

# CHANGING BOUNDARIES IN ISRAELI HIGHER EDUCATION

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**Abstract** - *This paper analyses the main changes that took place in the Israeli higher education system in the last decades, and accounts for the reconstruction of its external and internal boundaries. It also provides a conceptual framework for comparing national higher education systems from a comparative perspective. The paper examines the developments that characterise the restructuring of the Israeli higher education from an international comparative outlook, and relates to the following parameters: (a) expansion in size; (b) diversification of the higher education institutions; (c) the emergence of new academic fields of study; (d) the upgrade of many professions and occupations to an academic status; (e) the redefinition of graduate degrees; (f) the impact of the new information technologies on shaping academic environments; and (g) the influence of the globalisation and internationalisation trends on the development of national higher education systems.*

## Introduction

**H**igher education systems have both external and internal boundaries. The external boundaries define the kind of institutions that consist part of each higher education system, and thus influence greatly the size of the system. In the USA, for example, most tertiary level institutions, including the two-year colleges, are considered as an integral part of the American higher education system. The same is also the case in Canada and in Australia. In many other countries, including Israel, only institutions that grant academic degrees (from bachelor degrees on) are defined as part of the higher education system. All other post-secondary establishments, such as teacher training colleges, professional schools for practical engineers, many para-medical institutions, Yeshivas (religious higher learning institutions for Judaic studies), operate outside the higher education boundaries. The definition of external boundaries is not merely an arbitrary one. It reflects the underlying assumptions as to what constitutes a university or another type of a higher education institute. The accreditation procedures between institutions are heavily influenced by the legal and official status of each institution. Given the fact that the two-year colleges in the USA are an integral part of the higher education system, it follows quite naturally that there are special

arrangements and contracts that enable their graduates to enter universities, and get an academic accreditation for their previous learning. In California, for instance, the Higher Education Plan enables a percentage of able graduates of two-year colleges to continue their third year studies at a university, even at prestigious universities, such as the University of California at Berkeley (Rothblatt, 1992). Such an arrangement is unthinkable in the context of the Israeli academia.

There are also internal boundaries which have an impact on the definition of the status of various types of higher education institutions, the relations between what is considered as undergraduate versus graduate studies, the prestige of different disciplinary areas and fields of study, the status of professional schools within and outside universities, etc. In some systems there are clear-cut boundaries between universities and the non-university sector, as compared to other systems in which these boundaries are quite blurred. There are systems in which most academic professional schools, such as law, medicine, engineering, business administration, are integrated into a comprehensive university structure, whereas in other countries most professional training is conducted in schools, institutes and academies outside the classical universities. In some systems all higher education institutions are entitled to grant all types of academic degrees from bachelor to doctoral levels, as compared to countries which limit the non-university institutions to award only first degrees. There are systems in which the private institutions are most respectable and influential, while in other systems the private sector is either non-existent or peripheral to the mainstream universities. And the nature of 'first' and 'advanced' degrees varies greatly in different national contexts.

Throughout their long history, universities in various locations have changed gradually, some even drastically, adapting themselves to new societal conditions and demands. The changes that took place in the last century were the most impressive ones. The dominant élitist nature of most universities throughout the world moved towards a mass-orientated approach (Trow, 1974). Many reasons account for the change of both the external and internal boundaries in higher education systems in the last three decades: a greater demand for higher education and a huge increase of students; the creation of new types of higher education institutions and the diversification of the systems; the development of new fields of study, mainly in the social sciences; the upgrade of many professions and occupations to an academic status; market demands; the emergence of new social ideals, such as the life-long learning philosophy; the growing impact of the new information technologies on all spheres of life; influential trends of globalisation and internationalisation.

Israel has a relatively 'young' higher education system, as compared to the nearly 900 years of history of the first medieval universities in Italy, France and

England. Its first higher education institutions were established in the 1920s, a quarter of a century before the foundation of the state of Israel. Both the Technion in Haifa (which was established in 1924) and the Hebrew University in Jerusalem (which was established in 1925), were shaped on the basis of the German Humboldtian university ideal of unity of research and teaching (Ben-David, 1986; Guri-Rosenblit, 1993, 1996). The other five university-level institutions (the Weizmann Institute, Tel-Aviv University, Bar-Ilan University, Haifa University, Ben-Gurion University) that were established between 1934 and 1965 tended to follow the model of the two veteran institutions. The research orientation features very highly in the Israeli universities. Until the mid-1970s the Israeli higher education system was quite homogeneous in its nature and its underlying operating characteristics. In 1974 the Open University of Israel was established, which by its very nature differs from the comprehensive research universities. It has been based on the model of the British Open University, and adopted an open admission policy enabling anyone to register for academic studies without any entry requirements. In the same year of 1974, a first non-university institute was authorised to grant academic degrees, the Rubin Academy of Music and Dance in Jerusalem. Since then, the Israeli higher education system has been confronted by many challenges and has changed drastically both in its size and composition (Gottlieb and Chen, 1995; Guri-Rosenblit, 1993, 1996; Svirsky and Svirsky, 1997). The last decade, in particular, was characterised by a rapid pace of change that has shaken the relatively stable and conservative foundations of the Israeli higher education. The changes were reflected by: a tremendous growth in the percentage of the relevant age cohorts participating in higher education; a fast expanding non-university sector; the initiation of private institutions; the 'import' of many extensions of foreign universities; and significant changes of some internal boundaries within universities, relating to academic curricula, the nature of graduate degrees, accreditation procedures, collaborative ventures and the integration of new technologies. This paper analyses the main changes that took place in Israeli higher education in the last decades, and have altered its external and internal boundaries.

## **Expansion**

The Israeli higher education system has expanded immensely since the establishment of the State of Israel both in its absolute and its relative size. In 1948 about 1,635 students were enrolled at the Hebrew University and the Technion (Herskovic, 1992), and they constituted less than 3% of the relevant age cohort (21-24 in Israeli statistics), as compared to 163,725 students studying in higher

education institutions in 1997 (Herskovic, 1997; Mendelzweig, 1998) that constituted nearly 30% of an average age cohort. If we add to these numbers students in tertiary level institutions that do not grant academic degrees, the percentage of the age cohort participating in post-secondary institutions rises to 56.6% (*ibid.*).

The expansion of the external boundaries of the Israeli higher education system was influenced by five major trends: immigration; a significant increase of the number of matriculants in high schools; the upgrade of several tertiary level institutions to an academic status; a consistent growing demand for higher education; and the initiation of new types of higher education institutions.

Israel by its very nature is an immigration society, serving as a melting pot for a most heterogeneous and diverse population, originating from dozens of countries and plural cultures. When the State of Israel was established in 1948 its total population was around 800,00 - four-fifths were Jews, and one fifth were Arabs of Muslim, Christian and Druze religions (Mazawi, 1994). In its first decade of existence its population nearly tripled. Its population in 1999 counted 6.1 million inhabitants, of which 79% were Jews, and 21% non-Jews (mainly Arabs) (Central Bureau of Statistics, 1999). Each wave of immigration expanded the society, and the number of students in higher education. Some immigrations, like that of the previous Soviet Union Jewry, since the early 1990s, imported to Israel a highly-educated human capital, among which 40% of the working manpower were academics (Guri-Rosenblit, 1993). The participation rate of 'dominant' and 'subordinate' social groups in Israeli higher education is dealt with further on.

The primary source of undergraduate students in Israeli higher education institutions are graduates of high schools, holding a 'Bagrut' diploma, which is the Israeli matriculation certificate, equivalent to the German 'Abitur' or French 'Baccalauréat'. Until the late 1960s the Israeli high school system was highly selective, enrolling around 30% of the 15-18 age group and granting the 'Bagrut' to less than 17% of the 18-year-olds (Maagan, 1999). Since the early 1970s, secondary education became more accessible, and composed of a large heterogeneous student body. In 1997 nearly 80% of the 17-year-olds studied in twelfth grade classes (the last grade of the high school), and 41% of this relevant age group got the 'Bagrut' certificate (*ibid.*). The absolute number of the matriculants increased in the last decade by over 95%, from approximately 23,000 in 1984/5 to 45,000 in 1995/6 (Herskovic, 1992, 1997).

The upgrade of some tertiary level institutions to an academic status, entitling them to grant first degrees, constituted an additional important factor in the expansion of the external boundaries of the Israeli higher education system. The non-university sector expanded most dramatically mainly in the last decade. In 1982 only 2,027 students studied in the non-university sector; in 1985 their

number rose to 2,881; in 1995 - to 19,402, and they amounted to 41,108 in 1997/8 (Central Bureau of Statistics, 1998). Most of the non-university sector institutions are former training and vocational colleges. Since the 1980s many of the teacher training colleges were authorised to grant a B.Ed degree. In 1997/8 - 17,735 students studied in teacher training colleges that were upgraded to a status of academic institutions, as compared to 8,141 students in non-academic teacher training colleges (Central Bureau of Statistics, 1998). Some other institutions that were upgraded to an academic status include practical engineering colleges, nursing and para-medical schools, art design institutes, business and administration training schools. A more detailed portrayal of the non-university sector is provided further on.

The demand for higher education in Israel, as in many other places around the globe, is in a consistent growth. Many non-traditional groups of applicants, other than high school graduates, are willing to pursue higher education studies nowadays. University studies are not considered anymore as the privilege of the élite sectors. The Open University of Israel, for example, was initiated in 1974 to provide an opportunity for willing and able adults, lacking the 'Bagrut' diploma, or the appropriate conditions to study at a conventional university, to pursue academic studies wherever they live and at their own convenient pace. The open admission policy however is combined with stringent quality control mechanisms in the study process and high level graduation requirements. In 1997/8 it enrolled around 32,000 (President's Report, 1998). Its students are by and large older than the traditional age cohorts entering conventional universities (21-24 in Israel, due to the three-year military service). Older students are also entering traditional campus universities aiming to achieve various goals: to study for graduate degrees, enrich their knowledge in fields other than their working expertise, get professional upgrade or refresher courses through short postgraduate diplomas, and just study to improve themselves. It is not only the older bracket of students that constitute new recruits to the university; younger students are doing so as well, taking up concurrent studies at a high school and at a university. Over 1,500 high school students were enrolled at the Open University in 1997/8 (President's Report, 1998), and also some other institutions, such as the Technion in Haifa, the Weizmann Institute in Rehovot, and Tel Aviv University offer special tracks of study for high school students.

The emergence of new types of higher education institutions, mainly private colleges from the mid-1980s, introduced into the Israeli higher education system a growing element of competition, and account as well for the broadening of its external boundaries. Some of the new institutions were initiated by internal groups of academics and financial entrepreneurs, and some were imported as extensions of mainly British and American universities. The extensions are not considered

today as part of the Israeli higher education system. A recent decision of the Israeli Government from October 1999 suggested to limit the degrees of freedom of the nearly 50 extensions, and authorise their operation only under the guidelines of the Israeli Higher Education Council, as applied to Israeli higher education institutes (Haaretz, 1999). The leaders of these extensions, as well as some Israeli interest groups, declared that they are determined to fight against this decision. At the end of this struggle, it will be decided to what extent the foreign extensions constitute an integral part of the Israeli higher education system.

While relating to the expansion of the Israeli higher education system, it is important to examine the gaps between the representation of various social groups pursuing academic studies. The data of the Central Bureau of Statistics and the Council for Higher Education refer traditionally to three distinct groups distinguished by demographic characteristics of sex, continent of origin and religion. Detailed demographic information on the continent of origin exists only for the universities, and is available only up to 1993/94 (Herskovic, 1997). It was decided to discontinue the collection and publication of such data, on the grounds of possible social discrimination.

Women are currently represented in the student population of higher education institutions above their share in the total population (which was 51% in 1997). Women constituted 43.3% of the total student body in 1970. Their percentage grew to 46.2% in 1980; 50.8% in 1990 and 56.3% in 1997 (Central Bureau of Statistics, 1998). The percentage of female students rose at all degree levels in the last decades. In 1997/8 they constituted 56% of the first degree graduates, 57.2% of master degree students (as compared to 26.1% in 1970), and 49.2% of doctoral students (as compared to 19.3% in 1970) (Herskovic, 1997; Central Bureau of Statistics, 1999). Also, the percentage of the female Arab students among Arab students in Israeli higher education grew from 10.3% in 1967/8 to 20.2% in 1976/6, and to 36.4% in 1989/90 (Mazawi, 1995).

The proportion of Jewish students of African/Asian origin in high school and in higher education has been throughout the years lower than their percentage in Israeli society. However, over the last two decades there has been a recognisable improvement in the proportion of students of African/Asian origin among matriculants relative to their proportion in the 18-year-olds population, and among students at universities and other higher education institutions. In 1986/7 the students of African/Asian origin constituted 53% of the total population of the 18-year-olds cohort, but just 36.8% of the high school matriculats (Herskovic, 1997). Only 28.3% of the 18-year-olds in this social group got a matriculation certificate in 1986/7, as compared to 58.8% in the group of the 18-year-olds of Israeli origin (whose father was born in Israel); and 51.1% in the group of European-American origin (*ibid*). In 1995/6 the percentage of the matriculants among students of 18-

year-olds of African/Asian origin grew to 33.1%, as compared 50.6% of students of Israeli origin and 46.7% of students of European/American origin. In addition, it is important to mention that the relative size of these three ethnographic groups is changing constantly, as more students join the group of those whose father was born in Israel. Furthermore, immigration from African/Asian countries slowed down significantly in the last decades, as compared to a huge wave of immigration from the former Soviet Union in the early 1990s. In the universities, the proportion of the students of African/Asian origin in the total student population rose from 21.3% in 1980/1 to 26.1% in 1993/4 (Herskovic, 1992,1997). As was mentioned earlier, information on the distribution of students according to countries of origin is not available anymore.

The non-Jewish population is composed mainly of Muslim, Christian and Druze Arabs. There are significant inequalities in high school graduation and in university enrollment rates between Arabs and Jews, as well as between the different religious groups within the Arab population. In 1985, only 14.9% of the non-Jewish 18-year-olds obtained a 'Bagrut' certificate, and in 1995 their percentage rose to 18.3% (Herskovic, 1997), as compared to 31.1% and 40.3% respectively in the Jewish population. The situation in higher education is even grimmer. In the mid-1960s Arab students constituted just 1.3% of the total student body in Israeli universities, and their proportion grew to 5.8% in 1989/90. However, these figures portray a distorted picture, since they do not include students who studied and study outside Israel, either in Arab universities in the West Bank, Jordan and other Arab countries, as well as in Eastern and Western Europe and in the USA. Mazawi highlighted the fact that significant differences exist in the participation rates of Muslims, Christians and Druzes (Mazawi, 1995). In 1986, for instance, 5.7% of the male Christians in the 25-29-year-olds group were enrolled at Israeli universities, as compared to 3.8% of Muslims and 2.5% of Druzes.

## **Diversification**

The diversification of higher education systems all over the world is a natural outcome of massification trends. The continuous and tremendous increase in the number of students entering higher education constitutes the most noticeable development in many higher education systems since the 1960s. The massification of higher education systems first took place in developed countries, and since the early 1980s it also characterises the development of most higher education systems in the developing world; and is clearly reflected in most Mediterranean states. Many more students means also different types of students.

Not only is it impossible to provide élite-type education on a mass basis due to financial constraints, it is also inappropriate to offer a restricted and confined model of higher education to heterogeneous clienteles, characterised by diverse demands and abilities. The proliferation of new types of universities, colleges, academies, higher schools, and other types of higher education institutions occurred in direct response to the growing numbers and growing heterogeneity of student populations in many countries around the globe.

The diversification of the Israeli higher education system started slowly in the mid-1970s, and constituted a sharp break with the prevalent and dominant academic culture. Unlike countries that have had diverse higher education institutions from their very start, the Israeli higher education system was composed of only research oriented universities and institutes, and adopted piously the German research university idea more than any other country in the world, including Germany itself (Ben-David, 1986). No other model of university or college, such as a collegiate university, a federal university, liberal arts colleges, developed in Israel for fifty years. The supremacy of research dominates the academic culture of Israeli universities to this date. Israeli universities account for almost all basic research done in Israel. In addition to their basic research activities, the universities supply R&D services to various sectors of the economy, such as industry, agriculture, education, defense, and construction. Articles in refereed scientific journals provide an important channel for both the exchange of scientific work with colleagues all over the world and for academic promotion. All other types of higher education institutes in Israel are looked down as somehow inferior in status, and have to justify their academic credibility and respectability on the basis of the yardstick of academic standards defined and guarded by the research universities.

The university sector is composed of eight institutes: five comprehensive research universities; the Technion (Israel Institute of Technology) that resembles the model of a German 'technical university', and offers tracks of study in engineering, natural and physical sciences, mathematics and computer science, and in medicine; the Weizmann Institute of Sciences, which is by and large a research institute, teaches only towards graduate M.Sc and Ph.D degrees; and the Open University of Israel that in many respects is considered as a 'stepchild' in the university sector by the veteran research institutions. Most of the first degree students in Israel study at the universities. In 1997, the total number of first degree students accounted to 100,715 (not including the 28,500 Open University students). Around 64% of the first degree students were enrolled at the universities and the Technion (Mendelzweig, 1998).

The non-university sector is much more diverse in its texture as compared to the university sector, and was composed in 1997 of fifty institutions of at least six



different types: (1) specialised professional colleges which confer specific first degrees in music, arts, agriculture, technology, textile and fashion, law, optics, insurance, business administration; (2) teacher training colleges which grant B.Ed or B.Ed.Tech degrees; (3) technological colleges which award B.Tech degrees to practical engineers; (4) private general colleges and academic centers that focus mainly on highly demanded fields of study, such as - business administration, law, computer science, accounting, etc.; (5) full-fledged regional colleges that offer general studies in a wide array of subjects; (6) regional colleges that operate under the auspices of the research universities (students study there for the first two years and the third year is completed at the 'mother' university).

As was mentioned earlier, the immense expansion of the non-university sector took place in the last decade. In 1985/6 only 11.6% out of the undergraduates studied at colleges and other non-university academic institutions, as compared to nearly over 36% in 1997 (Herskovic, 1997; Mendelzweig, 1998). Between 1986 to 1997, the average annual growth of students in the non-university sector was 16.1% as compared to 4.2% at the university sector (*ibid.*). The forecast of the Council for Higher Education projects that in the next decade, first degree students will be evenly distributed between the universities and the non-university sector.

Furthermore, it is important to emphasise that the figures cited neither include thousands of students enrolled at extensions of foreign universities, nor students in post-secondary institutions that do not award academic degrees. The students in Yeshivas, which are religious higher learning institutions for Judaic studies, are not included in the statistics of the Council for Higher Education of post-secondary institutions, whereas in some other countries, including several Mediterranean ones, comparable institutions are considered as part of the higher education system, and some are even entitled as universities (*vide* Sultana, 1999 – in this issue):

### **New academic fields of study**

For centuries teaching at most universities over the world was mainly based on the delivery of discipline-directed learning as a way of inducing students into the accumulated knowledge in sciences and humanities. However, there is no resemblance left between the academic curricula of the medieval universities, either based on *Septem Artes Liberales* subjects or on professional training in law, theology and medicine, and current academic programmes and tracks of study at modern universities. Not only have the traditional disciplines of humanities and sciences changed, but also many new fields of study gradually penetrated into the universities' curricula.

In the last century two distinct shifts characterise the change of internal boundaries between academic fields of study at universities and other higher education institutions: the emergence of social science disciplines as leading and highly demanded fields of study in many higher education systems all over the world; and the growing importance and respectability of professional schools (such as - medicine, engineering, computer science, business administration) in academia. Clearly, the emergence of new fields of study and the strengthening of status of professional schools, change the internal boundaries both within higher education institutions and between different higher education establishments.

Information on curricular emphases and the nature of academic degrees and diplomas in various national settings is quite scarce and is rarely provided in macro-level portrayals of national higher education systems. But differences between academic curricula, and academic tracks of study in various states do exist, and sometimes the differences are vast. What is considered as a mainstream academic curriculum in one context, can be totally peripheral in another one. Study programmes, study requirements, length of studies of various degrees vary greatly between countries, between institutions, and within institutions. The academic curriculum of any given university or other type of higher education institution can be strongly research-oriented or directed towards vocational or professional training; programmes can be based on disciplinary lines or on inter- and trans-disciplinary principles, they can be short (of a two-year duration) and very long (last for five to eight years), etc.

One of the most conspicuous phenomenon in the Israeli higher education in the last decade relates to the growing demand of social science subjects, as compared to humanities and sciences. Table 1 presents the number of candidates per enrolled student in selected subjects between 1991-1996.

Table 1 shows clearly that the number of applicants to universities in the 1990s remained quite stable (around 30 thousands per year), and so is the average enrollment ratio. Approximately one out of two applicants to universities were admitted. But there are immense differences between the demand patterns for various disciplines and subjects of study. The most unbalanced demand took place in 1993. Only one out of 8.1 applicants was admitted to business administration, as compared to a ratio of 1:1.5 in history, and 1:1.8 in mathematics. Since universities are free to safeguard the relative size of each department and faculty, they have not responded to the growing demand for social science subjects and law by expanding the size of these departments. On the contrary, they have posed different and higher entry requirements in the highly demanded fields of study, not necessarily justified on the basis of the intellectual demands in the relevant fields, in order to keep the existing balance between the different faculties, i.e. - they refused to change the internal disciplinary boundaries within the universities.

**TABLE 1: Candidates for Undergraduate Studies per Student in Selected Subjects: 1991-1996\***

|                  | <b>1991</b><br>n=25,985 | <b>1993</b><br>n=29,495 | <b>1995</b><br>n=32,112 | <b>1996</b><br>n=32,421 |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Business Admin.  | 4.5                     | 8.1                     | 5.4                     | 4.7                     |
| Economics        | 2.2                     | 2.6                     | 2.2                     | 2.0                     |
| Accounting       | 2.6                     | 3.4                     | 2.8                     | 2.7                     |
| Law              | 3.8                     | 4.9                     | 2.7                     | 2.4                     |
| Computer Science | 1.8                     | 2.0                     | 2.1                     | 2.2                     |
| Psychology       | 2.6                     | 2.6                     | 2.4                     | 2.2                     |
| Education        | 2.1                     | 2.3                     | 1.8                     | 1.9                     |
| History          | 1.6                     | 1.5                     | 1.5                     | 1.6                     |
| Mathematics      | 1.6                     | 1.8                     | 1.8                     | 1.9                     |
| <b>Total</b>     | <b>2.1</b>              | <b>2.4</b>              | <b>2.0</b>              | <b>1.9</b>              |

\* Based on Herskovic, 1997, Table 2.10

The fact that since 1995 the relative number of applicants to universities in the popular fields decreased is a result of the initiation of several private colleges that identified the growing demand and the reluctance of the universities to respond to it, and offered tracks of study exactly in these fields of growing popularity. Most of the new colleges, as well as the international extensions, offer studies in business administration, marketing, communication, education, law and computer sciences. This development shows clearly how the emergence of new academic fields can alter both the external boundaries (by adding more and different types of students), and the internal boundaries of a higher education system (by the emergence of new types of higher education institutions, and by the gradual change of status of various departments and faculties within universities).

### **Upgrade of professions**

The training of many professions and occupations, that for centuries was conducted in schools and institutes outside the academic world, was upgraded in the last decades to an academic status in many national settings. Some of the training institutions got an autonomous academic standing, and many others have been merged into comprehensive universities. In addition, one of the dominant

trends in the last decade has been the growing linkage between the promotion ladders in a rich variety of occupations and academic credentials, be it full undergraduate or graduate degrees, or short diploma studies. Salary increases and various professional bonuses are rewarded today on the basis of academic diplomas. As a result, many students all around the world are willing to study at universities and colleges for professional upgrade purposes.

One of the consequences of such a development was the initiation of many professional study tracks, targeted for student clienteles, that already possess a first degree, but are re-entering the universities in order to refresh and upgrade their professional knowledge, or alternatively in order to get a diploma that entitles them for financial rewards at their working places. The proportion of postgraduate students studying in short diploma courses or aiming at getting a professional master degree, is growing steadily in many higher education systems. This development changes the internal balance between the percentage of undergraduate versus graduate students, and between the number of students studying for a degree, and those enrolled in a variety of postgraduate short diploma study tracks.

As presented earlier, many tertiary level professional schools in Israel were accredited since the 1970s as academic institutions, entitled to award first degrees. The 41,108 students that were enrolled in non-university institutions for higher education in 1997 were distributed between the following professional fields: 17,736 were studying in teacher training colleges; 6,231 in technology colleges; 6,134 in economic and business administration fields; 2,501 in arts design and architecture; 3,808 in law; 1,236 in communication; and 3,463 in social sciences (Central Bureau of Statistics, 1998). Nursing and para-medical schools are not included in these statistics, since their academic upgrade was performed through a collaborative venture with the universities. The professional and clinical training is performed at the professional schools, and the theoretic studies are conducted at nursing departments in three universities.

The growing demand for postgraduate professional studies has significantly increased the proportional number of master degree students in Israeli universities, and prompted the establishment of the international extensions, as is explained in detail in the next topic, dealing with the redefinition of graduate degrees in Israel. The highly demanded fields at master level studies in the extensions are education and business administration. Teachers, police and army officers, nurses, and many more employees, mainly in the public sector, are getting generous rewards on the completion of their academic studies. The recent government's decision, from October 1999, purporting to limit the operation of the international extensions, has very little to do with trying to preserve academic quality, and was prompted in an attempt to cut prospective high expenses on

rewarding thousands of employees, that are currently enrolled in these extensions. The government's intervention provides an illuminating example of the current close links between higher education, the labour market and the state, and the constant shifting balance between these actors.

## **Redefinition of graduate degrees**

Degree and diploma requirements in different countries show great variety and variation. Even specific terms, such as a 'first degree' or 'diploma', have different meanings in different national settings (Jablonka-Skinder and Teichler, 1992). To complete a first two-year cycle in a French University differs significantly from a four-year first degree in the USA, and the long first degree of five-year duration, in most European countries, both Western and Eastern, is in fact equivalent to a second degree in Anglo-Saxon countries. The length of the studies towards a degree, the accumulation of credits, accreditation of prior learning and the content of programmes, have an immense effect both on access and completion rates in different countries. Yet, such information is rarely provided explicitly in national reviews of higher education systems, and thus access and attrition statistics when used in comparative studies might be quite misleading.

The development of the second degree in Israel provides an illuminating example of how the combination of two different academic cultures might sometimes create a distorted entity. As mentioned earlier, the Israeli higher education system was greatly influenced by the German academic tradition. Thus, the Hebrew University and the Technion have adopted the model of a five-year first degree, that is equivalent to a masters level degree in Britain and in the USA. In the 1950s, some powerful academics in the Hebrew University, including its President, who were socialised in the American academic culture, were determined to change the degree structure in Israel, and divide the long five-year degree into two degrees, as is the case in the Anglo-Saxon world. At the end, the long five-year degree was divided into two: a three-year bachelor degree; and a two-year master degree. But unlike the situation in the USA, where the first degree is mostly a wide liberal arts degree, and the master degree is a specialised one, and constitutes also an integral part of the graduate studies towards a Ph.D, no clear differentiation has been made between the nature of the first and second degrees in Israeli universities. Both degrees are focused in specialised disciplinary areas, and quite often third year undergraduate students are studying in the same seminars with first year master-level students.

Throughout the years, in order to provide the second degree a special and unique status, high research requirements were attached to it, and the demands of

a master thesis are somehow comparable in many fields to those of a Ph.D. dissertation in American universities. The stringent study and research requirements towards a master degree resulted in a slow progression of studies and in a high dropout rate (Herskovic, 1997). The standard length of studies for a master's degree in most fields in Israeli universities is two years. If we add an extra year for completing the research thesis, students are expected to receive their master degree within three years from commencing their graduate studies. But in reality, only 12-13% of those beginning master's degree students in any given year manage to obtain their degrees within a three-year period. After an average period of six years of studies only around 50% of the master students are entitled to get the degree, and more than 40% drop-out in the study process (*ibid.*).

The growing popularity of social studies in universities, and market demands of the public and private sectors, increased the demand for master level studies most remarkably in the last decade. The number of master level students at the research universities grew from 10,050 in 1979/80 to 28,720 in 1997/8 (an increase of 185%); as compared to a growth of 80% in the number of first degree students in the corresponding period (from 54,480 in 1979/80 to 72,640 in 1997/8) (Central Bureau of Statistics, 1998). The more applied nature of many social science subjects and the high attrition rates of master level students, mainly at the stage of preparing their theses, has prompted many university departments to offer a master degree without a thesis requirement. These special tracks require the students to obtain more credits, as compared to the thesis tracks, and they are also 'terminal' in academic terms, since they do not enable their graduates to pursue doctoral studies. In spite of this severe limitation, many more students chose in the last decade the no-thesis tracks, and they currently outnumber the students in the master thesis tracks. In 1998 - 59% of the master degree recipients had completed a no-thesis master, as compared to 27% in 1991. This constitutes a dramatic shift in the pattern of second degree studies, pointing to the fact, that many graduate studies are currently oriented towards professional upgrading, mainly in social science fields.

The upsurge in the demand for second degree studies was only partially answered by the universities; and this growing imbalance between demand and supply of master level studies in highly demanded fields of study resulted in the establishment of the international extensions (Kadosh, 1999). Since the non-university sector institutions were prohibited by law to offer graduate level studies beyond the first degree, the international establishments undertook the challenge, particularly for profit reasons. Currently, nearly 50 such extensions do exist in Israel, and they offer mainly master degree programmes to an estimated number of 15,000 students. Their tuition fees are tremendously high (sometimes three or four times more than the tuition fee at an Israeli university); but they enable their

students to complete their studies within a year or two. Many of the extensions are criticised by Israeli academics as responsible for lowering the academic study standards, and for 'selling' diplomas.

These developments led the Council for Higher Education to initiate in 1998 a breakthrough in graduate degree granting regulations in Israel. It has been decided that from 1999 onwards, colleges possessing the appropriate academic infrastructure will be entitled to teach towards 'taught master' degrees (masters with no research theses), mainly in highly demanded professional fields. Such a decision was a sharp departure from a very strong convention of the Israeli higher education, namely - only universities can teach towards graduate degrees. This decision was encountered by a strong opposition from all universities' heads, and generated a vigorous debate in all media channels, and academic circles. It has been decided meanwhile, to postpone the implementation of this decision to 2001, in order to enable the potential colleges to build an appropriate infrastructure and prepare carefully their master programmes. In addition, a strong campaign against the low standards of most extensions was launched. An amendment to the Law of the Council for Higher Education that passed in the Knesset (the Israeli Parliament) in February 1998 empowered the Council for Higher Education to supervise the operation of the extensions, and to ensure that the programmes they offer are comparable in their content and requirements to those of the 'mother university'. However, the Council is not authorised to intervene in matters related to the quality of the academic curricula. As mentioned earlier, the Israeli government lately took action in trying to limit the operation of the international extensions. The last word has not been said yet on this issue. Evidently, the changing balance between the proportion of graduate versus undergraduate students, the authorisation of some non-university institutions to award master degrees, and the operation of the extensions, have changed drastically some internal boundaries in the Israeli higher education.

## **Information technologies**

It is evident that we are living in a period of transition between an industrial society and an information society. New information technologies affect many spheres of life, both in developed and developing countries. As industrial societies become information societies, conventional communication systems are becoming information systems. From depending on transport systems to get people and paper to places where business is done and education is performed, society depends more on telecommunications to move information to where it is needed (Tifflin and Rajasingham, 1995). The Internet is nowadays a world-

embracing enterprise, affecting education, research, politics, trade, commerce and communication; and in many domains it is transcending national borders and institutional boundaries. No university can allow itself today to ignore its existence. Nevertheless, the harnessing of the new information technologies by various higher education institutions all around the globe is still at various experimenting phases (Trow, 1999). There are still more questions than definite answers as to the efficacy, relevance, costs and functions of the various technologies in academic research and teaching.

In Israel, as in many other countries, universities, together with other higher education institutions, are today experimenting with a variety of technologies in different domains. All of the university libraries utilise various computer search engines. A handful of courses in various fields of study are offered as 'virtual classes', in which the students converse with the professors via e-mail and computer chat groups. In many departments and faculties, an introductory course on the relevant computer applications has become a compulsory requirement. Some large lectures are delivered via satellites. Bar-Ilan University, for instance, transmits some of the lectures to its students in northern regional colleges through a satellite. Ben-Gurion University delivered some experimental lectures in the framework of an international virtual class over the last two years, with students which were scattered in Israel, France and the Gaza strip. Clearly, the new information technologies make it possible to ignore national borders. In this sense, they enable higher education systems to expand their external boundaries in many creative and flexible ways. The Open University of Israel, for example, currently teaches Judaic studies to more than 5,000 students, scattered in over two hundred cities of the former Soviet Union (President's Report, 1998). In addition to sending them study materials translated into Russian, it also delivers them lectures from Israel through a satellite. The Open University also teaches thousands of teachers and many of its 'regular' students through dozens of satellite programmes (entitled as 'Ofek', which means 'horizon' in Hebrew). The Open University has plans to expand its activities in the future in Jewish communities around the world, as well as in the surrounding Arab world. This future agenda will be greatly facilitated by interactive technologies, through satellites and computer communication networks.

Aside from enabling the higher education systems to expand their external boundaries, the new technologies challenge the organisation of academic life and might have a crucial impact on altering the nature of the teaching/learning processes in universities. Interactive technologies already affect, and will definitely affect to a greater extent in the future, the relations between students and faculty. They change the nature and essence of academic curricula and alter the ways in which knowledge is both acquired and generated. A scarce number of



academic courses in Israeli higher education institutions are currently based around dynamic data bases made up of bibliographies, case studies, full texts of books and articles, and an ongoing access to Internet locations. The number of such courses is likely to grow in the very near future. The Open University of Israel, for instance, plans to put most of its courses on the computer in the coming decade, and this will facilitate their ongoing update, and enable an interactive communication between the 'distant' students with tutors and faculty.

The new technologies have an impact on the redefinition of the faculty roles in higher education. Faculty members in the future will be expected to lead teleconferencing sessions via computer or video and audio channels, design computer software, become more expert in desktop publishing, put their lectures on a the World Wide Web, and so on. Tel-Aviv University established in 1998 a special centre designed to improve the level and quality of its faculty teaching, offering special courses on effective teaching strategies, as well as new teaching methods through technological devices. Also the status and roles of students are in a continuous process of change. The new information technologies enable students to build more flexible curricula: to study concurrently in several institutions; to combine a mixed-mode style, studying part of the courses through distance teaching methods and most others in a conventional classroom setting; to be active in generating and retrieving relevant knowledge in any taught course, rather than being a passive recipient of information transferred by the expert professor; to participate in international chat groups in fields of interest, etc. Evidently, the new information technologies have set many challenges to the academic world, which are only at infancy stages of exploration.

### **Internationalisation trends**

'Internationalisation' and 'globalisation' have become the dominant slogans for characterising the economic, political and educational development in the last decade all around the world. Unquestionably, the global economy and politics have a sweeping impact on the operation of higher education institutions. Many universities today engage in enrolling international students, becoming partners in international schemes and pushing forward the drive towards globalisation, both in their research and teaching practices (Skillbeck, 1997). Students, academic staff and curricula are transferred and exchanged between institutions; accreditation agencies ensure promptness in accrediting previous learning in different national academic institutes; and governments append their signatures to cooperative projects in higher education (Guri-Rosenblit, 1999). European Community

networks and organisations anticipate the emergence of mobile professionals, who will move through different countries, and study in diverse national environments. In the international market, individual students are, and will be even more so in the future, able to approach any university whose access policy encourages and extends to international students. Strengthening agreements between academic institutions within a particular country and across national borders will be particularly central to the mobility of adult students.

As a matter of fact, Israeli academics have been strongly oriented towards international collaboration and participation in international research projects and conferences, from the very initial stages of formulating the Israeli academia. Some mechanisms have been built into the career ladders of the senior academic faculty that encourage them strongly to go on sabbaticals, initiate cooperative research projects, participate in international forums and symposia, and publish their work in international journals. The strong international orientation is also reflected in the promotion procedures to a higher academic rank. The evaluation process is usually long and stringent, and the assessment of one's works by colleagues from abroad constitutes an essential part of this process. The higher the academic rank, the more external scholars are involved in the evaluation procedures. The international orientation is clearly manifested in the higher prestige of publications published in international referred journals as compared to those published in Hebrew journals.

However, the strong international orientation in the research domain has been scarcely manifested in teaching and in academic curricula planning in Israeli higher education. When the 'War of Languages' took place in the 1920s, it was decided that the language of instruction in Technion will be only Hebrew, and not German, as some of the professors wanted. The language of instruction in academia constitutes a most delicate issue in states which are in the process of building and safeguarding their national identity, and is clearly reflected in the policies of many Mediterranean states. No general rules can be applied to such decisions. For example, while Cyprus has decided that the languages of instruction at its only national university will be Greek and Turkish (Persianis, 1999), Turkey has established recently several universities that are teaching in English (Simsek, 1999). The dominant language of instruction in Israeli higher education is Hebrew, though some lectures are also delivered in English, mainly to international students (such as medicine students participating in a collaborative programme between Tel-Aviv University and New York University). The Open University enables to carry on some of its tutorials in Arabic, and also Arab students are permitted in some courses to submit their assignments in Arabic. Occasionally, guest lectures of academics from abroad are also delivered in English to Israeli students. English, which is obviously the dominant international

language in academic world, is widely used in the teaching process of most courses in Israeli universities. A proficiency exam in English constitutes an obligatory requirement of all first degree students, and actually they are not permitted to continue their second year studies without completing the English proficiency requirement. The majority of textbooks and readers used across various disciplines are in English.

The last decade has witnessed a growing tendency of Israeli universities and colleges to initiate collaborative study programmes with universities abroad. One such programme was designed in the mid-1990s by the School of Business Administration at Tel-Aviv University and Northwestern University in the USA, and is offered as a highly prestigious master programme to executives in the public and private sector. Another comparable programme was initiated by Ben-Gurion University and Boston University, and for different reasons has been lately discontinued. Many colleges have engaged in the last decade in collaborative programmes with external universities, in order to enable their students to continue directly towards a master degree, after completing their first degree in a college. This policy was one of the background factors that prompted the entrance of the British and American extensions into the market of the Israeli higher education.

In addition, as mentioned earlier, the new information technologies will accelerate and facilitate international collaboration in the very near future: many more students living in various parts of the world, both Israeli and of other nations, will be able to enroll at Israeli higher education institutions, and vice versa – more Israelis will enroll in universities outside Israel, without leaving the country. Currently, several thousands of students, mainly Israelis, residing in nearly 40 different countries, study at the Open University of Israel (President's Report, 1998).

It is most likely that in the next decade more collaborative ventures will be formed between Israeli universities and colleges and institutions of other countries in designing interdisciplinary programmes, planning software, and interchanging students and faculty. There are currently some limited relations between Israeli academics and colleagues in universities of Arab neighbouring countries, as well as most limited student exchange initiatives. Several prominent research institutes in Israeli universities are dedicated to the study of Arab and Mediterranean countries, from various disciplinary and interdisciplinary perspectives. The acceleration of the peace process is likely to bring to a growing normalisation of the interrelations between Israel and the Arab world, and lead to a growing collaboration between their academics, both in research and in teaching/learning domains – a collaboration that has a great potential to benefit all participating parties.

## Concluding remarks

This paper had a twofold purpose. First, it intended to depict the major trends that characterise the development of the Israeli higher education system in the last two decades, and explain the expansion of its external boundaries and the change of its internal composition. Second, it purported to provide a conceptual framework for comparing national higher education systems from a macro-level perspective. All higher education systems around the world have external and internal boundaries, the definitions of which might vary greatly from one system to another. Some higher education systems include all tertiary level institutions, whereas others confine the borders to only degree granting institutes; and the nature of what is entitled as a 'university', a 'college' or any other type of higher education establishment is immensely diverse. No matter how the boundaries of each national system are defined, they seem to be in a continuous process of change, that has particularly been accelerated in the last two decades.

The seven parameters that were chosen to examine the change of boundaries in the Israeli higher education system apply equally to other national settings, including all of the Mediterranean countries under scrutiny in this special issue of the *Mediterranean Journal of Education Studies*, ranging from most developed to underdeveloped countries, from very large to very small states, and from having very old to newly born higher education systems. All of the examined higher education systems expanded in the last decades in their absolute and relative size; most systems became more diversified and have integrated both new academic institutes and a more heterogeneous student constituency; new subjects and fields of study have penetrated their academic and professional curricula; in many of them the training of some professions and occupations, that had been traditionally outside the boundaries of higher education, was upgraded to an academic status; and promotion criteria in the labour market, both in private and public sectors, are based nowadays to a greater extent on academic credentials; the balance between undergraduate versus graduate degrees and between degree and diploma tracks of study is shifting constantly; most higher education systems are experimenting to some degree with harnessing advanced information technologies into their teaching/learning practices; and most of the Mediterranean countries are attempting to find the optimal balance between safeguarding their national identity and the sweeping globalisation and internationalisation trends.

As to the future developments of the Israeli higher education system, it seems quite clear that both its external and internal boundaries will continue to shift and change in the future. It will enroll many more students, the majority of whom will be absorbed in the relatively new and fast growing non-university sector. It is likely that additional professional and vocational schools, operating currently in

the non-academic tertiary level sector, will be upgraded to an academic status. New colleges and new types of higher education establishments, such as multi-disciplinary centers, consortia-type institutes and virtual universities and colleges, will be probably initiated in the coming decade. A recent interesting initiative of the Council for Higher Education relates to the ultra-orthodox religious sector. The education system of this sector, from nursery level up to higher learning Yeshivas, has been traditionally separated from the mainstream education of the state apparatus. The Council for Higher Education declared recently that it intends to establish two new colleges (focused mainly on the training for high tech professions) for this special clientele, in the framework of which women and men are not allowed to study together. An additional strategy purporting to encourage this population to pursue studies in universities and colleges, centers on defining accreditation criteria that will enable to accredit part of the studies at Yeshivas as academic studies, by developing a mechanism of validating procedures and special examinations.

The external boundaries of the Israeli higher education system will also be influenced by a growing trend of forming collaborative ventures between Israeli and external universities. The long tradition of international orientation that characterises the research in Israeli academia from its very initial setting, will extend also to the domains of programme planning, developing sophisticated software and teaching/learning practices. Furthermore, it is likely that in the foreseeable future many more students will be able to enroll in Israeli universities and colleges through the mediation of the interactive information technologies.

The uncertain and shaky status of the foreign extensions will be stabilised. Some of the extensions of the foreign universities have already submitted requests to be considered as Israeli higher education institutions and asked to undergo the stringent approval procedures applied by the Israeli Council for Higher Education for Israeli universities and colleges. Some are likely to get approval, and some will be denied. The official joining of some extensions to the Israeli higher education will naturally diversify its institutional fabric.

The greatest and deepest future changes in Israeli higher education apply mainly to its internal boundaries. As portrayed in this paper, the non-university sector grew immensely in the last decade, and this phenomenon encountered criticism emanating from the universities. The resistance against the emergence and expansion of the non-university sector, as expressed by many university leaders and academics, is quite natural. Universities in Israel enjoyed a total monopoly of higher education teaching for more than fifty years, which tempted them to believe that their supremacy will last forever. The emergence of the non-university institutions and their fast expansion have seriously shaken the

underlying premises of the universities operating practices. It is likely that the non-university sector will continue to grow in the future. As forecasted by the Council for Higher Education, within a decade undergraduate students will be evenly distributed between universities and non-university institutions. A growing population of master level students, mainly in professional areas of study, will also study at colleges. Such a development will force the research universities to redefine their priorities in relation to teaching and research, examine their logistic planning, devote more resources for marketing and competing for able students both at undergraduate and graduate levels. Students are going to be the main beneficiaries of such a future competition between universities and colleges, and between universities and themselves. Since demand always superseded supply in the Israeli universities, the needs and preferences of students were rarely dealt with and catered for until recently.

Some additional shifts of internal boundaries in the Israeli higher education will relate to the change of balance between undergraduates and graduates (mainly in universities) in the favour of the latter. Not only the number of master degree students will grow in the very near future, but also the nature of the graduate degrees will change most significantly. The research master will gradually disappear, and in most sciences and humanities disciplines a direct track towards doctoral degrees will be offered to students who wish to continue towards an academic research career. In social sciences - taught masters will be offered in many popular and highly demanded fields of study, such as business administration, accounting, communication, education, and so on.

The emergence of new fields of study will constitute an additional shift of the internal boundaries between departments and faculties in universities and colleges. Many of the new study programmes are likely to be more interdisciplinary in nature, more applied to real needs of the industry and society at large, and carried on through collaborative ventures between the universities and the business and industry sectors. Unquestionably the volume of collaboration between higher education in Israel, between Israeli institutes and international ones, and between universities and the labour market is likely to grow in the future. Throughout their long history universities have been wary of extensive cooperation with other institutions, and always sought to maintain their specific and unique identity. This trend is likely to change dramatically in the future, not only in Israel, but in most higher education systems around the world. The global economy and the internationalisation trends are already forcing universities to engage in a wide-ranging dialogue with the society, and the leading sectors within it, to ensure and secure their future development and relevance.

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