

# A Framework for the Reasons of the Gap between the Graduates Qualifications of the Private Higher Education and Job Requirements of the Private Sector in Egypt

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## Abstract

The current research is designed to analyze and design a framework of the reasons of the gap (miss-fit) between the outcome characteristics of the private higher education and the job requirements in the private sector in Egypt. In this research, the reasons are divided into four main groups:

1. Reasons related to the universities
2. Reasons related to the businessmen
3. Reasons related to the community
4. Reasons related to the graduates

After an explanatory analysis, the researcher concluded that the reasons of the gap related the universities are: The Policies of the higher education system, the qualifications of the academic staff members, the higher education techniques, the availability of resources and capabilities, and the fit between the academic courses and the labor market requirements. The reasons related to the businessmen are: effective selection of human resources, preparation and training before practicing the job, supervision during practicing the job, designing and analyzing the job, career planning. The reasons related to the community are measured using one variable which is: The private higher education perspective in Egypt. The reasons related to the students are measured using one variable which is: the benefits of the private higher education to its graduates. In this study, the questionnaires are designed, data are collected, the variables are measured, hypotheses are formulated and a conceptual framework is designed. Further researches are needed to statistically test the effect of these variables on the gap.

## 1. Introduction

The economic, social, and political growth of any country is related to its ability to equip and develop its human resources. Human resources are the most important and critical factor for the innovation and development of countries. Therefore, there is an utmost importance for the preparation and training of these human resources in order to fit with the needs of the society's labor market, as it is considered to be the main motive of economic development (Al Kahtany, 1998).

Therefore, universities play an important role in the preparation of human resources (Litova, 2000). It was found that universities do not play their traditional role which is based on the teaching of the theoretical and philosophical knowledge, but they also play a major role in the teaching of the knowledge that is related to different professional majors and which is needed by the different production sectors and by the labor market (Al Kahtany, 1998). Universities are the essential sources of new knowledge in almost all fields, and the center of today's knowledge-based economies, and the truth is that higher education is a major force in practically every society (Altbach, 1999).

However, higher education in Egypt is considered to be the practical stage that offers the student with some cultural affairs with theoretical, philosophical, and religious aspects, and offering some knowledge, science, and experiences related to a specific job, thus making the student's knowledge better adapted in practicing his job, and more able to satisfy the current and future needs of the society from different majors, something that goes hand in hand with the achievement of development goals of the society (Al Kahtany, 1998).

Egyptian universities are not only public universities, but also there are private universities which are considered to be playing an effective role in the preparation and training of human resources (Frag, 1999). Moreover, work is considered to be the main source of income. Therefore, it is important to make the job opportunities available for graduates and fit with his/her field of specialization to ensure their success in practical graduate lives. So, this

needs cooperation between the universities from one side and the labor market requirements from the other side (Al Kahtany, 1998).

For this reason, an exploratory research on the private labor market in Alexandria was conducted by the researcher in order to explore the degree of the fit between the outcome characteristics of the private higher education with the private labor market requirements in Egypt. The empirical part of the research has been conducted and applied on the Arab Academy for Science & Technology and Maritime Transport "AAST" in Alexandria, as it is one of the major private higher educational institutes in Egypt composed of three sub-sectors:

- (a) College of Management and Technology
- (b) College of Engineering and Technology
- (c) College of Maritime Transport and Technology.

There are various reasons for choosing the "AAST" as a case for application. These reasons include the following:

- 1- "AAST" is considered the oldest and the largest private higher education university in Alexandria in terms of the number of undergraduate and post graduate students, financial, capabilities, facilities,.....etc. It had been established in 1972 and it adapted to the technological and competitive areas in the field of private higher education (Journal of AAST, 2005).
- 2- The accessibility of data, as the researcher is working in "AAST". Furthermore, almost all other private higher education universities refused to cooperate with the researcher or to give him the data required for the research.
- 3- "AAST" is the only nonprofit private university in Alexandria. Therefore, all of its financial resources are reinvested in the educational process and in developing the educational resources.

Furthermore, the reasons for choosing Alexandria as a center for the application of the research are as follows:

- 1- The main branch of "AAST" exists in Alexandria, and includes all colleges of "AAST" and all the administrative departments, such as the human resources, finance, research and development, admission and registration departments.
- 2- Alexandria is considered the second largest city in Egypt which includes a large number of private companies.
- 3- The period of the study was very limited.
- 4- Alexandria is the researcher's place of residence which increases the accessibility of data collection.
- 5- The geographical dispersion between the cities.

The researcher made this exploratory research using the focus group method with a number of managers in many private companies in Alexandria, which were chosen for the following reasons:

- 1- They are considered to be among the largest and the most famous private companies in Alexandria.
- 2- Most of "AAST" graduates are working in these chosen companies.
- 3- Accessibility of data, as these companies cooperated with the researcher and gave him the required data needed for the research in the production, commercial and service sectors.

## **2. The Research Problem**

Focus groups were conducted with the following groups: (1) a number of top managers, mostly human resource managers who are responsible for training in these companies; (2) a number of "AAST" academic staff members in the previously mentioned colleges; (3) a number of "AAST" graduates who are working in the chosen private sector companies in Alexandria. The researchers concluded that all the participants agreed that there is a gap between the outcome characteristics of the private higher education and the private labor market requirements in Egypt.

The participants cited some phenomena which illustrate the gap between the outcome characteristics of the private higher education and the private labor market requirements in Egypt. These phenomena included the following:

- 1- The preparation skills level of the graduate students in the private educational sector is relatively low. Respectively, this leads to a need for training students before recruitment.
- 2- The number of graduate students in some certain fields is high in comparison to the other specialized fields. This leads to widening the employment-outcomes gap, especially in some specific fields such as Business and Tourism.
- 3- The unemployment job fit, which leads to weakening their skills and knowledge about the job. This can be considered due to the culture of the community, as the unemployment rate is high.

Based on the previous discussion, the importance of this study becomes highly apparent, which led the researchers to investigate this gap in order to identify its notion and roots. Thus, the research problem can be summarized in the following main question:

*"What are the reasons that lead to the existence of the gap (miss-fit) between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?"*

Moreover, there were previous studies that investigated the reasons behind the gap between the outcome characteristics of the private higher education and job requirements in the private sector of Saudi Arabia and Jordan (Ghandora, 1997; Al Kahtany, 1998; Al Shredah, 1999)

These studies were also taken into account these reasons behind this gap, as discovered by the researchers as follows:-

#### ***1. Reasons related to the universities***

1. The policies of the higher education system.
2. The qualifications of the academic staff members.
3. The higher education techniques.
4. The availability of educational resources and capabilities.
5. The fit between the academic courses and the labor market requirements.

#### ***2. Reasons related to the Egyptian society***

1. The Egyptian society's perspective towards private higher education.

#### ***3. Reasons related to the graduates***

1. The benefits of the private higher education to its graduates.

#### ***4. Reasons related to the businessmen in the private sector***

1. The effective selection of human resources.
2. The preparation and training before practicing the job.
3. The supervision during practicing the job.
4. The designing and analyzing the job.
5. The career planning.

Based on the previous discussion, the research problem was further developed to include the following detailed questions:

1. Is there a relationship between the policies of the higher education system, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?
2. Is there a relationship between the qualifications of the academic staff members, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?
3. Is there a relationship between the higher education techniques, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?
4. Is there a relationship between the availability of resources and capabilities within the private higher education institutions, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?
5. Is there a relationship between the fit between the academic courses and the labor market requirements, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?

6. Is there a relationship between the private higher education perspective in Egypt, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?
7. Is there a relationship between the benefits of the higher education to the graduates, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?
8. Is there a relationship between the effective selection of human resources, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?
9. Is there a relationship between the preparation and training before practicing the job, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?
10. Is there a relationship between the supervision during practicing the job, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?
11. Is there a relationship between the designing and analyzing the job, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?
12. Is there a relationship between the career planning, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt?

### 3. The Research Objectives

The study aims at achieving the following objectives:

1. Identifying the reasons behind the gap (miss-fit) between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.
2. Identifying some techniques which can help minimize this gap.
3. Discovering the defects in the private higher education outcomes that decrease its ability to satisfy the requirements of the private labor market in Egypt.
4. Locating some techniques which may improve the Egyptian private higher education role in the satisfaction of the labor market requirements.
5. Design a conceptual framework for the reason of the gap in Egypt.

### 4. The Research Importance

The importance of the study stems from two basic dimensions:

#### *The theoretical importance*

1. This study is considered to be the first study in Egypt that deals with the reasons of the existence of the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt. All the previous studies that dealt with higher education in Egypt were focused on studying how to improve the higher education sector using certain tools and techniques.
2. This study is considered a theoretical guide to many researchers in the future in order to explore the real reasons behind the existence of the gap, and a tool for suggesting solutions to minimize this gap.
3. The study deals with the labor market from all different perspectives, including the universities and colleges, the community, graduates and the labor market. Therefore, we can generalize the results of the study over the whole higher education sector whether private or public and to make a comparison between them in order to know which is better and focus on it to accelerate the higher education improvement cycle in Egypt.

#### *The empirical importance*

The current study has practical importance on the private higher education institutions level, the overall higher education level, the Egyptian society and community level, and the level of the private labor market in Egypt. This importance is illustrated in the four levels below:

#### *On the private higher education institutional level:*

1. Improving performance by discovering the reasons causing the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt, thus trying to minimize its occurrence and solving them.
2. Guiding and directing the policies and strategies of the private higher education sector in order to satisfy the requirements of the labor market from various majors, skills, experiences and knowledge which must be acquired by the graduates in every major.

3. Providing some tools by which private universities can realize the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.

***On the overall higher education level:***

1. Helping the authorities that are responsible for the higher education and improving the education policies in Egypt, such as in the way of accepting a student in universities, or the way of choosing the specialization field, the span of time in universities and the starting date of studying in universities.
2. Helping the authorities that are responsible for the higher education, improving the tools and equipment used in universities and updating them in order to be suitable with the innovation required in the higher education sector.
3. Furthermore, helping to improve the courses' syllabus that is being taught in the universities in order to be suitable to the labor market requirements.
4. Moreover, helping these educational authorities to improve the level of the lectures and tutoring in universities in order to use the most updated material that matches with the labor market requirements and expectations.
5. Encouraging universities to increase and improve their resources, financial capabilities and equipment, so as to help them achieve and accomplish their objectives.
6. Promoting an increase in communication, cooperation and organization between the higher education sector and the labor market. This in turn, can lead to better identifying the requirements of the labor market and satisfying them.

***On the Egyptian society and community level:***

1. Improving the Egyptian universities' role in effectively preparing human resources which are considered to be the most valuable investment assets in any community.
2. Helping to change the Egyptian community's vision of the higher education and realizing the importance of a lot of majors, and trying to promote the balance between the number of graduates of each major and the requirements of the labor market and communities.
3. Helping to change the Egyptian community's vision of the universities' role, and to get the universities responsible for cooperating in solving the different problems of the higher education in the community.

***On the level of the private labor market In Egypt:***

1. Helping businessmen to identify the criteria for selecting the appropriate human resources in each job, conducting the suitable training programs before recruitment, and following up and appraising them while working.
2. Helping businessmen to design and analyze the jobs in order to teach the employee how to do the work in a better way.

## **5. The Research Hypotheses**

After conducting exploratory research and studying previous scientific researches in the research field, the researchers formulated the following hypotheses as probabilistic causes for the gap between outcome characteristics of the private higher education and the job requirements in the private sector in Egypt:

**H<sub>1</sub>- There is a relationship between the reasons related to the universities and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.**

We can formulate the following sub-hypotheses from this main hypothesis, as follows:

- H<sub>1.1</sub>. There is a relationship between the policies of the higher education system, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.
- H<sub>1.2</sub>. There is a relationship between the qualifications of the academic staff member, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.

- H<sub>1.3</sub>. There is a relationship between the higher education techniques, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.
- H<sub>1.4</sub>. There is a relationship between the fit between the academic courses and labor market requirements, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.
- H<sub>1.5</sub>. There is a relationship between the availability of resources and capabilities within private higher education institutions, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.

**H<sub>2</sub>- There is a relationship between the reasons related to the Egyptian society and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.**

We can formulate the following sub-hypothesis from this main hypothesis, as follows:

- H<sub>2.1</sub>. There is a relationship between the private higher education perspective in Egypt, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.

**H<sub>3</sub>- There is a relationship between the reasons related to the graduates themselves and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.**

We can formulate the following sub-hypothesis from this main hypothesis, as follows:

- H<sub>3.1</sub>. There is a relationship between the benefits of the higher education to the graduates, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.

**H<sub>4</sub>- There is a relationship between the reasons related to the businessmen in the private sector and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.**

We can formulate the following sub-hypotheses from this main hypothesis, as follows:

- H<sub>4.1</sub>. There is a relationship between the effective selection of human resources, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.
- H<sub>4.2</sub>. There is a relationship between the preparation and training before practicing the job, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.
- H<sub>4.3</sub>. There is a relationship between the supervision during practicing the job, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.
- H<sub>4.4</sub>. There is a relationship between the designing and analyzing of the job, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.
- H<sub>4.5</sub>. There is a relationship between the career planning, and the gap between outcome characteristics of the private higher education and job requirements in the private sector in Egypt.

## 6. Literature Review

### 6.1 The New Labor Market Requirements

In the past, academic skills and vocational skills have been seen as two separate entities. This viewpoint has changed as the economy has become global rather than national. Businessmen want workers with lifelong learning skills. Workers will have multiple careers over their life span, so lifelong learning skills are vital. The traditional workplace is changing from centralized to decentralized control and needs workers who can think,



make decisions, and learn new skills. Therefore, advancement is based on knowledge and skills, rather than seniority (Clark, 1999).

The term "skill" is used to describe a person's abilities to do something well. Therefore, if you are "skilled" in a certain area or activity, you are expected to be able to perform that activity well or be competent in that area. Skills are also sometimes used to mean a certain level of education or training, the implication being that the more education a person has; the more skilled they are (Developing Skills for Today's Workplace, 2000).

In 1994 there was a worldwide act called the School-to-Work (STW) Act. Its major impact was on career education in schools. Resources were available to fund initiatives that would help make the transition from school to work easier for young people. The goal of the Act was to improve student learning, keep students in school until they graduated, and to provide relevant experiences that integrate school-based and work-based learning. The Act provided the impetus for schools and the business sector to collaborate in providing real world experiences (Stasz and Stern, 1998).

Schools and colleges are moving from the old model of vocational education to the new model of school-to-work programs. The new model seeks to integrate academic and career-based skills and, thus, raise academic standards for all students. The new model includes formats such as career academies, school registered apprenticeships, student internships, career-oriented high schools, and school-based enterprises (Schargel and Smink, 2001).

Consequently, there are two main types of employer skill requirements: Human capital credentials that employers demand of applicants before the hiring decision is made, such as educational degrees, specific experience, and prior training; and tasks that employers require new employees to perform on the job once they are hired, such as daily reading/writing, arithmetic, use of computers, and dealing with customers. This list of tasks, though clearly not exhaustive, captures the types of cognitive and social skills that have been emphasized in many recent discussions of changes in employer skill demands, while the hiring credentials are human capital characteristics that are likely to reflect applicants' general abilities or job-specific skills (Litova, 2000).

The nature of work is undergoing profound change. Work is no longer simply about the nature of occupations, the labor market and employment, but rather it is about how individuals transform themselves and their environment practically and intellectually through creative thinking and fulfilling activity which is increasingly about how knowledge comes to be defined as "useful", and education itself is viewed now as a form of work can feed to self-realization and self fulfillment at individual and existential level. (Davies, 1998)

## **6.2 The Gap between the Characteristics of the Private Higher Education and the Requirements of the Private Labor Market**

During the last twenty-five years, there were rapid changes in the culture of education and the environment of the labor market concerned with the form of growth, diversification, and specialization processes; reforms in organization, government, procedures, and administration. (Goedegebuuren et al, 1994)

Moreover, today's college graduates face the challenge of becoming adapted to work in the new economic conditions, socially and psychologically. It is the college that must help the student to find his place in life after he graduates from the educational institution and prepare him for working (Litova, 2000).

It's clear these days that there is a gap between the outcomes of higher education and the labor market requirements (Al Kahtany, 1998). Heskeths (1999) reported that there is a gap between what skills employers are asking for, and the real skills that graduates have. And because of this, a number of employers have been sounding warnings to higher education sector that there is a "skill gap" emerging between employers and graduates (Dickensen 2000).

Ghandora (1997) conducted a study about the characteristics of the outcomes of higher education and private labor market requirements in Saudi Arabia. This Research had focused on the problem of the existence of a gap between the outcomes of the higher education and the labor market requirements, and the study had resulted in exploring the main reasons that caused such a gap.

Al Shredah (1999) studied the issue of the outcome of the higher education and the available job opportunities in Jordan. She focused on the importance of the fit between the characteristics of higher education outcomes and the requirement of the labor Market.

It is important to identify and determine precisely the reasons behind this gap and to determine where exactly does this gap exist. It is also essential to try to eliminate it by taking any needed remedial action for directing the train of higher education towards the right track. We must help graduates to be familiar with the requirements of the labor market and to achieve the desired consistency between those requirements and what they had studied in universities, in order to be easily hired by employers. (Al Kahtany, 1998)

## **6.2 The Reasons of the Gap between the Characteristics of the Private Higher Education Graduates and the Requirements of the Labor Market**

Some previous studies investigated the reasons behind the gap between the outcome characteristics of the private higher education and job requirements in the private sector. These reasons according to Ghandora (1997); Al Kahtany (1998); and Al Shredah (1999) are as follows:

### ***Reasons related to the universities***

1. The policies of the higher education system.
2. The qualifications of the academic staff member.
3. The higher educational techniques and tools.
4. The availability of resources and capabilities.
5. The fit between the academic courses and labor market requirements.

### ***Reasons related to the Egyptian society***

1. The private higher education perspective in Egypt.

### ***Reasons related to the graduates themselves***

1. The benefits of the higher education to the graduates.

### ***Reasons related to the businessmen in the private sector***

1. The selection of human resources.
2. The preparation and training before practicing the job.
3. The supervision during practicing the job.
4. The designing and analysis of the job.
5. The career planning.

## **6.4 The Drawbacks of Higher Education Outcomes in Egypt**

The colleges without walls program provided the participating undergraduates with opportunities to develop all of the above mentioned skills. However, the skills that score the lowest on the mentor-managers feedback forms were competence, intelligence and qualifications, and thus require further comment. This low scoring could potentially be because of a number of reasons. First, that the skills have not been developed through participation in the scheme. Second, that given the nature of these attributes they are more difficult to articulate or third, these "competency areas" were perceived by graduates and employers alike as being of less importance than the "personal transferable skills" and thus were not reflected on to the same extent (Williams, 1996).

The drawbacks of the higher education can be summarized as follows (Hesketh, 1999; Dickensen, 2000; and Ghandora, 1997):

1. The preparation level of the graduates of the private educational sector is relatively low. The skills, knowledge, and experience are not suitable to the requirements of labor market.
2. The inability of graduates to apply what they have learnt from university studies in practical life.
3. The shortage of graduates' language skills and computer skills.

## **6.5 The Suggested Techniques for Solving the Drawbacks**

Several respected education leaders expressed concern that planning the reform of academic programs means much more than upgrading existing components. In particular, they feel that interdisciplinary studies need to be instituted to foster realistic and holistic solutions to complex problems, and to prepare students for careers which require multiple talents. One kind of effort which some universities have already taken in this direction is creation of graduate institutes in which students take courses from a variety of disciplines and conduct applied research (Dickinson, 2000).



It has also been recommended that universities consider allowing students to take programs of study with a major in one field, like engineering, and a minor in another, like business management. The graduate of such a program, it is argued, would be better prepared for doing engineering in the real world of physical stresses and financial concerns. Presently, the university does not allow cross registration, reportedly because the systems of record keeping are cumbersome, and the degree requirements is inflexible (Mary, 1992).

Nabi and Bagley (1999) concluded in their study of graduates' perceptions of transferable skills by reiterating the need for sustained motivation in the skills development exercises. If graduates are prepared to invest the time and effort into developing the skills demanded by employers this will give them a competitive edge when applying for job vacancies. This skill development is something that the students in the schools without walls programs have "learned" to recognize and articulate through personal reflection and regular feedback from the staff members.

#### **Suggested Techniques from Academic Staff Members' Point of View**

1. Changing the admission method to join the universities, which only depends on the grade obtained in high school, and using other criteria behind the grade?
2. High school graduates can work in the labor market for a period of time to determine their careers.
3. Improving the academic courses continuously, to match the labor market requirements.
4. Making communication channels between universities and businessmen to know the labor market requirements.
5. Striking a balance between the theoretical aspects and the practical ones in educational methods and in the academic courses, where, we can use the programs of training including both universities and companies.
6. Increasing the financial resources and capabilities that are allocated to private higher education institutions to improve the educational facilities and services in order to cope with the educational new technology.

#### **Suggested Techniques from the Egyptian Society Point of View**

1. Changing the society perspectives towards the role of university.
2. Changing the society perspectives toward the role of researches.
3. Making diversification of majors to meet the society requirements.

#### **Suggested Techniques from the Businessmen Point of View**

1. Good selection of human resources to meet job specification.
2. Preparation and training of graduates before practicing jobs.
3. Supervision during practicing jobs and solving any drawbacks in performance.
4. Designing and analyzing jobs.
5. Career planning.

### **7. Conceptual Framework of the Gap**

Figure (1) shows the conceptual framework of the gap between the Outcome Characteristics of the Private Higher Education and Job Requirements of the Private Sector in Egypt. From the figure the independent variables consists of four groups of variables which are illustrated as follows:

1. Variables related to the universities.
2. Variables related to the Egyptian society.
3. Variables related to the graduates themselves.
4. Variables related to the businessmen in the private sector.

The first group of variables can be measured by five sub-variables which are as follows:

1. The policies of the higher education system.
2. The qualifications of the academic staff members.
3. The higher education techniques.
4. The fit between the academic courses and the labor market requirements.
5. The availability of educational resources and capabilities.

The second group of variables can be measured by one sub-variable, which is: The Egyptian society's perspective toward private higher education.

The third group of variables can be measured by one sub-variable, which is: The benefits of the higher education to its graduates.

Last but not least, the fourth group of variables can be measured by five sub-variables which are as follows:

1. The effective selection of human resources.
2. The preparation and training before practicing the job.
3. The supervision during practicing the job.
4. The designing and analyzing the job.
5. The career planning.

These four groups of variables which were previously discussed are considered probabilistic causes for existence of the gap between outcome characteristics of the private higher education and the job requirements in the private sector in Egypt. Therefore, the model proposes a causality relationship between the first four groups of variables as independent variables, and the second variable (the gap itself) as a dependant variable.

## **7. Study Variables and their Measurements**

This research includes two types of variables: The dependent variable and the independent ones.

### ***Dependent Variable***

The dependent variable in the present study is the gap between the outcome characteristics of the private higher education and the job requirements in the private sector in Egypt. This gap was measured through using six statements to measure the fit or miss-fit between the outcome characteristics of the Arab Academy for Science & Technology and the job requirements in the private sector in Egypt. A five-point Likert scale was used to measure this gap ranging from "strongly disagree" (1) to (5) "strongly agree".

### ***Independent Variables***

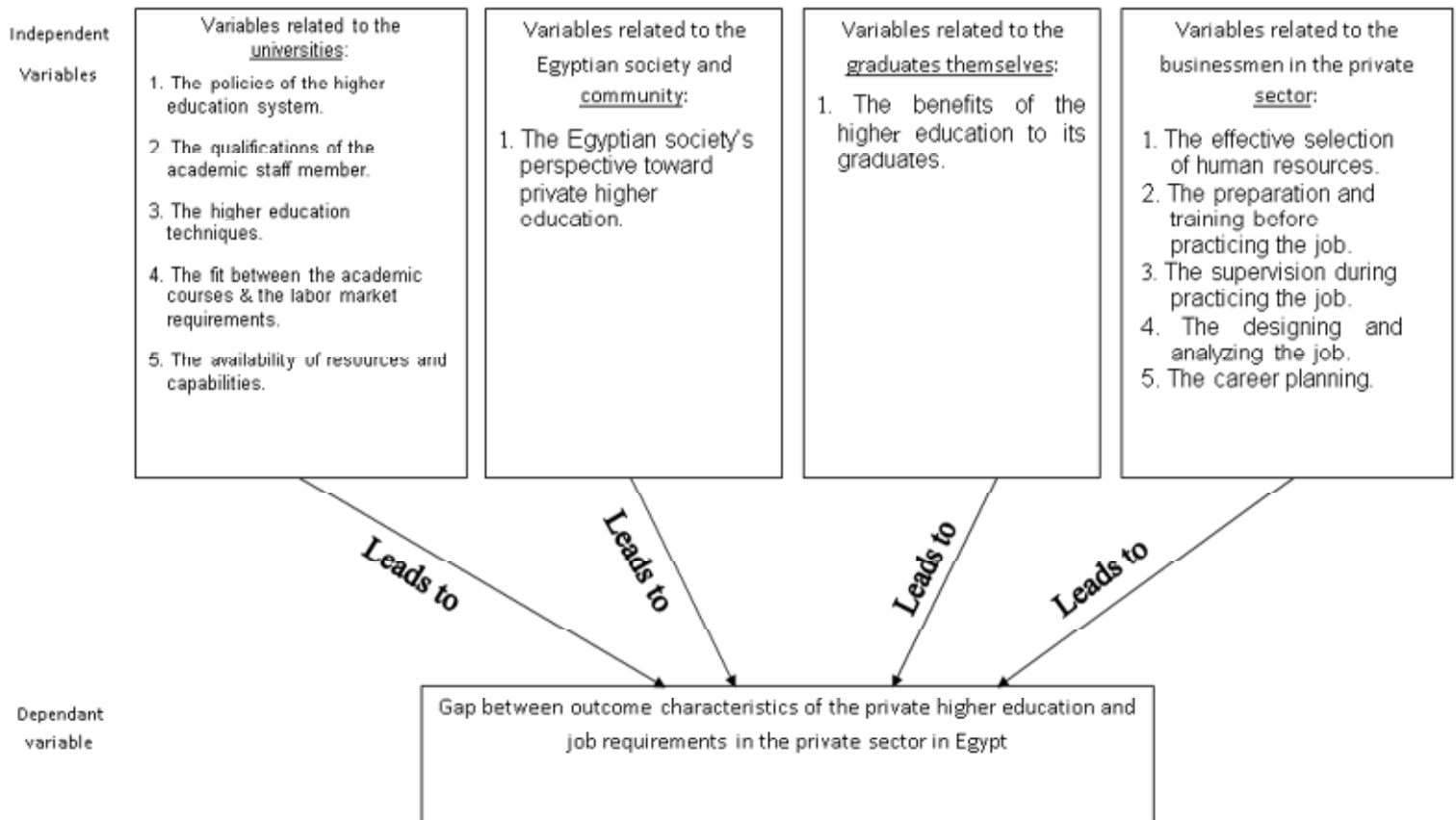
The independent variables in the present study consist of four groups of variables which will be illustrated as follows:

#### ***Variables Related to Universities***

This group of variables can be measured by five sub-variables which, in sequence, were measured using fifteen statements, to measure the relationship between the universities and the gap. A five-point Likert scale was used in fourteen statements, to measure these variables ranging from "strongly disagree" (1) to (5) "strongly agree". A five-point Likert scale was used in one statement, to measure one of the variables ranging from "does not fit at all" (1) to (5) "completely fit". These variables are:-

- 1- The Policies of the higher education system were measured by using four statements.
- 2- The qualifications of the academic staff members were measured by using four statements.
- 3- The higher education techniques were measured by using two statements.
- 4- The availability of resources and capabilities was measured by using one statement.
- 5- The fit between the academic courses and the labor market requirements was measured by using four statements.

Figure (1): Conceptual framework of the gap



**Variables Related to the Egyptian Society and Community**

This group of variables can be measured by one sub-variable which in turn, was measured using three statements to measure the relationship between the Egyptian culture toward higher education and the gap. A five-point Likert scale was used to measure this variable ranging from "Strongly disagree" (1) to (5) "strongly agree". This sub-variable is:

The private higher education perspective in Egypt was measured using three statements.

**Variables Related to Graduates**

This group of variables can be measured by one sub-variable which in turn, was measured using two statements in order to measure the relationship between the graduates themselves and the gap. A five-point Likert scale was used, in one statement, to measure this variable, ranging from "did not benefit at all" (1) to (5) "Strongly benefit", and another five-point Likert scale was used, in one statement, to measure this variable ranging from "not qualified at all" (1) to (5) "very qualified": This sub-variable is:

The graduates' benefits of the higher education were measured by using two statements.

**Variables Related to Businessmen in the Private Sector**

This group of variables can be measured by five sub-variables which in turn, were measured using five statements, to measure the relationship between businessmen in the private sector and the gap. A five-point Likert scale was used to measure these variables ranging from "strongly disagree" (1) to (5) "strongly agree". These variables are:

1. Effective selection of human resources was measured by using one statement.
2. Preparation and training before practicing the job was measured by using one statement.
3. Supervision during practicing the job was measured by using one statement.
4. Designing and analyzing the job was measured by using one statement.
5. Career planning was measured by using one statement.

### **8. The Population of the Study**

In this research, the researchers study the fit between outcome characteristics of the private higher education, and job requirements in the private sector in Egypt. So, the research has been applied on the Arab Academy for Science & Technology "AAST" and its graduates from three colleges:

1. College of Management & Technology.
2. College of Engineering & Technology.
3. College of Maritime Transport & Technology excluding maritime department.

And Private Business Sector in Alexandria in the following sectors:

- (a) The production sector.
- (b) The commercial sector.
- (c) The service sector.

The characteristics of the sample were chosen to reflect the characteristics of the three strata of the study population:

#### ***The First Stratum***

This stratum represents the academic staff members in the "AAST" from the following colleges:

1. College of Management and Technology
2. College of Engineering and Technology
3. College of Maritime Transport and Technology (excluding the maritime department).

The following table shows the number of the academic staff members in the "AAST"-Alexandria branch:

**Table (1)**  
**Number of the academic staff members in the "AAST"**  
**Alexandria branch**

Title	Number of Academic staff
Hired academic staff members	433
Lecturer BOX (B)	71
BOX (C) Lecturers	13
Lenders	15
Teaching assistants	151
Total	683

Source: (Affairs of the academic staff members' management, 2010).

According to Table (1), it can be observed that the total number of the academic staff members in the "AAST"-Alexandria branch is 683 members.

#### ***Second Stratum***

This stratum represents the "AAST" graduates from the previous mentioned colleges, which were considered the new entries or candidates in the private sector companies, where they were hired after graduation and did not spend more than three years in them. In order to consider them new graduates based on the results of the focus group. This period was enough for businessmen to judge their performance. That means the graduates who obtained skills, knowledge, and experiences from studying in "AAST" without taking any training before working.

The following table shows the number of "AAST" graduates from the different colleges of Alexandria branch in the last three years:

**Table (2)**  
**the number of "AAST" graduates from Alexandria branch**  
**in the last three years**

Year College	Number of graduates			Total
	2010	2011	2012	
College of Management & Technology	298	308	273	879
College of Engineering & Technology	401	453	447	1301
College of Maritime Transport & Technology	130	162	177	469
Total				2649

Source: (Alumni Arab Academy for Science and Technology and Maritime Transport, 2006).

According to Table (2), it can be observed that the total number of the "AAST" graduates from the Alexandria branch in the three colleges is 2649 graduates. It was not possible in this research to estimate the total number of graduates working in the private sector; therefore, the researcher considered all the graduates are working in the private sector companies in Alexandria.

### **Third Stratum**

This stratum includes the businessmen who represent the private business sector in Alexandria in the following sub-sectors:

1. The services sector.
2. The commercial sector.
3. The production sector.

The following Table refers to the number of the private sector companies in Alexandria:

**Table (3)**  
**Number of the private sector companies in Alexandria**

Sector	No. of Companies
The services sector	147
The commercial sector	82
The production sector	382
Total	611

Source: (Directory of private sector companies in Alexandria, 2005-2006).

Table (3) shows that the total number of the private sector companies in Alexandria for the services, commercial, and production sectors is 611 companies, according to the directors of Egyptian companies (2005-2006).

It was also clear from observation methods that the number of managers directly in contact with new entries is about three managers in every company; therefore, the total number of businessmen contact with new entries in the private sector companies in Alexandria is 1833 (3 manager x 611 company) businessman. Therefore, Table (4) shows the total number of the study population.

**Table (4)**  
**Total number of the study population**

Stratum of	No.
Academic staff members	683
"AAST" Alexandria branch graduates.	2649
Businessmen in the private sector in Alexandria.	1833

## 9. The Sample of the Study

It was found that the census method cannot be used in this study due to the large size of the study's population. Therefore, the researchers depended on the sampling method to save time, effort and costs.

The sample that the questionnaire will be applied on was selected based on choosing the least possible error that does not exceed 10%. The sample is collected such that the sample size is proportional to the stratum size which is collected from.

The characteristics of the sample were chosen to reflect the characteristics of the three strata of the study population.

a) Businessmen: were identified as follows:

- The ones who own or work in the private sector in Alexandria.
- The ones who have Academy postgraduates working with them.
- The ones who accepted giving data and information to the researcher.

b) Academic staff members: were identified as follows:

- The one who work in the private education in the colleges mentioned before.
- The ones who apply the private higher education systems at work.
- The ones who deal directly with the academy students.

c) Academy graduates working in the private sector: were identified as follows:

- The ones graduated from any of the three colleges of "AAST" in the last three years.
- Graduates working in the private sector in Alexandria.
- The ones who worked in the private sector immediately after graduation without taking any training.
- The ones who started working in the private sector for no more than three years.

The subject (unit of analysis) that the study applies the questionnaire on is the person (individual) whether a businessman, an academic staff member or an academy's graduate. The sample of the study is a stratified random sample which empirically represents the size and characteristics of the three strata of the study population. Each stratum is considered a simple random sample and this is because of the difficulty of

The data are collected through three different questionnaires:

### *Academic Staff Member Questionnaire*

This questionnaire includes five sections:

Section one includes the demographic characteristics; work, position, number of years spent in work, and educational level.

Section two includes two statements to measure the qualifications of "AAST" graduates and reflects one variable which is the benefits of the higher education to the graduates. Five point Likert scale was used on one statement and the other was an open end question asked about the "AAST" graduates' skills.

Section three includes seventeen statements, which are used to measure six variables, the five variables of them related to the universities themselves, these variables are:

- The policies of the higher education system are measured using four statements.
- The qualifications of the academic staff members are measured using four statements.
- The higher educational techniques and tools are measured using two statements
- The availability of resources and capabilities is measured using one statement.
- The fit between the academic courses and labor market requirements is measured using three statements.

And one variable related to the Egyptian society which is the private higher education perspective in Egypt is measured using three statements. Five point Likert scale is used on all statements.

Section four includes seven statements to measure which technique must be used to solve the problem of failure on the higher education outcomes in Egypt, from the universities and society point of view. Five point Likert scale is used on all statements.



Section five includes six statements, to measure the dependent variable which is the fit (miss-fit) between outcome characteristics of the private higher education and job requirements in the private sector in Egypt. Five point Likert scale is used on all statements.

### ***"AAST" Graduates' Questionnaire***

This Questionnaire includes four sections:

Section one included the demographic characteristics: work, position, number of years spent in work and the educational level.

Section two includes three statements: two statements are used to measure two variables; the benefits of the higher education to the graduates and the fit between the academic courses and labor market requirements. Five point Likert scale is used on this two statements. In addition to, end statement to measure the expectation of the "AAST" graduates from study at the "AAST".

Section three includes three statements to measure the graduate's practical life. Dichotomous scale is used on these statements.

Section four includes six statements to measure the dependent variable. This variable is the fit (miss-fit) between outcome characteristics of the private higher education and job requirements in the private sector in Egypt. Five point Likert scale is used on all statements.

### ***Businessmen Questionnaire***

This questionnaire includes five sections:

Section one includes the demographic characteristics: work, position, number of years spent in work, and the educational level.

Section two includes seventeen statements, which are used to measure six variables, the five variables related to universities themselves. These variables are:

- The policies of the higher education system are measured using four statements.
- The qualifications of the academic staff members are measured using four statements.
- The higher educational techniques and tools are measured using two statements.
- The availability of resources and capabilities is measured using one statement.
- The fit between the academic courses and labor market requirements is measured using three statements.

And one variable related to the Egyptian society that is the private higher education perspective in Egypt is measured using three statements. Five point Likert scale is used on all statements.

Section three includes five statements to measure the aspects of failure in the private higher education outcomes in Egypt. Five point Likert scale is used on all statements.

Section four includes five statements to measure which techniques must be used to face the problem of failure in the private higher education outcomes in Egypt from the business point of view. Five point Likert scale is used on all statements. And at the same time dichotomous scale is used on all statements to know whether businessmen are using these techniques or not.

Section five includes six statements, to measure the dependent variable which is the fit (miss-fit) between outcome characteristics of the private higher education and job requirements in the private sector in Egypt. Five point Likert scale is used on all statements.

## **10. Conclusion and Recommendation**

From this study, the researchers can make sure that there are four main groups of reasons that can be considered causes of the gap between the outcome characteristics of the private higher education and the job requirements in the private sector in Egypt. These main groups are:

1. Reasons related to universities

2. Reasons related to the Egyptian society
3. Reasons related to the "AAST" graduates themselves
4. Reasons related to the businessmen in the private sector in Egypt

After an explanatory analysis, the researchers concluded that the reasons of the gap related the universities are: The Policies of the higher education system, the qualifications of the academic staff members, the higher education techniques, the availability of resources and capabilities, and the fit between the academic courses and the labor market requirements

The reasons related to the businessmen are: effective selection of human resources, preparation and training before practicing the job, supervision during practicing the job, designing and analyzing the job, career planning. The reasons related to the community are measured using one variable which is: The private higher education perspective in Egypt. The reasons related to the students are measured using one variable which is: The graduates' benefits of the higher education

In this study, the questionnaires are designed, data are collected, and the variables are measured. Further researches are needed to statistically test the effect of these variables on the gap.

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### Appendix

#### Questionnaire of the Academics (in Arabic Language)

#### أولاً: البيانات التعريفية

- \* جهة العمل والمستوى الوظيفي :
- |   |                                      |                                |  |                               |                               |
|---|--------------------------------------|--------------------------------|--|-------------------------------|-------------------------------|
| <input type="checkbox"/> كلية الإدارة والتكنولوجيا      | <input type="checkbox"/> أستاذ مساعد | <input type="checkbox"/> أستاذ | <input type="checkbox"/> مدرس مساعد          | <input type="checkbox"/> مدرس | <input type="checkbox"/> معيد |
| <input type="checkbox"/> كلية الهندسة والتكنولوجيا      | <input type="checkbox"/> أستاذ مساعد | <input type="checkbox"/> أستاذ | <input type="checkbox"/> مدرس مساعد          | <input type="checkbox"/> مدرس | <input type="checkbox"/> معيد |
| <input type="checkbox"/> كلية النقل البحري والتكنولوجيا | <input type="checkbox"/> أستاذ مساعد | <input type="checkbox"/> أستاذ | <input type="checkbox"/> مدرس مساعد          | <input type="checkbox"/> مدرس | <input type="checkbox"/> معيد |
| حدد :   |                                      |                                | <input type="checkbox"/> منتدب من جهة خارجية |                               |                               |
| <input type="checkbox"/> أستاذ                          | <input type="checkbox"/> أستاذ مساعد | <input type="checkbox"/> مدرس  | <input type="checkbox"/> مدرس مساعد          | <input type="checkbox"/> معيد | <input type="checkbox"/>      |
- \* عدد السنوات التي قضيتها في هذا المجال :
- من سنة إلى أقل من 5 سنوات
- من 5 سنوات إلى أقل من 10 سنوات
- من 10 سنوات إلى أقل من 15 سنة
- 15 سنة فأكثر
- \* الخلفية العلمية :
- |                                  |                                  |                                |                                      |                          |                          |
|----------------------------------|----------------------------------|--------------------------------|--------------------------------------|--------------------------|--------------------------|
| حدد التخصص :                     |                                  |                                | <input type="checkbox"/> إدارة أعمال |                          |                          |
| <input type="checkbox"/> دكتوراة | <input type="checkbox"/> ماجستير | <input type="checkbox"/> دبلوم | <input type="checkbox"/> بكالوريوس   | <input type="checkbox"/> | <input type="checkbox"/> |
| حدد التخصص :                     |                                  |                                | <input type="checkbox"/> هندسة       |                          |                          |
| <input type="checkbox"/> دكتوراة | <input type="checkbox"/> ماجستير | <input type="checkbox"/> دبلوم | <input type="checkbox"/> بكالوريوس   | <input type="checkbox"/> | <input type="checkbox"/> |
| حدد التخصص :                     |                                  |                                | <input type="checkbox"/> نقل بحري    |                          |                          |
| <input type="checkbox"/> دكتوراة | <input type="checkbox"/> ماجستير | <input type="checkbox"/> دبلوم | <input type="checkbox"/> بكالوريوس   | <input type="checkbox"/> | <input type="checkbox"/> |
| حدد التخصص :                     |                                  |                                | <input type="checkbox"/> أخرى        |                          |                          |
| <input type="checkbox"/> دكتوراة | <input type="checkbox"/> ماجستير | <input type="checkbox"/> دبلوم | <input type="checkbox"/> بكالوريوس   | <input type="checkbox"/> | <input type="checkbox"/> |

ثانياً : آراء رجال التعليم في مخرجات التعليم الجامعي الخاص ( خريجي الأكاديمية)

\* إلى أي مدى يكون خريج الأكاديمية العربية للعلوم والتكنولوجيا مؤهل للحياة العملية من وجهة نظرك ؟

- غير مؤهل تماماً  
 غير مؤهل  
 غير متأكد من مدى تأهله  
 مؤهل  
 مؤهل تماماً

\* ما هي المهارات التي يجب أن يتخرج طالب الأكاديمية العربية للعلوم والتكنولوجيا بها من وجهة نظرك ؟

ثالثاً : أسباب قصور مخرجات التعليم الجامعي الخاص في مصر

\* هناك العديد من الأسباب التي تؤدي إلى قصور مخرجات التعليم الجامعي الخاص في الوفاء بمتطلبات سوق العمل الخاص بمصر والمراد تحديد وجهة نظرك حول الأسباب التي تؤدي إلى هذا القصور وذلك باختيار رقم من "1" إلى "5" أمام كل سبب من الأسباب المدرجة بالجدول التالي، مع العلم بأن رقم "1" يعني لا أوافق تماماً ورقم "5" يعني أوافق تماماً.

الرقم	السبب	لا أوافق تماماً	لا أوافق	غير متأكد	موافق	موافق تماماً
1	قصر مدة التعليم ( عدد سنوات الدراسة )	1	2	3	4	5
2	طريقة القبول في الجامعات المبنية على مجموع الثانوية العامة فقط	1	2	3	4	5
3	طريقة إختيار مجال التخصص، التي تفرض على الطالب (الذي لا يملك الخبرة الكافية التي تمكنه من تحديد ميوله وإكتشاف مهاراته)، الإلتحاق بكلية معينة إعتقاداً على معده في الثانوية العامة وليس على ميوله أو لتلبية إحتياجات المجتمع	1	2	3	4	5
4	تاريخ القبول، حيث يفرض النظام الحالي بالجامعات ضرورة إنتظام خريجي الثانوية العامة بالجامعات في نفس سنة التخرج	1	2	3	4	5
5	إنعزال فكر أعضاء هيئة التدريس عن متطلبات سوق العمل عند وضع المقررات التعليمية التي يقومون بتدريسها	1	2	3	4	5
6	ضعف مستوى تأهيل أعضاء هيئة التدريس، وإفتقارهم إلى القدرة على مواكبة متغيرات وتحديات العصر الحديث	1	2	3	4	5
7	عدم إهتمام أعضاء هيئة التدريس بالنواحي التربوية والإنسانية في تعاملهم مع طلاب الجامعة مما يؤدي إلى ضعف الإتصال بين الأستاذ والطالب وبالتالي إختفاء دور الأستاذ كمثل أعلى	1	2	3	4	5
8	عدم وعى أعضاء هيئة التدريس بدورهم نحو المجتمع	1	2	3	4	5
9	قلّة الإعتماد على الأساليب الحديثة في التدريس وخصوصاً المعتمدة على التكنولوجيا الحديثة	1	2	3	4	5
10	الإعتماد بشكل أساسي على أسلوب المحاضرة في التعليم الجامعي الذي يعتمد على أسلوب التلقين والحفظ، مما لا يتترك فراغاً للطلاب	1	2	3	4	5



لاكتشاف مهاراته وتمييزها أو للإبتكار						
11	5	4	3	2	1	محدودية الإمكانيات المادية المتاحة للتعليم الجامعي الخاص ( الموازنات والدعم المالى المخصص من قبل الدولة ورجال الأعمال )، مما يؤثر سلبياً على مستوى الوسائط التعليمية
12	5	4	3	2	1	عدم مواكبة مناهج التعليم الجامعي لمتطلبات سوق العمل
13	5	4	3	2	1	التركيز على النواحي النظرية في المقررات وإغفال النواحي العملية
14	5	4	3	2	1	عدم تقديم المعلومات التي تحتويها المناهج نظراً لإستخدام مراجع متقدمة
15	5	4	3	2	1	نظرة المجتمع إلى بعض التخصصات على أنها ذات وضع إجتماعى أفضل، مما يؤدي إلى تكالب المتقدمين عليها بدافع الوضع الإجتماعى الأفضل وليس بسبب رغبتهم فى الإلتحاق بها
16	5	4	3	2	1	نظرة المجتمع إلى الجامعات على أنها منارات فكرية للعلم ولا يجب أن تتدنى إلى مستوى تلبية إحتياجات سوق العمل، وذلك حتى تظل للجامعات هيبتها ولأساتذتها مكانتهم الإجتماعية
17	5	4	3	2	1	نظرة المجتمع للبحث العلمى على أنه سر من أسرار الجامعة يجب أن يظل حبيس أسوارها وبالتالي لا يطبق لخدمة المجتمع، مما يؤدي إلى عدم إهتمام خريجي الكليات التطبيقية إلى إختيار مشاريع بحثية يمكن أن يساهم تطبيقها فى خدمة المجتمع

أخـرى :

حدد:

رابعاً : أساليب علاج قصور مخرجات التعليم الجامعي الخاص فى مصر

\* هناك العديد من الأساليب المقترحة لعلاج ومواجهة قصور مخرجات التعليم الجامعي الخاص بمصر، برجاى تحديد درجة موافقتك على الإسلوب المقترح وذلك بإختيار رقم من "1" إلى "5" أمام كل إسلوب من الأساليب المدرجة بالجدول التالى، علماً بأن رقم "1" يعنى لا أوافق تماماً ورقم "5" يعنى أوافق تماماً.

الرقم	السبب	لا أوافق تماماً	لا أوافق	غير متأكد	موافق	موافق تماماً
1	تغيير طريقة القبول فى الجامعات المبنية على مجموع الثانوية العامة فقط	1	2	3	4	5
2	السماح لخريجي الثانوية العامة بالعمل لفترة قبل الإلتحاق بالجامعة، وذلك لإعطائهم فرصة لتحديد ميولهم الحقيقية بشكل عملى	1	2	3	4	5
3	العمل على تحديث المناهج التعليمية بشك دورى ( كل فصل أو كل عام دراسى ) على حسب سرعة تطور مجال الدراسة، حتى تواكب التطور السريع فى إحتياجات سوق العمل ولا يفاجئ الخريجين بأن ما تعلموه قد عفا عليه الزمن	1	2	3	4	5
4	إيجاد قنوات اتصال بين القائمين على التعليم الجامعي ورجال الأعمال للتعرف على متطلبات سوق العمل التى يفتقر إليها الخريجين ومن ثم محاولة توفيرها بالخريجين	1	2	3	4	5

5	4	3	2	1	العمل على أن يتوازن الجانبين النظري والتطبيقي في طريقة التعليم، حيث يمكن تبني سياسة التعليم التعاوني القائمة على قضاء الطلاب لبعض الفترات الدراسية في العمل	5
5	4	3	2	1	العمل على توفير وزيادة الإمكانيات المادية المخصصة للتعليم الجامعي الخاص ( سواء المخصصة من الدولة أو من تبرعات رجال الأعمال )، مما يمكن القائمين على التعليم الجامعي من توفير جميع الوسائط والخدمات التعليمية المساندة، وبالتالي تمكنهم من مواكبة التطورات الحديثة في مجال التعليم الجامعي	6
5	4	3	2	1	العمل على تغيير نظرة المجتمع إلى دور الجامعة، وإلى أهمية البحث العلمي وكذلك تنوع التخصصات لخدمة وتلبية احتياجات المجتمع	7

□ أخرى :

حدد:

خامساً: مدى توافق خصائص مخرجات الأكاديمية العربية للعلوم والتكنولوجيا ومتطلبات العمل بالقطاع الخاص في جمهورية مصر العربية

\* من واقع قيامك خلال عدة سنوات سابقة بالتدريس لعدد من خريجي الأكاديمية على إختلاف مجال تخصصهم ( إدارة - هندسة - نقل بحري )، برجاء تحديد رأيك حول خصائص خريجي الأكاديمية ومدى توافقهم مع متطلبات سوق العمل الخاص بمصر، وذلك باختيار رقم من "1" إلى "5" أمام كل عبارة من العبارات المدرجة بالجدول التالي، علماً بأن رقم "1" يعني لا أوافق تماماً ورقم "5" يعني أوافق تماماً.

الرقم	العبارــــــــــــــــة	لا أوافق تماماً	لا أوافق	غير متأكد	أوافق	أوافق تماماً
5						
1	المهارات التي يكتسبها خريجي الأكاديمية من دراستهم الجامعية تتفق مع المهارات المطلوبة للعمل بالقطاع الخاص بمصر	1	2	3	4	5
2	المعارف التي يكتسبها خريجي الأكاديمية من دراستهم الجامعية تتفق مع المعارف المطلوبة للعمل بالقطاع الخاص بمصر	1	2	3	4	5
3	الخبرات التي يكتسبها خريجي الأكاديمية من دراستهم الجامعية تتفق مع الخبرات المطلوبة للعمل بالقطاع الخاص بمصر	1	2	3	4	5
4	خريجي الأكاديمية يحصلون على وظائف بمجرد تخرجهم	1	2	3	4	5
5	خريجي الأكاديمية لا يحتاجون إلى أي تدريب قبل بدء العمل	1	2	3	4	5
6	الطلب على خريجي الأكاديمية في سوق العمل الخاص في مصر أكبر من المعروض منهم	1	2	3	4	5

□ أي مظاهر توافق آخر ي  
حدد: