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EDUEGYPT: The Egyptian National Initiative for Human Capital Development

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Abstract - **Core academic subjects such as reading, writing, science, math, languages, social studies and arts remain the foundation of a comprehensive education and are more important than ever. However, leaders in education and business agree that the 21st century skills and content in areas such as productivity, teamwork, cultural competence, interactive communication, critical thinking, technology, language and systems thinking are needed to succeed in school, work and life.**

Today's challenging business environment implies that it is no longer sufficient for a new graduate to be a "walking-encyclopedia", stuffed with facts, figures, definitions and formulas but require being a knowledgeable student (learner) who can know how to learn, how to organize information and how to distinguish between important and less important pieces of information.

This paper introduces this problem and how EDUEGYPT pilot program adopt these thinking approaches in the Egyptian universities within allowed timeframe and regulations of universities. The paper describes the methodology that followed at five faculties of Cairo and Ain Shams universities to incorporate these skills. Finally, the paper illustrates the results of this pilot which are represented in having a talent pool of students acquiring new skills beside their academic knowledge ready to cope with a rapidly changing world and labor market needs. Finally, we will discuss the lessons learned and the future work of EDUEgypt program.

Indexterms - **Education-development, Labor Market, Thinking Curriculum.**

I. INTRODUCTION

Increased competition and globalization implies that it is no longer sufficient for a new graduate to have only the academic knowledge, but require new skills such as business and technical writing, personal communication, customer communication skills and presentation skills. According to that global competition and the changing nature of most jobs have made such skills more than a "Nice to Have". These skills become a "Must Have".

However our Egyptian universities remain deeply entrenched in teaching academic knowledge. Students need to be taught how to access, evaluate and synthesize information to cope with a rapidly changing world that we called Thinking Curriculum [1].

Traditional curriculum focuses on helping students to solve academic problems which may be separated from life, however, in a modern society; we should aim to prepare students to become informed citizens capable of making decisions, evaluating, comparing and solving everyday life problems [2].

A thinking curriculum produces students who can relate their learning to important real-life issues; they develop interpersonal competencies for creating and participating in dialogue with individuals who have different perspectives and backgrounds. As a result, a thinking curriculum builds multicultural understanding students. These students will thus be better prepared to participate in not only an increasingly global society but also local society [3].

This is emphasized through "AT Kearney 2007" report and "Skill Gab Analysis (SGA) in ICT Industry". This report suggested teaching those skills at the college level [4].

The problem we addressed here is "how to incorporate or adopt these thinking approaches in the Egyptian universities within allowed timeframe from universities".

This will help the Egyptian government to ensure an adequate educational system that will turn out well-trained graduates and build its market workforce. The Egyptian government needs to accelerate the production of high quality technical graduates (with hard skills and soft skills) to meet the growing global demand [5].

In this context, a cooperation protocol has been signed between the Ministry of Higher Education and Scientific Research and the Ministry of Communications and Information Technology for the introduction of leveraged "Employability" skills program in the higher education stage. The protocol outlines a general framework and an executive plan to conduct undergraduate training on soft skills, language abilities and technical competence.

This paper explores, through an "**EDUEgypt**" case study, how this initiative of capacity building in higher education sector in Egypt bridges the gap between the potential market demand and supplied talent pools.

The presented paper hypothesized that learning global workplace skills, industry knowledge and functional-knowledge leads to increase employability rates among university graduates. We will explore the increased need for those skills.

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II. METHODOLOGY

The objective was securing a continuous pool of graduates, adapted to contemporary market needs, ready to cope with a rapidly changing world by acquiring thinking skills.

The idea was to start the pilot program to meet the industry expectations of the market growing needs through the academic years. The pilot program was applied on the final year of selected faculties in order to defuse the program after that all over other years.

The core of the idea is designing a new curriculum as an optional topics or parallel subjects and making feasible changes within the current state of timeframe and university regulations.

The Education Development for Universities in Egypt Program (EDUEgypt) phase I was applied on a variety of specializations from different faculties to meet the demand of IT services including BPO and ITO. Therefore we addressed two categories; I) students of Non IT background represented in Commerce and Political Science faculties and II) students of IT background represented in Computers and Information faculties from both Cairo and Ain Shams universities.

In the following table Table 1 shows the distribution of faculties and the target number of students in the program from each faculty (Total Target Numbers was 3034).

Table1

University	Faculty	No. of students
Cairo	Commerce	948
	Computers and Information	317
	Economics and Political Science	364
Ain shams	Commerce	914
	Computers and Information	262
Total		**2805**

We designed the program in coordination with industry to ensure that the outcomes will meet industry expectations. The industry was an active partner during the design of the training program before starting in universities. During the training program through the academic year and till the closure of the program phase I.

In this context The EDUEgypt workshop "A Workforce Ready for the Industry" findings helped us to specify "Training Needs". The important outcome of this workshop was the development of a coherent vision for the training program curriculum and participated in fine-tuning of the curriculum design which resulted in prioritizing the interpersonal skills as shown in the figure 1.

The workshop participants list included 15 of the leading companies like i) Vodafone and Etisalat from mobile carriers sector. ii) Exceed, Raya, ECCO, Teleperformance and Orange from call centers and iii) Wipro, Satyam, HP, Microsoft, ITS and ITSoft from ITO services sector.

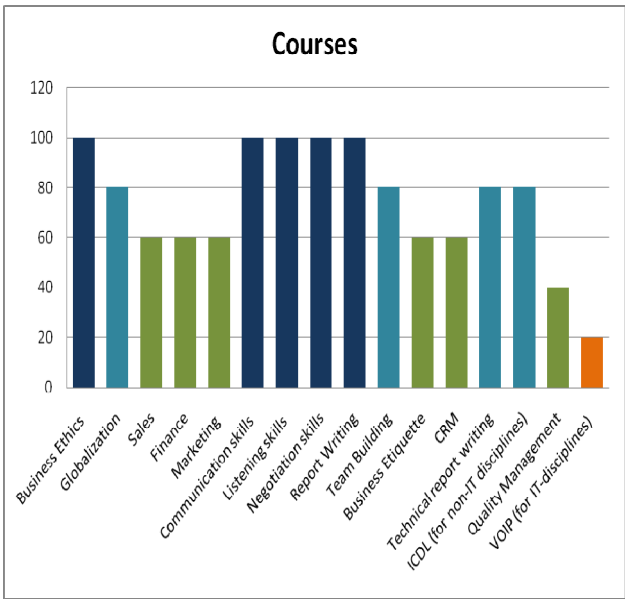

Fig. 1.

EDUEgypt Program phase I was conducted for universities' fourth year students during the second term of the academic year 2007-2008 and summer training activities by offering interpersonal and linguistic skills.

The program is divided into two categories:

- IT Background:
  - (Covered: Soft Skills 48 hours, English 180 hours and ERP 60 hours).
- Non-IT Background:
  - (Covered: Soft Skills 48 hours and English 180 hours).

The following figure (Fig. 2.) illustrates the time line and activities of the program phase I for both categories:

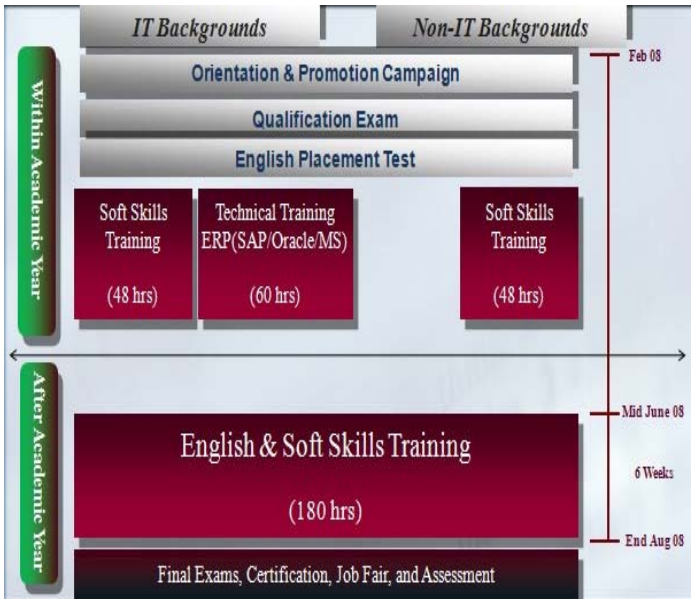

Fig. 2.

ITI designed the training courses following active and passive ways of learning:

- Active ways of learning such as:
  - Using initiative, Doing, Exploring and Testing.
- Passive ways of learning such as:
  - Observing, Questioning, Interpreting and Reviewing.

The designed training program maintained a high balance between the theoretical and practical aspects through the conducted games, role playing and case studies.

ITI followed a methodology in structuring the training courses that reinforces thinking skills through the delivered courses:

- Presentation skills.
- Communication skills.
- Time and stress management.

ITI in coordination with local training providers designed an evaluation tool for each course that tests the acquisition of the following skills as follows:

- Effective Communication.
- Effective Presentation.
- Time Management through their ability to set goals, arrange priorities and develop an action plan.

III. Results

The transcripts could document the pre- and post-assessment scores. However, the real test of soft skills mastery is how well the students will have applied their new skills in achieving results in their extra-curricular activities and in their personal lives.

The percentage of students attendance exceeded 82% during the academic year and reached 75% during the summer vacation whereas these courses are optional topics expressed the percentages of success of the program. It shows students realizing the importance of interpersonal and linguistic skills in their future career.

In the terms of learning outcomes:
Students showed the following behaviors towards the start and the end of the courses: as shown in Table 2.

Table 2.

At the start of the program	By the end of the program
• They interrupted a lot.	• They were able to see the through other people's arguments. • They could show degrees of active listening.
• Fought aggressively for their ideas and did not show a sign of active listening.	• They were able to develop their thinking to defend their own arguments.
• Resistance to new ideas.	• Could evaluate alternatives and choose the best one.
• They could not develop their own personal visions.	• Could prioritize tasks and activities and put in an effort into their interests and personal activities. • Could develop a plan for their careers.

In the terms of Employability:

The partners from industry offered more than 1750 job opportunities for the graduates of EDUEgypt program phase I. The number of job opportunities indicates that the students who took the training will have more chances for joining the market and meet its need from the students who didn't take the program.

In the light of the above results, we suggest the following recommendations:

- First, we have found that there is a need for the interpersonal and linguistic skills and this need will grow over the future.
- For all educational institutions:
  - The interpersonal and linguistic skills should not be taught as separated courses but incorporated part of all regular subjects.
  - EDUEgypt program Phase1 should be generalized to:
    - Include students from first year not only the last year.
    - Defuse the course on the whole year schedule not the second academic year only.
  - Providing a positive classroom climate for effective training (the number of labs – air conditioning – PCs – head phones – opening dialogues with students (two way relationships) – the numbers of students in classrooms).
- For the trainers or educational staff: they should become more involving in teaching those skills to sustain the training process.
- For partner companies: create partnerships with educational institutions that participate in the program to meet the supply with the demand.

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