Chapter 3
Leveraging Existing Knowledge to Match Industry Expectations: The Case of Professional Experience

Ilana Lavy
Yezreel Valley College, Israel

ABSTRACT

During the last four years, information systems graduates participated in a practicum project during their last study year and took part in various professional activities in the industry in accordance with their professional aspirations and their desired specialty. The main purpose of this project was to reduce the gap between the graduates' acquired academic knowledge and the industry expectations. The aim of this chapter was to reveal the graduates' perceived contributions of the project. For that matter, semi-structured questionnaires and interviews with graduates who participated in the project in the last four years were conducted. The graduates experienced real workplace environments, acquired extended knowledge and skills, built social infrastructure to assist them with future job seeking, and above all gained real-world experience that helps them to build their professional image, and gain confidence in their traits and abilities. In addition, the practicum-based approach was compared with other common approaches used to bridge the gap, and its relative advantages and disadvantages were discussed.

INTRODUCTION

During their academic studies, undergraduate Information Systems (IS) students learn many topics and practice them through various assignments. In most cases, the practice of these topics is confined to the specified learnt subject and the students do not usually get an opportunity to gain overall implementation of a complete information system.

Most employers recruiting IS workers require previous experience as a mandatory requirement (Trauth, et al., 1993; Hunter, 1994). Employers prefer to invest minimal efforts in the training process of new workers and therefore favour experienced workers over novices. However, IS graduates do not

DOI: 10.4018/978-1-7998-0238-9.ch003

usually possess such experience, and as a result, many of them encounter difficulties to find their first job (Radermacher & Walia, 2013; Begel & Simon, 2008).

Clear et al. (2011) suggested a model, which describes various levels of integration of industry experience into academic studies. "Pre-cooperative education" refers to the analysis of case studies taken from the industry in class, "halfway houses" refers to a project performed during studies according to real world industry requirements and timetable, and "full cooperative education" refers to assignment of students to work in mini projects in the industry itself.

To bridge employers' expectations with actual knowledge of IS graduates, IS programs include a final project (Topi et al., 2010) in which the students design and implement a complete information system. The project requires the integration of knowledge the students gained during their studies into the design and the implementation of the information system. In addition, it enables them to enhance their technical and non-technical (soft) skills. The final project includes an amalgamation of variety of professional issues (e.g., user interface design, database programming, business rules programming, network issues, etc.) and is supervised by one of the teaching staff who monitors and evaluates the students' progress. The final project suits the definition of the "halfway house" integration level of Clear et al. (2011).

Despite the obvious advantages of the project, it has some weaknesses as regards to the students' preparation for vocational career. The students' final project does not necessarily have real industry client and even if it does, the development process is usually done outside the client's organization. Moreover, the infrastructure the students use to develop the project is usually decided by them and as a result they prefer to use technologies they are acquainted with from their studies and do not challenge themselves by using new technologies that are common in the industry.

Developing a system which is not based on real client's requirements may cause the following: (1) instead of developing a system to address the client's needs, the students develop a system based on theoretical knowledge solely, and as a result they are not engaged in real world practice. (2) In the absence of client's requirements and its feedback, the students tend to develop a system according to their abilities and do not invest the efforts needed to elevate the system to be effective and useful. (3) The students lack the opportunity to develop communication skills with the client and the potential users of the developed system.

Developing system outside the client's organization may cause the following: (1) the students are not experiencing working under tight schedule typical to the IS field. (2) The students do not experience well-defined rigorous working plan monitored by experienced manager who can provide them with professional feedback. (3) The students are not exposed to work routines and procedures accustomed in the field and hence do not gather real experience.

Developing systems using technologies decided by the students rather than the clients may cause the following: (1) the students are not motivated to learn additional technologies common in the industry since usually there are no client requirements regarding technology. (2) During their academic studies students use basic tools and learn fundamental principles, however, extensions and concepts that are more advanced are not always addressed. Using mainly these basic tools does not properly prepare the students for vocational career.

To address the issue of reducing the gap between industry expectations and graduate actual knowledge, in addition to the final project, a practicum project in which students are provided with the opportunity to experience working in a real company as an apprentice one day a week was initiated. In this paper, the impact of participation in the practicum project on the students' self-perception regarding their readiness towards professional career and regarding their professional maturity was explored.