

## THE DEVELOPMENT OF HIGHER EDUCATION

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### ÖZET:

Yüksek öğretim, oldukça geniş kapsamlı ve tüm toplumları ilgilendiren bir olgudur. Ancak özellikle teorik alanda yapılan araştırmaların, yazılan kitapların sınırlılığı düşündürücüdür.

Son yıllarda teknolojik gelişmelerde alınan yolla birlikte toplumlar bireylerin öğrenim düzeylerini yükselterek insan kaynağını en verimli şekilde kullanmayı gerekli görmektedirler.

Bu makalede yüksek öğretimle bağlantılı öğrenim, eğitim, öğretim ve yüksek öğretim kelimeleri farklı eğitimcilerin görüşleri çerçevesinde tanımlanmıştır.

Ardından makalede yüksek öğretim düşüncesinin gelişimine tarihsel bir süreç içerisinde bakılarak modern üniversite düşüncesinin nasıl geliştiğine bakılmıştır.

Bugün kitlesel eğitime geçişle birlikte yüksek öğretim düşüncesinde yatan felsefe ve modern yüksek öğretimin ne olması gerektiği değişik boyutlarda bakılarak sürekli tartışma konusu olan özerklik ve akademik özgürlük kavramlarına açıklık getirilmeye çalışılmıştır.

Makalede teknolojik, sosyal ve ekonomik değişimlerin etkisiyle özellikle gelişmiş ülkelerde kaçınılmaz bir yapılanma olan endüstri - üniversite işbirliğinin kaçınılmazlığı ve sonuç olarak dıştan yapılan müdahalelerin üniversitelerin elit yapısında temel değişimlere neden oldukları görüşü öne sürülmüştür.

Sonuç olarak bugün üniversiteler, endüstri ve iş pazarı için eleman yetiştiren ve endüstrinin gereksinimleri doğrultusunda araştırma faaliyetlerini sürdüren kuruluşlar haline geldikleri özetlemiştir.

**ANAHTAR SÖZCÜKLER:** Özerklik, akademik özgürlük, işgücü gereksinimi, sosyal değişim, ekonomik değişim, derece, diploma.

### ABSTRACT:

This paper has concentrated on the basic concepts of learning, education, training and higher education from the different point of views. The idea of higher education and the root of the modern university has looked upon through the historical development. Then the paper has considered the higher education today and their underlying philosophy and goals. Later the study briefly has outlined the

two conflicted terms of autonomy and academic freedom. The research which is the main activity of the university has shortly discussed with the impact of the technological, social and economic changes

**KEY WORDS :** Autonomy, academic freedom, manpower needs, social change, economic change, qualification.

### 1. INTRODUCTION

The aim of this paper is to outline the basic concepts of learning, education, training and higher education. The description of higher education will be followed by an outline of changing opinions to the subject through the ages. An attempt will be made to describe the purpose of higher education as well as current ideas on autonomy. Finally, the impact upon higher education of the profound social and economic changes that have occurred all over the world since 1950s will be considered.

### 2. BASIC CONCEPTS

The United Nations Educational, Scientific and Cultural Organization, UNESCO, defined education as "organized and sustained instruction designed to communicate a combination of knowledge, skills and understanding valuable for activities of life". [1]

Although some writers try to make a distinction between learning and education, the two terms inevitably become intertwined in many contexts. Those who make this distinction usually regard learning as an individual, natural, not necessarily organised process; education, on the other hand, is tuition offered to individuals by society in a more formal, systematic process that may (or, if it is unsuccessful, may not) increase the individual's learning.

Similarly, many people stress that there should be a clear distinction between training and education, but again these concepts cannot easily be separated. For example, a Department of Education and Science publication in 1985 said, "Education and training cannot always be distinguished, but are complementary". [2] Peters, however, claims:

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..."Education" implies that a man's outlook is transformed by what he knows whereas "training" suggests the acquisition of appropriate appraisals and habits of response in limited conventional situations and lacks the wider cognitive implication of "education". [3]

It is useful to see education as a wide, open-ended process whereas training is directed towards imparting particular skills.

Regardless of the niceties of definition, provision of both education and training is generally accepted as a primary responsibility of every state. Indeed, in recent years most states have made education available to the masses. In December 1948, Article 26 of the United Nations Declaration of Human Rights reinforced this responsibility: "every individual has a right to education". (The same article also states: "higher education shall be equally accessible to all on the basis of merit".)

While the responsibility for providing education is placed upon the state and generally accepted by the state, the purpose of this education remains a subject of greater controversy. At one extreme are those who see education in terms of noble and lofty concepts. Mallison expresses such a view:

To be effective, an education system must closely reflect the ethos of those it is called upon to serve. To know what we want from education we must know what we want in general. Our theories about education must be derived from our philosophy of life. So it is that the real nature of a system of education, and its marked differences from others, can only properly be understood when the concept of MAN underlying is analysed and examined. [4]

He goes on to point out that many countries use their education system to transmit their nation's traditions and culture from one generation to the next and make this process one of the most important goals of the system.

Education is the transmission from one generation to another of acquired experiences, and what is transmitted within an organized society with a history is not individual experience but cumulative experiences of past generations which become enshrined in its traditions, folk-lore, customs, literature, and so on... Ultimately, each country's educational system has to be seen as having its present character because (a) it has been conditioned to develop in a certain manner and along certain clearly defined lines, and (b) it has had

to make the effort to correspond with and adjust itself to the social realities of the times.... In education there must co-exist AIMS and PURPOSE, never at variance with one another. Purpose remains relatively constant, whilst aims must change from generation to generation and so revivify purpose.[5]

As well as such considerations, all education systems must endeavour to keep abreast of new knowledge and scientific and technological development and pass these on to the rising generation. This is seen as essential for the economic as well as the educational well-being of the people.

But, increasingly in the modern world, it is the economic importance of education that has become dominant. Today, for most people, the chief aim of education is the acquisition of better employment opportunities in the ruthless job market. As Dore remarks;

Teachers say to their pupils: "...learn this or you will not become a good doctor, a skilful carpenter, a fully-developed human being, a good useful citizen; you will not know how to earn your living,... What the qualifier says to his pupil is: "learn this or you will not get the chance to be a doctor or a carpenter; nobody will give you a living". The first appeals to the inner standard of conscience and promises self-achieved fulfilment; the second invokes external arbiters, threatens exclusion, evokes anxiety".[6]

Related to its importance in fitting people for employment, education has in recent years in many places been used as a temporary remedy for unemployment. It does this simply by occupying young people who would otherwise be in dole queues and swelling the unemployment statistics.

Thus the purpose of education, and higher education in particular, is seen increasingly in terms of its relationship to the economy of the country concerned, especially its employment profile.

### 3. THE DEVELOPMENT OF OPINIONS TO HIGHER EDUCATION

Since it is useful to view current attitudes in wider historical perspective, relevant stages in development of attitudes will be outlined on next few pages.

#### 3.1. Earlier Views

The essentially conflicting view of higher education, touched upon above, can be traced back as far as Confucius and Lao-tse in the sixth century B.C. Confucius argued that education is a process for integrating individuals into society and that knowledge

should be acquired for the sake of harmony in society. Lao-tse, on the other hand, emphasised the cultivation of the individual, and argued that purpose of learning was to achieve understanding. These attitudes in some ways constitute the earliest expression of two views which later became categorised by the terms "vocational" and "liberal". [7]

In the West the first written idea of higher education may be found in Greece. Although the Greeks did not have higher education available on a large scale, they cherished it as a concept. Around the fourth century B.C. a new school of teaching started. A group of men called sophists could teach "every kind of knowledge". Plato was one of them. Later Plato differed from the sophists and established the first university called "Academia". The Academy was for the young men who had been chosen to be military and political rulers. Plato perceived higher education as the cultivation of the individual for the sake of the ideal society; the individual was to be helped to achieve inner happiness, which would allow the state to benefit from the harmony of satisfied citizens fulfilling their roles. [8]

There are similarities between the ideas of Confucius and Plato in the description of higher education for individuals and their interaction with society.

Whereas another Greek philosopher Aristotle saw education as the guiding principle for human conduct, and emphasised that the ultimate aim of education was to prepare the individual for the active enjoyment of leisure. He believed that activity connected with leisure was *theoria*, or the disinterested search for truth. [9]

It was not until hundreds of years later that more democratic higher education institutes were founded. The first one was established in Bologna in 1088, then others followed; in Paris in 1199, in Oxford 1167 and in Cambridge 1209.

Medieval universities were democratic and open to everybody. Each university had a *studium generale*. The students and masters who were members of the *studium generale* were jointly participating in all activities regardless to their capability level. Soon after their earliest beginnings the universities were given an independence from the rest of society. Each university was permitted by its religious leader to become a *universitas* with its members forming, literally, a self-governing community of scholars. [10]

Their idea of higher education included a participative approach to learning and inquiry, a collaborative form of internal government, institutional autonomy, making the institutions open to

all comers, and a belief in the value of study for its own sake tempered by critical discourse. [11]

In the middle ages the goal of higher education became "the pursuit of truth and learning", and the universities "were viewed as institutions dedicated to the advancement of knowledge and training of scholars." [12]

By the fourteenth century the autonomous universities were affected by several problems which mainly arose from the establishment of nation states and increasing urbanization. They started to look to civic authorities for solutions to their financial problems and this development enabled them to pay regular salaries from civic sources. [13] In the long run this led governments to take a closer and closer interest in controlling higher education.

In the Renaissance, humanist philosophy dominated the western world. This held that the goals and central concern of learning and higher education should be expounding the purpose of life and developing the individual, especially by training the mind and not through teaching vocational skills. [14]

In the sixteenth century, the French philosopher Montaigne's "secular view on man" as an autonomous being" was developed by his followers Bacon and Galileo. [15]

In the eighteenth century, Rousseau expressing a view similar to those of the early Chinese philosopher Lao-Tse, denounced the civilized society and underlined "the importance of the growth and development of the individual as opposed to the creation of a good citizen". [16]

By the 19th century Oxford and Cambridge had monopolised higher education in England for seven hundred years, then a number of new universities were established such as London, with its beginnings in Gower Street (1828), King's College, London, (1829), and Durham (1832). Durham and King's College were religious foundations. Another religious university (in this case Catholic) was founded in Ireland. Newman was invited to help to establish this university as rector. In 1852 his lectures entitled "The Idea of a University" were published. In these Newman proclaimed that university education should be "liberal" and learning should form "a connected view or grasp of things" described as "philosophical" acquisition of knowledge. [17]

Newman was very much against the idea that research should be a main activity for a university. At the beginning of his book he stated: "a university is concerned with the diffusion of knowledge rather than with its advancement". [18] Later in the book he declared himself unequivocally in favour of a

separate academy or research institute in which knowledge would be advanced. He held this view because he considered that the ability to undertake teaching and research were separate gifts, "not commonly found in the same person". [19] According to him, university education constituted "intellectual excellence" and a higher education was "a higher form of understanding, gained through self-reflection on what is taken for knowledge". [20]

His ideas on this subject proved very influential and was regarded as the founder of modern liberal education. The purpose of liberal education was to "train the mind" and through this kind of education "a habit of mind is formed which lasts through life, of which the attributes are freedom, equitableness, calmness, moderation and wisdom." Newman then claimed that an individual educated in this way would be able to "fill their respective posts in life better" and be "a more intelligent, capable, active member of society". [21]

Newman's ideas can be found in education in the Arts, especially in America. But over the course of time universities became increasingly interested in research, so Newman's ideas about the desirability of having separate research institutions had but little effect, especially in British universities.

Historically the German educational philosopher Karl Jasper was a major opponent of Newman's ideas. His book, "The Idea of the University", published in 1946 and translated into English in 1960, had a modern approach along the same lines that adopted by British universities. He held that research is the foremost concern of the university and the teaching was secondary. He described the university as simultaneously a professional school, a cultural centre and a research institute and without one of these elements the university's intellectual substance would be destroyed. [22]

The higher education offered in both Germany and England in the 19th century sought give students a cultural experience for its own sake. The two systems did, however, differ. Higher education in England was based on a face-to-face tutorial system and depended on social interaction to nurture "gentlemen" for society. The German system was based on a "personal interaction with knowledge, and any human interaction rode on the back of that experience". The German model looked to the elevation of mind being attained by the student in "personal pursuit of knowledge". [23]

The discussion about whether the university's main duty is research or teaching goes on. Lord Annan writing, when he was Provost of University College, London, stated:

There really is no mystery about the roles of the university, For the past century there has been no dispute about its two main functions. It exists first to promote through reflection and research the life of the mind; second to transmit high culture to each generation. [24]

Today, the staff of modern universities in the West are expected to carry out both duties and many have responsibilities not only for teaching students but also for the advancement of knowledge through research (often designed to benefit industry). In British universities, most academic staff believe teaching comes second to research. [25]

Most of the teaching staff members of western universities are convinced that if they are to transmit genuinely "high culture" then they must be at the forefront of research. In today's changing world, knowledge changes and develops so fast, especially in science, medicine and technology, that it is essential for academic staff to be actively engaged in research or their knowledge soon becomes outdated. If we want to give the rising generation an education that will enable them to keep abreast of change we have to give academic staff access to the latest knowledge - and that can best be achieved through research. In certain instances rapid progress in technology and science affects methods of teaching and learning and this may allow for some adjustment or combination of the relative amount of time allocated to teaching and research in those subjects.

### 3.2. Higher Education Today

The higher education establishments (both universities and other higher learning institutions) are the primary producers of the knowledge that is to be transmitted to students. So they exist not only to instruct and educate but also to provide the main resources for their students and to contribute positively to the progress of their country.

In the modern state today, higher education across the world is institutionalized, and knowledge taught in higher education establishments is becoming universal. These establishments have become providers of the qualified work force for international as well as national needs. In this respect they are fulfilling the first of the four purposes that Barnett discerned for higher education:

- 1- the production of qualified manpower
- 2- a training for a research career
- 3- the efficient management of the teaching provision
- 4- extending life changes. [26]

Williamson's sociological approach put higher education among such resources of society as investment capital, private property of all kinds and publicly provided welfare goods, which are together woven into a complex of constraints and opportunities. [27]

There is general agreement nowadays that higher education in general and universities in particular represent an investment by society on behalf of students to benefit that society as a whole as well as its industry. As the world is changing rapidly, technology and science are developing at an incredibly fast pace. In this context the role of higher education becomes ever more important. Harvard economist Robert B. Reich wrote recently:

Increasingly, educated brainpower- along with roads, airports, computers, and fibre-optic cables connecting it up -determines a nation's standart of living..... In the emerging economy of the 21st century only one asset is growing more valuable as it is used: the problem-solving, problem - identifying and strategic-brokring skills of a nation`s citizens.... Intellectual capital has become a uniquely important national asset. [28]

Generally a common agreement is emerging around the list of the what should be the concerns of higher education. Barnett summarized these as:

1. The pursuit of truth and objective knowledge.
2. Research.
3. Liberal education.
4. Institutional autonomy.
5. Academic freedom
6. A neutral and open forum for debate.
7. Rationality.
8. The development of the student`s critical abilities.
9. The development of the student`s autonomy.
10. The student`s character formation.
11. Providing a critical centre within society.
12. Preserving society`s intellectual culture.[29]

However, as Barnett points out this list does not include any aims that link the function of higher education to the needs for professional competence in the labour market, although this is now a major task of many higher education institutions. [30]

#### **4.1. The Philosophy of Higher Education Institutions**

Of the various philosophies that underlie higher education two have gained pre-eminence: the liberal philosophy and the vocational philosophy. These are

given different names by some authors. For example, the Harvard Report termed liberal philosophy as classical and vocational philosophy as pragmatic. Butts and Cremin, on the other hand, described them as intellectualist and experimentalist. Burgess described the same philosophies as autonomous utilitarianists. Burgess described the same philosophies as autonomous and service, whereas Brubacher describes them as epistemological and political. [31]

Liberal higher education is associated with "knowledge for its own sake". The liberal higher educationalists believe that knowledge should be objective and higher education should have an academic autonomy. [32] The students in this context should have an unrestricted access to knowledge and they should also feel that the whole world of knowledge is open to them. [33] Some liberal philosophers think that higher education should not be provided just to help people earn a living but to become good human beings. In 1914 a lecturer in Oxford was quoted as saying:

Nothing that you learn in the course of your studies will be the slightest possible use to you in after life- save only this-that if you work hard and intelligently you should be able to detect when a man is talking rot, and that, in my view, is the main, if not the sole purpose of education. [34]

Taking the liberal view, Adam Smith emphasized that:

... an instructed and intelligent people are always more decent and orderly than an ignorant and stupid one...they are more disposed to examine, and more capable of seeing through, the interested complaints of faction and sedition, and they are, upon this account, less apt to be misled into any wanton or unnecessary opposition to the measures of the government. [35]

The philosopher John Stuart Mill also supported this view and stated that:

Universities are not intended to teach knowledge required to fit men for some special mode of making their livelihood. Their object is not to make skilful lawyers, or physicians, or engineers, but capable and cultivated human beings. [36]

Underlying the liberal philosophy is the concept that people undertake higher education out of a sense of curiosity to try to understand the world they live in. They seek the answer in universities. As Hutchins remarked, the purpose of universities should be to solve the most puzzling problems -

even unthinkable ones - of society. [37] These liberal philosophers hold that universities should work for precise validation of knowledge and should reach "value-free" conclusions. This philosophy draws a line between the academic and the practical world. The practical world is open to incidents and error but as the academic world as more controlled its errors can be minimized even neutralized. [38]

Vocational philosophy, on the other hand, believes that education should serve the needs of the society not the individual. Brubacher, for example, thinks that:

Professional expertise should be developed not as a matter of idle curiosity but because of its enormous significance for the community; the nation needs trained manpower.[39]

The vocational philosophers believe that the problems of government, industry, employment, education, health, international relations so on can serve the public as well as teach, conserve and expand knowledge. [40]

Allen, however, notes some contradictions between the two philosophies. He thinks that vocational education inevitably involves giving outside professional bodies and the state a measure of control over the institutions. The result weakens their academic autonomy while strengthening the state's position. Liberal philosophy insists upon academic autonomy and pays "no heed to the requirement of employers or the state". [41]

These two opposing philosophical models can be seen competing in the universities. The liberal philosophy is evident in humanitarian studies as well as in liberal art colleges and theology departments but vocational philosophy is practised in science and technology departments and in professional education. Even among the proponents of predominant vocational education, however, there are many who accept that liberal education gives a good general education and many employers recognise that general intellectual skills are necessary assets and room should be found to include some aspects of liberal education in vocational education programmes. [42]

#### 4.2. The Goals of Higher Education

Both the liberal and the vocational philosophies of higher education colour the expectations that modern states and individuals have of what higher educations can and should deliver. It is now largely taken for granted that higher education ought to contribute to material development and also to the spread of certain such human values such as harmony, freedom and justice. Some people also

expect it to encourage equality, security, good order and even religion. Some of these ends are clearly controversial, so there is growing effort by several educationalists to develop a catalogue of goals for higher education especially for the universities. Allen's catalogue, prepared for British universities, suggests that these institutions should address themselves to catering for:

##### A. The abilities and attitudes of individual students:

1. Cognitive learning
  - a. Verbal skills
  - b. Quantitative skills
  - c. Substantive knowledge
  - d. Rationality
  - e. Intellectual perspective
  - f. Aesthetic sensibility
  - g. Creativity
  - h. Intellectual integrity
  - i. Lifelong learning.
2. Emotional and Moral development
  - a. Self awareness
  - b. Psychological well-being
  - c. Human understanding
  - d. Values and morals.
  - e. Religion.
3. Practical Competence
  - a. Traits of value in practical affairs generally
  - b. Leadership
  - c. Citizenship
  - d. Work and careers
  - e. Family life
  - f. Leisure
  - g. Health

##### B. The needs of society

1. Knowledge
  - a. Preserving and accumulating knowledge
  - b. Disseminating such knowledge as is required to achieve the goals listed in section A in this catalogue.
  - c. Discovering new knowledge through research, both pure and applied
  - d. Applying knowledge, both old and new, to the solutions of practical problems in industry and in society at large.
2. The arts
3. The discovery and development of talent
  - a. Identifying and developing particular skills which individual students have and certifying the level of skill which has been achieved by each student.
  - b. Providing the skilled manpower necessary for the maintenance and growth of national productivity.

- c. Offering opportunities for study to all those who seek a university education (including those from overseas), whether possessing formal qualifications or not, whether rich or poor, on either part-time or full-time basis.
- d. Providing continuing education courses, both vocational and non-vocational.

#### 4. University experience

To provide direct satisfaction and enjoyment and for employees, students and other participants in university life. [43]

Bowen's list, differs from Allen's and includes these further points:

1. the avoidance of negative outcomes for society and advancement of social welfare which includes economic efficiency and growth.
2. enhancement of national prestige and power, progress toward the identification and solution of social problems
3. improvements in the motives, values and aspirations, attitudes and behaviour of members of the general population and over long periods of time,
4. exerting influence on the course of history as reflected in the evolution of basic culture and fundamental social institutions. [44]

Allen challenges Bowen's inclusion of "the avoidance of negative outcomes for society and social welfare", saying that universities should not, for example, "teach how to kill enemies of the state". [45] Moreover Allen adds that his list can be used with reference not only to Britain but anywhere in the world since it does not include dogmas or controversial points.

#### 4.3. Autonomy and Academic Freedom

The concept of autonomy is as old as tradition of higher education. Complete autonomy implies that the higher education institutions concerned are self governing communities with no control from governments or other outside bodies on their internal activities. As Warnock says, "an institution that is self-governing can govern itself well or ill, despotically or democratically. But the principle it adopts, the decisions it makes, are dictated to it by no one from outside." [46] The autonomous university in the west is often referred as a "republic of scholars". [47]

It is widely believed that in order to be teach and do independent research a higher education institution should be able to distance itself from government control. Since these functions are

regarded as more and more important in fostering progress in the developing countries the need for autonomy in higher education is regarded as even more pronounced there than elsewhere

However, recent changes have limited autonomy and made it conditional in many parts of the world. Control is now more often in the hands of governments than of academics. Complete autonomy may be unrealistic as universities are not financially independent.

The 1990s have brought major changes to the concept of autonomy. Universities fear they are fast becoming mere government agencies in most countries and the academics are left no choice but to help to solve manpower needs by training more highly qualified people in accordance with government requirements, so government interference is growing.

Autonomy is generally linked to the subject of academic freedom, that is to say, the freedom to teach, study, research and publish without interference. Academic freedom is essential to protect the individual academic from possible interference by governments, other academics, the press, the public and religious authorities. Academic freedom relates to individual whereas autonomy relates to institutions. They can exist independently of each other. For example German and Swedish universities lack autonomy but offer academic freedom. But the lack of institutional autonomy can jeopardies academic freedom in teaching and reserch, in curriculum decisions and in the academic spending, since these matters are directly related to academic freedom. Barnett says these subjects are all "matters of judgement" so there is "at least an empirial connection" between them. He argues that in practice "degree of an autonomy is necessary for the academic freedom". [48]

The Committee of Vice-Chancellors and Principals (CVCP) in Britian emphasized the following points relevant to this issue:

academic freedom is not job protection for life but the freedom within the law for academic staff to question and to test received wisdom and to put forward new and controversial or unpopular opinions without placing individuals in jeopardy of losing their jobs. [49]

In an ideal world, since there are no final truths, the concept of academic freedom should be sacrosanct and authorities should not interfere. But in reality, societies and universities are changing rapidly and the concepts of autonomy and academic freedom are subject to constant review and are becoming harder to define in a way that meets universal approval.

## 5. RESEARCH

Teaching and research are the main tasks of higher education. Research can be developed only with experience and facilities. Its results can then be transferred to younger generations or to industry by teaching. In the pursuit of new knowledge universities have to absorb and develop existing knowledge, then apply it and transmit it. The universities task is not completed unless the results of research are transmitted through teaching and also by means of publications. The efforts of individual researchers combine to produce new knowledge that is objective and no longer dependent upon the individual researchers. As well as producing and transmitting this new knowledge, experienced researchers have the duty to train junior staff to undertake research.

The terms "research" and "scholarship" are often used indiscriminately. For our present purposes scholarship will indicate keeping up with the latest development in the subject, and research will mean developing new knowledge. This distinction accords with the definitions given by Allen:

Research is any form of investigation which leads to new knowledge, that is to say knowledge which has never been available to anyone. Scholarship, on the other hand, is the pursuit and mastery of existing knowledge, however obscure. [50]

Bowen's definition of research is less precise:

Research, defined broadly, includes the scholarly, scientific, philosophical, and critical activities of the institutions of higher education for the purpose of preserving, acquiring, disseminating, and applying knowledge. [51]

Throughout the history of universities, scholars have argued about whether universities should or should not carry out research. In contrast to him, Jasper said:

The university is simultaneously a professional school, a cultural centre and a research institute. [52]

Universities in the developed countries are heavily involved in research and development that can be used directly in industry, and the research is a vital part of the universities functions. Major firms have contracted funds for the universities, especially in the natural sciences. Public funds are also major source of research support in the western universities. Moreover, some scientific research is an expensive activity that can best be carried out by universities. Some universities in the West rely on basic industrial research for their survival. In fact,

industry is today often virtually dictating to the universities the research they must do and giving them very little opportunity to create their own ideas. But this is not relevant to our subject at the moment.

Research activities in the West can be carried out in both state-owned and private institutions.

Recent technological change make it important to ensure that undergraduates as well as postgraduates undertake research as this will help them to become more deeply involved and interested in their subjects in science and technology. Departments such as physics, chemistry, biology and engineering have to have adequate research facilities and staff to get undergraduates engaged in research. Universities in the West publish large numbers of research papers every year and take a pride in publicising their research activities and results. Indeed, their research and teaching activities go hand in hand. This is the case in the social as well as the natural and applied sciences, and can be of particular importance in research into education, public sector activities, business and management studies.

## 6. THE IMPACT OF TECHNOLOGICAL, SOCIAL AND ECONOMIC AND CHANGE ON HIGHER EDUCATION

Developments in recent years in technology, together with related and coincidental social and economic changes have had major impact on higher education throughout the world. A number of these changes will be noted briefly here since they have had their effect in Turkey as well the rest of the world. In particular, technological advance has had a profound effect upon the labour market and on manpower planning considerations. In many parts of the world this has contributed to rapid urban migration as well as the need for a more highly skilled and educated workforce. At the same time, this urban migration has raised social expectations and consequently increased the demand for higher education still further. Now parents are eager for their children to gain the advantages that they think higher education will confer. Universities are increasingly seen as institutions to produce trained manpower. As a consequence, the content and character of higher education as well as its availability have also been affected.

Both to keep abreast of technological developments and to respond to the demand for higher education nations everywhere have had to expand higher education provision. This mass provision has gone a long way towards ending the elitist nature of university education. In some instances the expansion has served merely to postpone the unemployment of students who would not previously have been likely to go to university.

In others it has been directed to fitting students for specific roles in industry or commerce. However, the difficulty of predicting manpower needs with any precision sometimes dooms such efforts to failure. Many graduates now complain that they have no opportunity to use the skills and qualifications they acquired at university; either they can find no work at all or they can only get employment unrelated to their studies; others need to get yet more qualifications. Consequently, the average educational level of the unemployed is rising.

Inevitably universities and industry have been brought into a closer relationship. Governments need a flourishing industrial base to provide the finance needed for higher education. Both governments and industry have an interest in ensuring that manpower needs can be met and unemployment kept to the minimum. Universities are expected to conduct the research that will keep industrial concerns competitive, while industries are expected to fund much of this research. One effect of this symbiotic relationship is an increasing emphasis on science and technology in the universities.

It is not only large industrial concerns that are interested in the research and teaching conducted in universities. Small firms may be even more dependent on them as they lack the resources to carry out these functions independently.

The increasingly international nature of industrial development also has its implications for both the labour market and higher education. Individuals need to be trained to operate in an international environment with universally accepted standards of competence. This imposes demands on the higher educational institutions training those individuals. It also adds to the influence of multinational companies. This makes many people in universities feel they are increasingly subject to the demands of big business. The extent to which universities can be independent is decreasing. As an OECD report stated:

University / industry relations have entered a new phase in terms of goals as well as magnitude. The need to explore new forms of competition and collaboration arises partly from pressure of competition on the side of industry, partly from financial stringency on the part of the university, and on the whole from the fundamental scientific and technological requirements of progress in many areas of research. [53]

## 7. CONCLUSION

As has been shown in paper, higher education throughout the world has been profoundly affected by

the enormous technological, social and economic changes witnessed in recent decades. Although different traditional models of universities persist, the pressures of the modern world are forcing greater uniformity. The trend is towards centralization, increased government control, either direct or indirect, closer links with industry, and inexorable expansion.

The mass nature of modern higher education has put an end to the elite status that a university degree once conferred. Most ivory towers have now crumbled and universities strive to meet the requirements of industry and the labour market.

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