E_3	0	0	0	0.13	0.87	0
E_4	0	0	0	0	0.28	0.72
E_5	0	0	0	0	0	1

Table (22): Rafideen

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	0.98	0.02	0	0	0
E_1	0	0.04	0.96	0	0	0
E_2	0.02	0	0.14	0.84	0	0
E_3	0	0	0	0.13	0.87	0
E_4	0	0	0	0	0.18	0.82
E_5	0	0	0	0	0	1

Table (23): Baghdad

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	1.0	0	0	0	0
E_1	0	0.13	0.87	0	0	0
E_2	0	0	0.12	0.88	0	0
E_3	0	0	0	0.15	0.85	0
E_4	0	0	0	0	0.15	0.85
E_5	0	0	0	0	0	1

Law Department

Table (24): Al - Turath

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	0.996	0	0.004	0	0
E_1	0	0.14	0.86	0	0	0
E_2	0.16	0	0.16	0.68	0	0
E_3	0.004	0	0	0.147	0.849	0
E_4	0	0	0	0	0.28	0.82
E_5	0	0	0	0	0	1

Table (25): Dijlah

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	0.99	0.007	0.003	0	0
E_1	0	0.05	0.95	0	0	0
E_2	0.005	0	0.019	0.976	0	0
E_3	0.003	0	0	0.017	0.98	0
E_4	0.003	0	0	0	0.139	0.858
E_5	0	0	0	0	0	1

Table (26): Rafideen

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	0.986	0.009	0	0.005	0
E_1	0	0.01	0.99	0	0	0
E_2	0	0	0.03	0.97	0	0
E_3	0.01	0	0	0	0.99	0
E_4	0.02	0	0	0	0.14	0.84
E_5	0	0	0	0	0	1

Business Administration department

Table (20): Al - Turath

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	1.0	0	0	0	0
E_1	0	0.06	0.96	0	0	0
E_2	0	0	0.02	0.98	0	0
E_3	0	0	0	0.14	0.86	0
E_4	0	0	0	0	0.23	0.77
E_5	0	0	0	0	0	1

Table (21): Dijlah

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	0.989	0	0.007	0.004	0
E_1	0	0.09	0.91	0	0	0
E_2	0.006	0	0.095	0.899	0	0
E_3	0.005	0	0	0.05	0.945	0
E_4	0	0	0	0	0.03	0.97
E_5	0	0	0	0	0	1

Table (22): Rafideen

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	0.988	0.008	0	0.004	0
E_1	0	0.04	0.96	0	0	0
E_2	0.029	0	0.074	0.897	0	0
E_3	0	0	0	0.08	0.92	0
E_4	0.006	0	0	0	0.179	0.815
E_5	0	0	0	0	0	1

Table (23): Baghdad

	E_0	E_1	E_2	E_3	E_4	E_5
E_0	0	1.0	0	0	0	0
E_1	0	0.09	0.91	0	0	0
E_2	0	0	0.16	0.84	0	0
E_3	0	0	0	0.17	0.83	0
E_4	0	0	0	0	0.40	0.60
E_5	0	0	0	0	0	1

From the tables (16 – 23), we can summarize the results as follows;

Registration percentage of students in the first stage;

Table (24): Percentage of students enrolled in the first stage by departments and colleges.

	Accounting	Comp. Science	Law	Administration
Turath	0.996	1.0	0.996	1.0
Dijlah	0.996	0.97	0.990	0.989
Rafideen	0.987	0.98	0.986	0.988
Baghdad	0.996	1.0		1.0

From table (24) it is clear that the registration percentage in the first stage of all colleges and its four departments was very high and the best colleges Al – Turath and Baghdad for the departments of business administration and computer science.

Table (25): Success percentage for each stage by colleges

	Accounting				Comp. Science				Law				Administration			
T	0.86	0.67	0.85	0.72	0.87	0.91	0.87	0.71	0.86	0.68	0.85	0.82	0.96	0.98	0.86	0.77
D	0.98	0.91	0.91	0.90	0.87	0.90	0.87	0.72	0.95	0.98	0.98	0.86	0.91	0.90	0.95	0.97
R	0.96	0.90	0.92	0.82	0.96	0.84	0.87	0.82	0.99	0.97	0.99	0.84	0.96	0.90	0.92	0.82
B	0.96	0.89	0.83	0.74	0.87	0.88	0.85	0.85					0.91	0.84	0.83	0.60

From table 25, success percentage varied from one department to another and from one college to another. Dijla College was the best for all levels of study, and the weakness in the success rates was in the fourth stage because of the ministerial scientific examination. This analysis is reflected in the percentage of failures shown in table 26.

Table (26): Failure percentage for each stage by colleges

	Accounting				Comp. Science				Law				Administration			
T	0.14	0.16	0.15	0.29	0.13	0.09	0.13	0.30	0.14	0.16	0.15	0.28	0.06	0.02	0.14	0.23
D	0.02	0.08	0.09	0.02	0.13	0.09	0.13	0.28	0.05	0.02	0.02	0.14	0.09	0.10	0.05	0.03
R	0.04	0.07	0.08	0.18	0.04	0.14	0.13	0.18	0.01	0.03	0.00	0.14	0.04	0.07	0.08	0.18
B	0.04	0.11	0.17	0.26	0.13	0.12	0.15	0.15					0.09	0.16	0.17	0.40

Conclusion

Markov chains are a scientific and applied subject. We recommend that they be used to measure the quality of the outputs of the colleges more broadly and to compare the results between them.

Analysis of the results of the matrix of transitional possibilities shows that the success rates were distinct for all stages of the study led to that the proportion of graduates of the Colleges under study are very high, a clear indication of the quality of its outputs.

The success rates were very high especially for the first, second, and third stages, while in the fourth stage were less because of the ministerial scientific examination.

All the colleges were close in the results of the students and vary from one department to another and from one stage to another.

The proportion of students transferred to and from the colleges were very few and negligible. Supporting the civil colleges to open higher studies according to the law of private education and attract the distinguished student elements and qualify them to serve the community. Supporting private education with teaching staff from retired professors and returnees from abroad, especially in the field of postgraduate studies.

Opening the specialized scientific departments in the private colleges that are needed by the labor market, especially the rare medical and engineering specialties and the financial and banking sciences.

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