



Samuel Neaman Institute  
FOR ADVANCED STUDIES IN SCIENCE AND TECHNOLOGY

## RETHINKING HIGHER EDUCATION IN ISRAEL - THE COLLEGES

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2

UNIVERSITY EDUCATION AND HUMAN RESOURCES

# Rethinking Higher Education in Israel – the Colleges\*

by

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## Terms of Reference

*“... the Subcommittee is expected to comment on the desirable structure of the higher education system in Israel from the point of view of the colleges, analyze the current system of colleges, track their historical evolution, identify their mission as perceived by their leadership and their strategies to achieve their goals, and make recommendations regarding their character, structure, role and mission for the future. The Subcommittee should also consider the implications of its decisions on the secondary school education programs, the various preparatory courses and the admissions requirements.”*

## Summary

The subcommittee recommends that higher education in Israel be expanded and based on three institution types: Research Universities, Academic Colleges [the equivalent of the American Four Year Colleges], and Community Colleges [to be established].

The Research Universities should emphasize graduate studies [M.A. and M.Sc. with thesis and Ph.D.] and restructure their undergraduate curricula towards Honors Programs leading directly to Ph.D. studies.

The Academic Colleges should mainly specialize in a variety of undergraduate studies, both general academic and professional, and include a small number of selected Master's degree programs.

The Community Colleges should offer a two-year curriculum with the possibility of continuing studies at the universities and academic colleges and transfer of credits for a series of basic courses. Admission to the community colleges should be liberal in order to provide a second chance for a wide population of potential students. The admission policy to the academic colleges and to the universities should remain selective and the requirements should include a full high school matriculation diploma [“bagrut”], external examinations in certain basic subjects [“mitsraf”] and a psychometric test. This policy will not only ensure a high academic level at the first two institutions of higher education, but will also encourage the development of high standards of teaching in the secondary school system.

The Subcommittee recommends that during the expansion of the Higher Education System, measures be taken in order to raise the academic standards in all institutions.

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\*This committee was appointed by the S.Naman Institute, within the framework of the "Rethinking the Research University and the Israeli Higher Education System".

## Background

It is now generally accepted that a major factor in human evolution is that of an extended period of childhood and consequently, the time available for learning, education, training and acquirement of knowledge. Knowledge and experience are passed on to future generations phenotypically rather than genetically. From the evolutionary point of view, this trend seems to justify the increase in longevity beyond the age of fertility, primarily in females but also in males to a certain degree. The process of extended childhood is currently expressed in the expansion of formal education, mainly in the developed countries, starting with mandatory [free] primary school education, through secondary education and towards post-secondary education for a large part of, or even the entire, population. A good example of this trend can be seen in the U.S., where over half of high school graduates attend college.

The return of Jews to Israel at the end of the nineteenth and beginning of the twentieth century was accompanied by a return to agriculture; manual labor was sanctified, with a concomitant rejection of the traditional occupations of the intelligentsia. The question of higher education was raised when the issue of establishing the Hebrew University in Jerusalem was discussed. This suggestion was met with fierce opposition, out of fear that the new university might trigger a return to Diaspora traditions and thus counteract the accepted Zionist goals. Support for the establishment of the University came unexpectedly from the High Priest of manual labor and toil of the land, Aharon David Gordon.

Opposition to developing and expanding higher education in Israel was to arise repeatedly in the following years. For example, when Tel Aviv University was established [in the early 1950s], the then Minister of Education wrote:

*"I don't think that it is logical or wise to accept a general [comprehensive] decision on the establishment of a university in Tel Aviv, and there is no chance of getting [financial] help now from the government".*

And later on:

*"I am about to establish a Council for Higher Education and it will close the University".*

No less opposition was encountered when the suggestion of establishing the Academic College of Tel-Aviv-Yaffo was raised. Here are some of the arguments presented at the time: There is enough room in the universities; there is no need for an additional institution of higher education; the Academic College is certainly of no use; there are not enough qualified teachers; the [academic] level will not be high enough; the college will compete with the existing universities; and, of course, the budget. The debate started all over again with the suggestion of developing Master's degree programs [without thesis] in certain colleges. The arguments: There is no proper infrastructure; there is no research at the colleges and there should not be [contrary to discussions and debates in the U.S. on undergraduate research]; the academic level and the value of the Master's degree will decline; the cost of higher education will rise, including faculty salaries; M.A. in Hebrew refers to University Graduate [מוסמך אוניברסיטה – מ.א.].

We may safely assume that this kind of opposition will continue to arise against other innovative programs, including the establishment of the Community Colleges System [please see below].

It is of interest to note here that in the U.S., the distinction between universities and colleges is not necessarily made according to the official academic title. One such definition is:

*University: institution of higher education, usually comprising a liberal arts and science college and graduate and professional schools and having the authority to confer degrees in various fields of study. A university differs from a college in that it is usually larger, has a broader curriculum and offers graduate and professional degrees, in addition to undergraduate degrees.*

This definition is not all-inclusive, even in the U.S., and it does not necessarily fit the conditions and developments in Israel. It is generally accepted that undergraduate degrees in basic liberal arts and even in professional subjects should be available at the universities. However, the ratio between the undergraduate and graduate degrees must change considerably in favor of the latter [mainly Ph.D. but also Master's with thesis].

Universities should accept those undergraduates with the interest and ability to continue their graduate studies and who may also help form the nucleus of a future leadership in various areas. For many years there has been a continuous drop in enrolment in the basic sciences and humanities, followed by lowering of admission requirements in these subjects. Thus, a small number of capable students who were

truly interested in these subjects were grouped together with “weaker” students who, in many cases had not been accepted by the department of their original choice. As a consequence, the “stronger” students were disappointed because high teaching standards could not be maintained. To solve this problem, special high standard Honors Programs should be developed in mathematics, physics, chemistry, philosophy, history, literature and similar basic areas for an elect group of gifted students who will receive special grants in order to free them from financial worries. The studies should last for four years [now three in most of the ordinary undergraduate programs] and should include workshops and research projects. The most successful students should be able to continue directly towards a Ph.D. degree.

A particular problem that was raised recently concerns undergraduate interdisciplinary studies that have been developed at both the universities and colleges, which points to the danger of academic superficiality characterized by “knowing nothing about everything”. Interdisciplinary research, on the other hand, is a totally different issue that should be considered within the framework of the research universities. In some U.S. universities, there is a tendency not to establish separate, new administrative entities for this type of research, but rather to leave the faculty within their original departments and organize the research under an academic roof. This arrangement provides greater flexibility in changing subjects and collaborative groupings according to new scientific developments as they arise.

As far as undergraduate studies are concerned, they should rely on a well-defined disciplinary framework, while avoiding narrow professionalism and providing a broad base of ideas:

*No narrow professionalism, not even or especially not in the [American liberal arts] colleges. The students should be given a broad base of ideas that could be adapted to the local conditions of the day – what can I do with it, what good does it do?*

One possible example for the undergraduate curriculum could be: about 75% of the studies should be taken in the major subject, together with several required subjects, such as Hebrew, English and Computer Science, as well as a series of general knowledge, free electives within the areas of the humanities, sciences, arts and social sciences. All subjects will be credited and graded the same way and included in the final evaluation.

Planning of the development of higher education in Israel should take into consideration that the future increase in the number of first degree

students will be absorbed by the colleges, including a certain number of university applicants, a development which will allow the universities to expand their graduate programs [according to decisions made by the Planning and Budgeting Committee].

These points were taken into account when the developments in higher education in Israel were analyzed and suggestions for the future, especially within the framework of the College System, were prepared.

### **Policy of Admission**

Starting with the 1970s reform in the national high school examinations [Matriculation, "Bagrut" Diploma], the institutions of higher education [then the universities only] more or less reached consensus regarding policies of admission, both at the institution and department levels. The minimum requirements included a high school diploma, with high-level examinations in Mathematics, English [4 or 5 points] and an additional subject or two. The actual grades obtained in high-level subjects were upgraded [given a bonus of 10-25 percentage points]. These decisions were made in order to encourage students to "try harder" and, at the same time, to ensure a relatively high and reliable level of education.

The universities and some of the colleges also require a national psychometric test [NITE, similar to SAT; ETS] that includes English [comprehension] and Quantitative and Verbal Reasoning. The psychometric test is offered in Hebrew, Arabic, Russian and several other languages.

The admission grades are usually calculated as an average between the Diploma grades and the evaluation of the psychometric test, mostly, but not always at a 50-50 ratio. Although far from being perfect, this is still the best method for predicting success in an institution of higher education. The claim that the psychometric test prevents students from a "weak" environment from being accepted to university and especially to selective departments is simply not true. The Diploma is equally, if not more responsible for this. In fact, simulation tests have shown that, without the psychometric examination, "weak" students stand to lose more, as they usually have lower grades and no other available examinations to improve their chances. Furthermore, the psychometric test can be taken more than once during the army service or after it, with the highest grade, and not the last one, taken into consideration. .

Data for the year 2000-2001 show that more than half of the relevant age group [55%-60% nationally] have no Diploma at all or lack certain required subjects at the appropriate level. In disadvantaged areas, the situation is even worse, meaning that the majority of students cannot even apply to an institution of higher education, except for the Open University and the Preparatory Programs in other institutions. The problem, therefore, lies at the level of High School standards and should be dealt with accordingly.

More recently [2003], an additional parameter was included in the admission evaluations ["Mitsraf"], namely the external [without school input] grades of three major subjects – Hebrew, English and Mathematics [or History]. It is not yet clear exactly how the different institutions or even departments will calculate the three parameters, aside from the already accepted rule of optimization: Diploma grades plus the highest of either the external grades or psychometric evaluation. It is also possible to relate mainly to the highest of the three, in the student's favor.

The major stumbling block for underprivileged students is, therefore, the High School Diploma (or rather the lack of it). In order to remedy this situation, major efforts must be expended in order to drastically improve teaching levels, mainly in the basic subjects and in "weak" schools. Since this is a difficult and long-term project, urgent interim measures need be taken, which could be: Adding one year [13<sup>th</sup>] to the high school program in order to complete the Diploma examinations; completion of Diploma examinations during the army service; extension of the Preparatory Programs [Mekhina]; extending transfer programs between departments and between institutions [universities and colleges]; opening pre-freshmen programs [head-start] in institutions of higher education; development of a sophisticated and efficient program of affirmative action.

The projects mentioned above may still leave a considerable proportion of the population beyond the reach of higher education. For these students, a system of two-year, junior community colleges, based on U.S. models, should be established. Community college students should have the opportunity to transfer to a full institution of higher education, university or college, during or at the end of their studies, provided they have reached an appropriate academic level. The other students should be able to obtain an Associate Degree, apply for a job and continue their studies at a later date if they so desire.

## **History**

For a very long time, higher education in Israel consisted almost exclusively of the universities and a few colleges, only one of which was accredited to grant a Bachelor of Arts degree. During the 1960s and 70s, additional institutions were accredited, some of them independently, and others under the academic supervision of a university. Several teachers' colleges were also allowed to develop a 4-year program leading to a B.Ed. degree.

However, the major changes took place during the 1990s, when a series of colleges were academized or newly established, some private, but most of them subsidized. The process of expanding Israel's higher education system and the establishment of academic ["four-year"] colleges was not an easy one and, in at least one case [The Academic College of Tel-Aviv-Yaffo], took over twenty years. The College finally went into operation in 1994, together with several others, both subsidized and private. In the meantime, pressure from applicants kept rising and the number of students in the universities increased considerably, mainly at the undergraduate level. Since then, many students have enrolled in the various colleges and in 2001, they constituted almost 50% of a total of 127,000 undergraduates. These figures should be emphasized in order to encourage further development of Israel's higher education system, considering that over half of the relevant age group still has no access to academic, post-secondary education.

## **The Academic College**

There are two possible definitions for Israel's academic colleges. The first assumes that a college is a small, young academic institution that aspires to develop into a university. The second defines the college as an academic institution which is fundamentally different from a university. We would like to adopt the latter definition, namely that the college is not a "second rate" university, but a top rank academic college. It resembles a university in the requirements for, and quality of its undergraduate degrees, including a high level of achievement. The difference lies in the colleges' focus on the transfer of knowledge with an emphasis on the learning process, rather than on creating and producing new knowledge.

Using these criteria, several models can be developed. One of them should consider the special needs of students in relation to their community, by developing more flexible, theoretical and applied, professional programs. The college should be small, close to the



community where the students come from or to the area where they plan to live. In locations distant from the main population centers, establishment of community colleges will directly contribute to these often-disadvantaged areas, providing a cultural center and source of pride for the community. In addition, the developing college can provide jobs for professionals living in or relocating to the area. Close links can also be established between the community and the college that are outside the strictly academic realm.

The permanent faculty will constitute the main teaching body of the college, to be supplemented by lecturers from universities as well as from industry and other institutions. The ideal college faculty member should be a person whose primary interest lies in academic teaching, yet is capable of doing research and academic administration, and who is sensitive to the needs of the students and the community at large. Teachers can be recruited at an early stage, during their university doctoral studies, helped financially and trained to become the kind of faculty the college is looking for. They should maintain close research links with their colleagues and university professors in order to keep abreast of the scientific developments in their area of interest.

Another type is the "classical", strictly academic college, similar to the four-year Liberal Arts College. This institution educates and trains its students in a variety of subjects at the undergraduate level and some at the Master's level. This type of academic college, though totally independent, should maintain academic ties with a university in order to exchange ideas, receive assistance and ensure a high academic level.

This college model should follow a general disciplinary curriculum, but at the same time narrow professional trends should be avoided and subjects of general education and knowledge should be encouraged. In one possible example for such a curriculum, a high proportion of the studies would be taken in the major subject, together with several required subjects, such as Hebrew, English and Computer Science, as well as a series of general knowledge, free electives within the areas of the humanities, sciences, arts and social sciences. All subjects are credited and graded the same way and included in the final evaluation.

The teachers at the college should hold a Ph.D. degree, with an expertise in their area of interest and be capable of educating their students at a high academic level. They should maintain close connections with their colleagues at universities and institutions of applied research and should be involved in joint projects and other scientific research activities. Independent research should also be encouraged, especially in subjects that do not require an elaborate and expensive infrastructure, with at least some of the students being

involved in special research projects. The main college faculty should have permanent positions and only a small number of professors and other specialists should be employed as temporary, part-time teachers.

## **Community Colleges**

Community colleges are institutions of interim education, between high school and the academic college or university. Studies at the community colleges last for two years and graduates earn an Associate Degree. Community colleges can serve a dual purpose: 1. Post-secondary education for students who cannot or do not wish to continue their studies beyond the Associate Degree; 2. Post-secondary education for students who wish to prepare for transfer into an academic college or university. A major condition for the system's success lies in the establishment of appropriate conditions for transfer of the students during or upon completion of their studies in the community college. This involves the accreditation of basic courses that should, of course, be of a high academic level, comparable to that of the higher institutions.

The community colleges in the U.S. have been remarkably successful. In 1995, 46% of all freshmen attended two-year community colleges, compared to 15% in 1955. Until the 1970s and 80s, these colleges served as feeder-schools, but later special curricula were prepared for them. Nonetheless, the majority [70%] of those who earned an associate degree went on to receive a Bachelor's degree at a later stage. The transfer of students was greatly aided by the accreditation of mainly basic courses such as Math 101, sometimes by prior agreement between institutions, according to dual enrollment programs. Some states [i.e. Massachusetts] make special arrangements for community college graduates, with those with a minimum B average paying a reduced [33%] tuition fee.

It is assumed that the community college students in the U.S. choose these institutions for a variety of reasons, among them financial, admission requirements and uncertainty in deciding on their major subject of studies.

The main obstacle to expanding higher education, in Israel, especially to include the under-privileged, is the difficulty in achieving an appropriate high school diploma, which is, rightfully, mandatory for admission to all institutions of higher education [except the Open University]. Lowering the admission requirements will only have a deleterious effect on the academic level, especially for the gifted

students, and will increase the dropout rate and postpone graduation of the others. Instead, the existing preparatory programs should be expanded for students who do not have a high school diploma, due to a lack of certain subjects at the appropriate level, or low psychometric test results.

Since the measures listed above will not suffice in order to sufficiently improve the situation, it is suggested that a system of community colleges should be established similar to the American two-year junior colleges, but adapted to the special conditions prevailing in Israel. These colleges should be spread throughout the country and connected to a higher institution [academic college or university] for guidance and aid in the preparation of the curricula, accreditation of basic courses, transfer of students and in maintaining a proper academic level. [One of us (NBZ) has suggested that the community colleges, if established, should be part and parcel of the colleges and *not* a separate system.]

The curriculum of the community college should include basic courses at an academic content and level and with requirements similar to those of higher institutions, and courses for general education and knowledge as well as practical courses that provide professional training. The admission requirements should be very liberal, approaching open admission, and sometimes dependent upon appropriate preparation. The teachers should possess the knowledge, ability and desire to teach, educate and train the students according to their capabilities and their plans for the future.

The community colleges should provide post-high school education for a wide section of the population, provide a second chance for many students who were not accepted to a university, and open up new opportunities for all those interested in and capable of obtaining higher education. The establishment of a community college system will also help maintain the academic level of the higher institutions and prevent the establishment of additional, lower rank, academic colleges.

## **Conclusions**

It is difficult to overestimate the value of higher education in Israel, with its special conditions and varied population. Higher education means not only the acquirement of knowledge, but also education in the wider sense. This is especially important in Israel, where the current focus of education toward broad knowledge and logical reasoning leaves something to be desired.

It is therefore suggested that education at all levels should be improved and expanded for all, not only because of societal reasons, but also because of national needs. Every developed country requires a certain stratum of intelligentsia with a proper critical mass that is not proportional to the size of the population. This is especially true for Israel.

The development and expansion of higher education in Israel should be based on three types of institutions: 1. The universities; 2. The academic colleges; 3. The community colleges. The universities should strengthen their graduate programs and reform their undergraduate curricula by developing special honors programs that should lead directly to Ph.D. programs or be followed by training for leadership positions in the public service or private enterprises.

In Israel, the only institution with an exclusive graduate program [Ph.D. and M.Sc. with thesis] is the Weizmann Institute of Science, and this should be taken into consideration if and when the establishment of an additional university will be considered. Should a new university be needed, it should be planned from the start on a new basis, and not developed according to an existing academic college model, however high its standard may be. The new university should not be bound by the programs or traditions of any existing institution, which would probably not fit the goals of a modern university in a new era.

The academic colleges should deal with a variety of subjects at the undergraduate level, in addition to professional programs and subjects of general knowledge and education. They should also develop a small number of selected Master's programs.

The curriculum for the community colleges should be geared towards an Associate degree and offer the possibility of continuing studies at an academic college or university.

The standards of the undergraduate degree should be evaluated by the level of each department and institution and not necessarily whether it was awarded by an academic college or university. A public relations campaign should be conducted among future employers and other relevant sectors, including the universities, in order to explain the actual similarities and differences between the subject content and standards at the various institutions; a comparative survey should be conducted and a detailed ranking list should be published.

The academic colleges should follow a general disciplinary curriculum, but at the same time strictly professional trends should be

avoided and subjects of general education should be encouraged. One possibility would call for about 75% of the studies to be covered in the major discipline, with the rest of the time dedicated to certain required courses in Hebrew, English and Computer Science and a series of free electives. All these should be credit courses that are equally evaluated and included in the average final evaluation.

The general organization and administration system of the universities is now under evaluation, with conflicting suggestions being debated at the universities, at the Council of Higher Education, the Government, the Parliament and by the general public. The colleges, being relatively new institutions, can and should adopt a logical and effective administrative system. This should be of a centralized type, especially at the financial level, and the budget should not be subdivided among the departments, in order to maintain maximum flexibility and make it possible to develop new subjects and replace outmoded ones, as required.

The college should be headed by a president with the credentials of a full university professor, who should be elected to a 3-year, once renewable appointment. The governing bodies of the college should include a majority of academic members, mainly from the universities, but also from the colleges, in addition to well-recognized public figures.

It is imperative that the higher education systems enjoy complete academic and administrative freedom. Indeed, it is clear that the academic community can be trusted more than any other body, particularly political, with its own development and well-being. The Higher Education System should be planned over a long period of time, much longer than the maximal [usually shorter] 4-year term of the political system [parliament, government]. Instant or hastily-taken decisions are almost always deleterious to higher education, including various amendments already adopted or almost adopted by the Knesset, which have included abolishing the requirement of an academic degree for future lawyers and abolishing the mandatory psychometric test for all students.

It should be taken into consideration that most if not all new students will be taken care of by the colleges; while the universities will mainly develop their graduate programs and perhaps even reduce the number of undergraduates. It is now clear that all high school graduates with an appropriate matriculation diploma could be accommodated at least in some department within the existing university and college systems. The obstacle, then, is to be found in the high schools, which should be considerably improved in order to increase the number of graduates

with a matriculation diploma [with high level English, science and mathematics] making them eligible for higher education in the selective departments as well. Several developments can be introduced in order to improve the situation: expansion and improvement of university preparatory programs; addition of one year to the high school program; studies and completion of the high school diploma during military service; initiation of effective transfer projects between the academic colleges and universities; introduction of pre-freshmen, head-start programs at the universities and academic colleges; and development of effective and sophisticated affirmative action programs that will help students not only enter a higher education institution, but also stay there.

Even with all these programs in effect, numerous students will still remain outside the reach of higher education. Many of those should find a solution to their problem within the community college system, which should be planned and initiated without delay. Otherwise, many youngsters from underprivileged backgrounds will remain with their life options limited by a poor education. As a consequence, public pressure may be catalyzed to lower standards in high schools and admission requirements in institutions of higher education.

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Submitted by:

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