Where is the Line Dividing between Academe and the Field? The Relationship between Academe and Practice in a Physical Therapy Program at the Ariel University Center of Samaria

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Abstract

The academe and its missions have undergone a series of revolutionary changes over the centuries of its existence. Despite these changes, community service is the one mission that has remained an integral part of the landscape of higher education. This mission is deeply rooted in the Zionist vision, which traditionally viewed higher education as a means of development of Jewish society. Although sometimes marginalized, the community service mission continues to beat in the heart of higher education today, and exists, not as an independent strand, but as an integral part of academic activities.The present study focuses on the academic activities of a service-oriented department and the practical training it provides to students in the undergraduate Physical Therapy program. This profession has significant importance in Israel in view of the large number of victims of wars and terrorist attacks, and the high rate of road accidents. These have created a young population in need of extended rehabilitation. In addition, all over the western world, ever-increasing life expectancies continue to add new patients who need professional help.The findings of the present study, based on a survey of 109 graduates of the department, point to the academe's contribution to practical work in the field. Despite the diversity in the demographic background and admission profiles of the graduates at their admission into the program, no correlation was found between graduates' profiles upon admission and their satisfaction with their training program and their work. One factor that was found to undermine satisfaction with work was work conditions. This case study points to the significance of a close association between the academe and the field in reducing the differences between students' final achievements in the program and their work conditions in the field.

Key words: graduates, work satisfaction, clinical training, integration in the workforce

Introduction

The modern university was established on the principles of Lernfreiheit, a German term expressing academic freedom (literally, "learning liberty") – one's freedom to study and conduct research based on one's desires and proclivities (Commager, 1963). The German concept, which sanctifies research for research's sake, quickly became a standard that was adopted throughout the Western world until the mid-twentieth century (Stallmann, 2002).The status of the academe and the attitudes to its products have varied over the years, based on the role of economics, nationhood, and religion in different societies. Initially, the transition to a capitalist economy, and subsequent transition to a capitalist society, had a profound impact on the status and conception of universities. These institutions, after having existed for decades impervious to external events, came to be the subject of examination and review, and subject to demands of accountability for their operations. Thus began the extensive engagement in quality in higher education (Worthington & Hodges, 2005). These "ivory towers", which had been free to operate on the basis of independent standards, were now required to define their activities in terms amenable to assessment and quality control (King, 2007; King, Griffiths, & Williams, 2007).

In the growing efforts to define and conceptualize the role of the academe and its quality (Blackmur, 2004; Lieven & Martin, 2006), the global economy of affluence and consumerism (Arimoto, Huang, & Yokoyama, 2005), which thinks in terms of inputs and outputs (Currie & Newson, 1988), has attempted to apply capitalist economic concepts to institutions of higher learning (Slaughter & Rhoades, 2004). This is an attempt to quantify, improve efficiencies, and delineate the operations of these institutions, which had previously been public, self-administered organizations that operated according to self-defined norms and criteria (Gal-Nur, 2009).Quality is a broad concept that is defined differently by different people (Harvey & Knight, 1996). In the context of higher education, the complexity of this concept increases due to the existence of multiple stakeholders (students, staff, administration, government agencies), which accounts for the broad range of opinions on the nature of quality in higher education (Menon, 2003).In their article entitled "Defining Quality," Harvey and Green (1993) present a wide range of definitions of quality in higher education. According to one, quality is the extent to which an academic institution fulfills its declared mission.

This definition views quality as a subjective concept, based on the congruence between the missions imposed on academic institutions and the achievement of this mission. In the present study, we adopt this definition and argue that the academe's mission in the twenty-first century is threefold: research, teaching, and community service.

The academe and its mission

Many researchers have discussed the ideological origins of universities, their goals, and their missions (Iram, 1978, 1983, 1987, 1991, 1998, 1999; Buber, 1981; Davidovitch & Iram, 2005; Guri-Rozenblit, 2005; Katz, 2005; Maslovati & Iram, 2002; Iram, Shkolnikov, Cohen, & Shechter, 2001; Yaoz, 1994; Zimmerman, 2005). In the context of academic institutions, the term "mission" describes the basic aim of universities (Allen & Allen, 2003) and their *raison d'etre* (Montesinos, Carot, Martinez, & Mora, 2008).Until the early 1930s, the mission of academic institutions was an abstract concept; perhaps clear to the institutions themselves, but not to outside observers. In the 1930s, U.S. universities began to publically state their official mission and organizational purpose in their catalogues (Scott, 2006). The shift to an official mission statement was a shift from theory to practice. This move, which began in the United States, was initially adopted by academic institutions in Canada and the United Kingdom, and subsequently by most academic institutions in the West, which began to include a definition of aims and mission statement in their agendas (Bonewits Feldner, 2006).

Mission statements have been likened to organizational management concepts: Missions frequently express a society's aspirations of higher education institutions. These aspirations represent the most general level of hopes and expectations that individuals have of colleges and universities (Fenske, 1980). The significance of a mission statement is its translation of ideals into operational terms, and ultimately a mission statement can improve the operations and activities of academic institutions (Scott, 2006). Currently, universities tend to declare missions that embody the three aspects of teaching, research, and public service (Atkinson, 2008), although this trinity does not always exist in practice. Over the years of the academe's existence, its missions have undergone several transformations that reflect the historic changes in the relationship between the state and the universities and stages of development (pre-nation state, nation state, and globalization).

Changes in the academic mission – a historic review

Universities were religious institutions that were first established and flourished in Europe in the late middle ages, between 1150 and 1500. Many social changes occurred in that period: the rise of mercantilism, accelerated urbanization, expansion of the middle class, increased bureaucracy, and the blossoming of the Renaissance. As a result of all these, the demand arose for professional training in the increasingly complex European society. Universities operated as professional teaching institutions, to meet this need. They were organized as guilds of teachers and students (the origin of the word "university" is the Medieval Latin term for a guild —"universitas") and operated as quasi-corporations that protected their collective rights. The activities of universities were deeply embedded in the soil of medieval efficiency (Cobban, 1992), which viewed higher education as a functional institution that provides graduates with a professional advantage expressed in financial terms. In this respect, medieval universities were schools with a modern spirit (Haskins, 1957). The institutions operated as a partnership of teachers and students, with complete administrative autonomy and were subject to no government intervention (Shechter, 2006). University research, although it existed, was the product of individual activities and not part of the institutional policy. Universities considered themselves corporations: They did not award research degrees or appoint teachers to research positions.

The degree "doctor" (from the Latin *docere*, to teach) was the highest degree awarded, and authorized the recipient to teach at the highest level. Despite their indirect contribution to society, by creating an intellectual elite and graduates who went on to become the pillars of society, universities considered themselves, first and foremost, professional organizations designed to protect their members' interests.This perspective began to change in the early modern period (1500–1800), a period that marked the rise of the independent nation state. These states were sovereign entities bounded by defined borders, containing a population who had a shared sense of nationality. The rise of the nation state harmed the autonomy of the universities, which, as a result of the nationalization of the state, typically became institutions in service of the monarchy or government. In this new role, the academic institutions engaged in teaching, research, and providing services to the community outside the institution (Scott, 2006).The universities, which were controlled by the state at the municipal level, became a means for expanding the ruling elite. In his volume entitled "The University in Ruins," Readings (1996) stated that the universities of that era had a socio-political mission and served as the ideological arm of the government. The state protected university operations, while the university protected the ideas of the state (ibid.).Academic universities flourished in Europe in the early modern era: Over 190 universities were established in this period, most based in politics or religions, part of the conflict between Catholics and Protestants (Scott, 2006).

Research, teaching, and community service, while practiced by universities, were not performed for their own sake, but rather as means to promote the regime's national or religious agenda. As an arm of the government, universities were not free to administer their affairs independently, and enjoyed no academic freedom. The establishment of the University of Berlin in the early 19th century marked the demise of this role for the academe. In 1810, Wilhelm von Humboldt founded the University of Berlin on the principles of teaching and research, with the academic freedom to study and perform research autonomously. The autonomous function of higher education was the core of the Humboldtian approach, which was emblematic for higher education worldwide. These principles were translated into an approach that assumes that students should be trained for life as scholars, and that students are intellectually and mentally mature adults with a broad knowledge base. Consequently, the lecturers considered themselves research scholars, first and foremost, rather than teachers or knowledge mediators (Iram, 1983).

This model deeply affected the development of research universities all over the world, including the conceptualization of higher education in Israel (Guri-Rozenblit, 2005; Zimmerman, 2005). All over the world, universities adopted the dual academic mission of research and teaching as the core of academic activities. While the widespread adoption of this model by academic institutions established a consensus concerning the declared mission of the academe, in the second half of the 20th century modern universities could no longer afford to concentrate exclusively on creating knowledge (Wittrock, 1993). At this time, the academe was required to develop mobile resources, and play a role in technology transfer and assimilation, in order to meet the needs of modern society (Clark, 1983). The academe was required not only to create theoretical knowledge, but to apply it to the concrete task of organizing information for action (Baker, 1983). This move occurred as the world moved from a nation state model to the global village model, where each state constitutes an integral part of the global community. This change created the need to revisit the academe's declared mission (Seaberry & Davis, 1997).

The academe and its mission in a global world

As a result of the changes that occurred in the community, in technology, and in social structure, the community developed new expectations of the university: "There is no need to sit in the university to understand the power of the changes occurring worldwide: markets are opening, the economy is becoming global, culture is being universal, technology is becoming more powerful and is increasing human capabilities for good and for worse, changes in the geopolitical structure, empowerment of the individual vis-à-vis society …" (Chen, 1999, p. 254). All these led to a rethinking of the university's objective: "Is its specific target knowledge per se, or should we intentionally expand the targets of the university intentionally to include the provision of social, cultural, and economic services, on a community and international level …" (ibid, p. 262). After having undergone various transformations throughout its existence, from thee teaching model, to the teaching-research-service model, to the dual teaching-research model, the academic community reverted to an earlier mission format of teaching, research, and community service (Seaberry & Davis, 1997).

Post-modern society is a knowledge society, which has made the task of balancing research and teaching all the more complex by the addition of a third dimension – community service (Austin & Gamson, 1983). Scott (2006) argued that including community service in contemporary universities is a natural extension of the democratization originating in U.S. colleges in the 19th century. He stated that inclusion of "community service" into the missions of the academe is a "fundamentally American" turn (p. 23). In our times, the concept of community service has evolved into a tri-partite model known as the "metropolitan university": "This is not merely a university in a city, but of the city, obligated to meet the diverse needs of the city's residents … The university is a center of research and the source of intellectual leadership … that uses the city as a laboratory, a clinic, and a workshop … It offers access to higher education for people of all social classes … It listens to the community in a manner that allows it to maintain connection with its mission and conscience." (Bonner, cited in Seaberry & Davis, 1997, p. 8).

The community service mission of metropolitan universities, both private and public, is yet another strand in the thread that grew from two strands into three (Ward, 2003). In the post-modern world, universities are considered social organizations designed to provide higher education services (Scott, 2006). This perception brings the academe closer to the community, and explodes the ivory tower image that has been attributed to research institutions (Shechter, 2006). In contrast to teaching and research, the service element tends to be more ambiguous, with blurry boundaries (Boice, 2000; Fear & Sandmann, 1995). Its role in and outside the campus is not clear, and some have likened it to a "short leg in a three-legged stool" (Boyer & Lewis, 1985). Indeed, the fluidity of this mission calls into question the precise nature of the community service that universities have assumed. Where does it begin, and where does it end? Does it encompass community service on campus or off campus? It seems that of the three aspects of the academic mission, the community service aspect is that least understood by academic faculty (Boice, 2000).

Ward (2003) argues that the role of community service may be clarified by a division into internal and external service. Internal service refers to activities designed to reinforce ties within a disciplinary field, such as participation in conferences and committees, reviews of papers for journals, advising groups of students, etc. This on-campus service to the discipline constitutes the hidden curriculum (Boice, 2000). External service refers to services provided by the institution as a means of communicating with the public outside the academe. External service may manifest itself in many forms, including consulting, teaching, and civic or community activities, and their common denominator is the fact that they take place outside the campus context. In the current study, we focus on the university's external service element, and specifically, the professional training of students of physical therapy. This is preceded by a review of the goals and changes in higher education in Israel.

The Academe's Mission in Israel – Academe in Service of Society

In his volume *The State of the Jews*, Herzl outlined a detailed program for the establishment of a Jewish state: "The entire program in its basic form is extremely simple … sovereignty should be awarded to us in some area in the world that would be sufficient for the justified needs off our nation. As for the rest, we will take care of them ourselves …" (1978, p. 21). Among other things, "the rest" included the establishment of institutions of higher education. In his detailed vision, Herzl viewed the academe as a nation-building tool and gave it special status in the realization of Zionism. The Zionist Movement that Herzl headed joined this approach by granting scientific research a central role in the Zionist revolution. As early as the First Zionist Congress, a program by Prof. Zvi Herman Shapira, "The Future Letter", was presented to establish a research university in Israel (Yurtner, 1999). The First Zionist Congress, which convened in 1897, almost fifty years before the establishment of the State of Israel, affirmed the integral connection between establishing institutions of higher education in Israel and realizing the Zionist dream.

In 1918, at the cornerstone ceremony of the Hebrew University of Jerusalem, Chaim Weizmann stated that, despite the difficulties entailed in realizing the Zionist dream, "the Jewish people are aware that only by developing its spiritual attributes will we be able to satisfy our material needs." (Yurtner, p. 51).Over the years, academic institutions in Israel, as their counterparts the world over, have been forced to address the issue of the formal mission. Despite (or perhaps due to) its young age, the State of Israel placed higher education high on the national agenda. Despite the short history of the country's higher education system, it has undergone fundamental value changes, reflected in the changing declared goals of academic institutions (Yaoz & Iram, 1987). The history of higher education in Israel is a micro-cosmos of global trends, expressing a shift from higher education for education's sake – to occupational training; from a perspective of education as a goal, to a perspective of education as a means; from the value of learning for learning's sake and the sake of knowledge, discovery, and research – to the study of technologies and applied sciences; from an appreciation of excellence – to education whose prominent value is equality (Shmida, 1987).

The dynamics of the academic mission in Israel did not undermine the academe's significance in service of Zionism and its role in the revival of Jewish intellectual life in Israel (Iram, 1978; Davidovitch & Iram, 2005). It was assigned the role of advancing science and education, values anchored deeply in Jewish heritage. Of the Hebrew University, Katzenelson stated (cited in Levinson, 1948) that it was one of the senior tools of realizing the national vision. Chaim Nahman Bialik espoused this view when he declared that science (developed in the academe) should be the goal of building the country, improving, and enhancing life (cited in Leib, 1936).The higher education institutions in Israel that were established after the establishment of the State continued the course set down by the pioneer institutions. In the first years of statehood, community service had a visible, distinct character and an agenda on its own. For example, the Technion focused on agricultural research to contribute to economic growth, the Hebrew University of Jerusalem, followed by additional universities, operated preparatory courses designed to reduce social gaps in Israel.

In the 1970s, Bar Ilan University absorbed new immigrants as part of a Social Work Faculty project, and Ben-Gurion University of the Negev played a role in the social and industrial development of the Negev. These were all activities of a distinct social character, which the institutions viewed as their mission for the sake of the community. In those years, social activities were typically of an ideological nature, originating in the history of the development of higher education in Israel. Over the years, community service became a major agenda (similar to the view of the pioneers) for the institutions' survival – a means to recruit funding, and utilize economic opportunities. Programs that were initiated as a community service gradually became incorporated into the various disciplines and became external income-generating programs. For example, the academic preparatory programs, originally targeting a specific population group (discharged soldiers of Sephardi background and low socio-economic status), became programs that were open to all for a fee. Support programs for new immigrants became external education programs that gained funding from ex-academic factors, and functioned as an additional income-generating channel for the institutions.

Community service activities, based on the ideology of distinction from academic operations, became incorporated into the academic units themselves and lost their ideological status and singularity. In 21st century Israel, community service continues to exist, but its form and drivers are different. Higher education institutions in Israel operate social-oriented programs that are primarily designed to support the institutions' economic survival and have consequently become an economic business for all intents and purposes. The establishment of schools of healthcare professional training in higher education institutions, such as schools of medicine, nursing, speech therapy, physical therapy, and occupational therapy, is a prominent indication of the change in the goals of the academe and universities' recognition of their obligation to address contemporary social needs.

Physical Therapy – A Clinical and Research Orientation

Medical developments in the modern era have created the need for healthcare professions that supplement diagnostic and treatment options offered by physicians. Physical therapy is one of these professions. WW II and the polio epidemic in the 1940s and 1950s accelerated the development of the profession, designed to support the rehabilitation of patients and individuals with handicaps in recovering maximum physical functioning, and provide early diagnosis and prevention of disabilities. Today, global health policy is community oriented. An ever-increasing number of physical therapists are involved in community-based primary prevention and healthcare promotion programs in a variety of specialty areas including gerontology, women's health, and sports. In Israel, the profession has a special status in view of the wars and terrorist actions and the high rate of road accidents. These two factors have created a large population of young individuals who need rehabilitation over extended periods. Aging and the increase in life expectancy account for a significant segment of the population of clients who need this profession's help. Physical therapy is not merely an occupation: It is a scientific discipline that develops original bodies of knowledge and draws its sources from sciences including natural sciences, social sciences, and medicine.

Physical Therapy engages in diagnoses and therapy, and employs therapeutic means from movement and functioning, as well as physical means such as electricity, radiation, water, and heat. The discipline is based on a deep understanding of human anatomy and functioning in health and in sickness, taking into consideration social and mental factors. The rehabilitative approach of physical therapists in Israel and worldwide is currently based on the rehabilitation model of the World Health Organization (International Classification of Function and Health, WHO, 2001). In the spirit of this model, physical therapists are required not only to possess practical clinical skills, but also to have understanding, appreciation, and skills in the art of interpersonal communications, the ability to address the ethical standards of the profession, and the ability to work in a multi-disciplinary team. The profession's academization is relatively recent. As it developed over the years, the demand for evidence-based practice also grew (Bridges, Bierem, & Valentine, 2007), and led to a deeper approach to practice, extended by studies—a comprehensive inter-disciplinary teaching foundation and growing academic status of the profession and its learners.

In Israel, the discipline developed in the 1950s. The School of Physical Therapy affiliated with Assaf Harofe Medical Center opened in 1953, in the midst of the most severe polio epidemic to strike Israel. The School's goal was to train graduates for work in the field as quickly as possible. In 1963, the School of Physical Therapy at Wingate Institute opened, in response to a heavy shortage of certified physical therapists, and the need for professionals to care for and rehabilitate bed-ridden or home-bound patients. The School of Physical Therapy affiliated with Sheba Hospital was established in 1976 by the Ministry of Health, in conjunction with JDC (American Jewish Joint Distribution Committee), to meet the need for trained physical therapists in a field that was at the time undeveloped: identification of needs and provision of community-based physical therapy services. The aim was to develop the ability to provide services to all age groups, in all health conditions, ranging from completely healthy individuals to chronically ill bed-ridden individuals. Since the 1980s, physical therapy has become a research discipline.

In July 1982, a physical therapy program was established at Tel Aviv University's Faculty of Medicine, in 1983/4 a department of Physical Therapy was established at Ben-Gurion University, and in 2001/2, similar departments were established at the College of Judea and Samaria (now known as the Ariel University Center, or AUC) and Haifa University. A degree in physical therapy allows program graduates to register in the Ledger of Physical Therapists, which is required by law. Certification offers degree holders the option to work in a broad range of specialty areas and institutions including general hospital, out-patient clinics, neurological rehabilitation, geriatric rehabilitation, children with developmental disorders, and schools for children with special needs. Thus, the profession has undergone a conceptual change from a therapeutic occupation to a scientific-research-based profession. An undergraduate degree in physical therapy is the base for clinical internships in specialty areas in physical therapy and for graduate studies in diverse fields in academic institutions.

The Physical Therapy Curriculum – Poised between Research and Clinical Orientation

Teaching clinical subjects in general, and physical therapy in particular, in university settings, is oriented toward the study of specialty areas with an applied, professional orientation. In designing the curricula, universities must address the needs of society. In effect, institutions of higher education have become professional schools with a clinical-research orientation. Clinical experience in the field is an integral part of practical training. Fundamental dilemmas involving the gaps between the academe and the field, and between the theoretical foundation and practical training, continue to accompany these professional schools and the departments of an applied, clinical orientation within research universities. Higher education systems in Israel and worldwide are required to provide evidence of the efficiency of their programs. The government, parents, and students wish to ensure that students receive the education promised to them. Accreditation officials require that departments incorporate measures and indices that assess results, in order to ensure that students have the opportunity to achieve their academic goals and attain a high level of skills in their chosen field. In Israel, similar to other western countries, the Commission of Higher Education (CHE) operates a quality assessment system for higher education. Such an assessment survey was conducted in all physical therapy programs in the country three years ago.

Nonetheless, to maintain ongoing controls, the initiative for assessment should come not only from government agencies but from the departments themselves. Monitoring graduates is an important element in the quality control process concerning program results. Monitoring may be based on a survey of alumni or a survey of employers, although it is ethically easier to survey the graduates directly. Richter and Ruebling (2003) believe that a survey of graduates of physical therapy programs should include three principle elements: (a) assessment of graduates' perception of the extent of training they received from the program; (b) obtaining information on graduates' professional activities since graduation; and (c) obtaining demographic information on the graduates, such as specialty area and work setting. It is important to note that physical therapy programs are designed to train graduates to practice in a well-defined profession. Therefore, employment rates and satisfaction rates of graduates are extremely important and reflect programs' success in achieving its primary goal. Over the years, surveys of physical therapy program graduates in various countries have been published. These studies focused on groups of physical therapists in work settings, independent of their former academic institution.

Most studies focused on physical therapists' satisfaction with the profession, and identification of predictors of work satisfaction and various aspects of physical therapists' practice. In a survey conducted among physical therapists in Japan (Jovic-Vranes, Vesna, Boris, & Natasa, 2008), work satisfaction was found to be moderate. The main factors for the lack of satisfaction in this study include excessive administrative work and mental stress. The study also found that the most important factor determining satisfaction is salary and benefits. A moderate (45.4%) level of satisfaction was also reported in a survey of physical therapists in Turkey (Enberg, Stenlund, Sundelin, & Ohman, 2007), where the best predictors of work satisfaction were found to be leadership, interpersonal relations, promotions, and salary. The lack of satisfaction with the final two factors was notable. In two surveys conducted in Serbia (Ogiwara & Araki, 2006) and Sweden (Eker, Tuzun, Daskapan, & Surenkok, 2004), the satisfaction of an indiscriminate group of healthcare professionals, including physical therapists, was rated. A study conducted in Serbia (Ogiwara & Araki, 2006) reported very low satisfaction levels of physical therapists. The factors most strongly affecting satisfaction included hospital policy, interpersonal relations, and the ability to provide care at a high standard.

The Swedish study, in contrast, found an overall high level of work satisfaction and dissatisfaction with work organization and the organization. The researchers in this study found no differences between the various groups of employees (nurses, physical therapists, and occupational therapists). In the present study we wish to gain insights into the encounter between the academe and the clinical field by tracking the integration into the workforce of graduates of the Department of Physical Therapy (PT) at AUC between 2004 and 2009, and their satisfaction with their training program, their work, and their profession. We adopted the survey elements described by Richter and Ruebling (2003), and added them to measures of satisfaction with work, the profession, and the training program. We also added items concerning advanced academic and professional studies, and graduates' desire to maintain contact with their alma mater. Graduate surveys are important for all academic departments, and particularly so for the Department of Physical Therapy at AUC, which is a relatively young department and the only program that is not under the auspices of a university. Many physical therapists opposed the establishment of the new department, arguing that training in a non-university setting would lower the standards of the profession. That is the reason that monitoring graduates' employment is of special importance.

The Physical Therapy Curriculum – A Case of Academe and Practice at the Ariel University Center

The Department of PT at Ariel was founded in 2000, under the School of Health Sciences, and was certified toward the BPT degree.

Establishment of the department was accompanied by a dilemma concerning the relationship between the academe and practice in the field, and its expression in the curricula. This dilemma affected the following issues:

1. Rationale for establishing the department: The new department was intended to address needs that were identified in three key areas: a lack of physical therapists in special services; physical therapists' low awareness of the importance of social and public involvement; and advanced development of physical therapists as independent learners.

2. Program developers and the teaching staff: The curriculum was developed by the department's academic staff members, practicing senior physical therapists, senior physicians, and health administrators. The composition of the development team found expression in several unique courses (such as decision making in physical therapy, administration, and quality control, and housing changes) as well as enrichment courses in movement and exercise for healthy and ill clients.

3. Curricular structure: A shortage of physical therapists was especially prominent in the field of treatment of the elderly in nursing homes and in the community; treatment of hospitalized patients; and treatment of special populations including mentally disabled individuals in residential settings or in the community. The curriculum was developed to address the shortage in these areas, and to instill in graduates a professional and moral foundation as the proper background for the clinical, personality, and academic professional development required of physical therapists. Program development followed typical university curriculum development models in Israel, to which were added special emphases and elaboration in areas of need, such as emergency medical care, gerontology, and the treatment of geriatric patients and the elderly in medical and community settings.

As a result, the curriculum focuses on academic learning (training graduates to have independent learning and investigative skills, professional curiosity, and a desire to keep informed about professional innovations; graduates who can appreciate the significance of clinical, epidemiological, and methodical research, as readers, research associates, and independent investigators), on moral-behavioral learning (training graduates to have knowledge and awareness of clients' rights, confidentiality and privacy issues, professional ethics, related legal aspects, and needs of individuals and the community; training graduates to be able to work in a multi-disciplinary team as required in modern medicine, with the skills and tools to conduct proper and effective interpersonal communications), and clinical learning (training graduates who have knowledge and skills to assess disorders and to develop intervention plans for individuals, for populations in residential settings, and in the community; teach them tools and skills for prevention, assessment, treatment, and rehabilitation of individuals of all ages with disorders, based on understanding their emotional, cognitive, and environmental needs; teach skills in guiding clients, families, caregivers, and other team members).

In the program, teaching is based on the academic teaching and research facilities available at the Center's Natural Sciences and Social Sciences departments, on lecturers and TA who are specialists in the field of PT, and on clinical counselors at places of practice.

1. **Teaching clinical skills**
    a. Practical work is incorporated in all years of study in the program, beginning from the first year (in the following courses: massage, movement education, medical exercise I, tests and measurements). Practical courses combine theoretical study and clinical experience at places of employment throughout the country.
    b. Instructors in all practical courses are guided to incorporate a clinical orientation from students' earliest encounters with the material.
    c. In practical courses, students practice on each other.
    d. In specific practical courses, clients participate as models for demonstrations. Demonstrations sometimes take place in various hospital wards.
    e. All practical courses have practical and theoretical exams in which students are required to demonstrate complex clinical skills to the examiners.
    f. Students are gradually exposed to the ethical and legal implications of the medical professional in general, and physical therapy in particular, beginning in the first year of the program.
    g. The department attributes great significance to students' acquisition of knowledge about physical therapy organizations in Israel and overseas.
    h. Supervision and managerial skills are acquired in the physical therapy administration course taught in the fourth and final year of the program, after students have acquired some clinical experience. The course is divided into three sections: introduction to administration, quality control, and writing procedures and treatment summaries.

i. The importance of evidence-based practice is stressed throughout the entire program. This issue is discussed extensively in courses on scientific investigation. In all the papers they submit throughout the program students are required to include statements with evidence from studies. All the practical instructors refer students to sources where they can find evidence from research and information on the effectiveness of the treatment techniques they study. In the fourth year of the program, students take a course on Decision Making in Physical Therapy, in which they learn to integrate all the factors that affect the decision-making process. One of these factors is evidence from research on treatment effectiveness.

j. Clinical experience. All students must undergo 1,000 hours of clinical experience in four areas: muscle/skeleton issues, rehabilitation, acute patients, and an elective treatment area.

The program maintains a connection with the field of clinical practice in several ways:

a. Individual meetings with service directors and counselors when students visit places of employment and engage in clinical practice.
b. Courses and seminars for clinical counselors are conducted at AUC.
c. Meetings with staff members of PT institutes when department staff members are invited to give guest lecturers.
d. Contacts with program graduates – The department's staff members advise and assist students in choosing a career orientation, and hold alumni conventions.

The present study focuses on the satisfaction of department graduates with their academic training and practical experiences, in an attempt to examine graduates' perception of the connection between academe and practice, with an aim of reinforcing the connections between the department's teaching program, and students' final achievements, and conditions and terms of employment after graduation.

Method

In this study we performed an analytical cross-section survey. Data were collected using a self-administered online survey.

Population – All students who graduated from the Department of Physical Therapy ("PT") at AUC between 2004 and 2009 (a total of 189 graduates in six classes) were requested to complete the online questionnaires.

Questionnaire – The questionnaire included items on job attributes (place of employment, position, etc.); advanced studies; overall satisfaction with job, profession, and training; satisfaction with work features; extent to which studies prepared graduates for their work in physical therapy.

Overall satisfaction was measured using six items: Four items pertained to satisfaction with work, position at work, choice of profession, training; and two items measured the extent to which graduates would recommend the profession and the program at Ariel to friends.

Satisfaction with work features was measured using a 20-item shortened version of the Minnesota Satisfaction Questionnaire (MSQ; Weiss, 1967, see Appendix 1). Responses to all items were marked on a 5-point Likert-type scale from 1 (*not at all*) to 5 (*very much*). Graduates' admission profiles, pre-admission place of residence, and final weighted grade average were taken from the AUC database.

The extent to which the undergraduate PT program prepared its graduates for work was measured by six indices that correspond to the key clinical areas covered in the curriculum. Each index comprised the average of two items (theoretical preparedness and practical preparedness). The overall training index comprised the average of the following items: coping with organizational and institutional problems, team work, in-service mentoring, and preparation for advanced degree work. Items were rated on a scale from 1 (*very little*) to 5 (*very much*).

Study procedure

Email addresses of all graduates were obtained prior to the survey. The survey was emailed to all graduates, accompanied by a letter explaining the aims of the survey. To increase the response rate, reminder letters were emailed on two subsequent occasions.

Data processing

Work features are described on the basis of descriptive statistics. Pearson correlations were used to measure correlation between graduates' grade average and their satisfaction with their studies and their work. Logistic regressions were used to examine the factors that contribute to graduates' satisfaction.A principal components analysis was performed on the satisfaction with work questionnaire using OBLIMIN rotation to classify items into factors. Reliability of items in each factor was measured using Cronbach's α. To examine differences in graduate average by year of graduation, we performed a two-sided analysis of variance. To examine differences in satisfaction with training in various fields, and with aspects of work, we performed one-sided analysis of variance with repeat measures.

To evaluate satisfaction, the following satisfaction measures were developed. Graduates responded to the following items:

1. The extent to which the program trained graduates in various areas for work as physical therapists. Respondents rated their satisfaction with overall training, training in geriatrics, respiratory training, orthopedic training, pediatric training, and training in neurology.
2. Work features – Respondents rated their satisfaction with their job's variety and challenge, job autonomy, supervisor, and employment conditions.

To examine which variables predict satisfaction with work features, we performed four step-wise linear regression for each of the four work feature indices. Results of the logistic regressions indicate that overall satisfaction with the program, overall satisfaction with the profession, and satisfaction with training in various areas were predictors of satisfaction with various features of the profession.

Results

Demographics: 109 graduates of the PT program at AUC completed the questionnaire, reflecting a response rate of 60%. Of this sample, 41% (42) were male and 59% (61) were female. The Central Bureau of Statistics of Israel developed a socio-economic measure based on a series of indicators, which classifies towns and cities into 10 clusters based on socio-economic features (cluster 1 reflects the lowest SES score while cluster 10 reflects the highest SES score). The average socio-economic rating was 6.23 (SD = 1.45): 34.3% reported low (clusters 4–5) socio-economic status, 42.4% reported moderate (clusters 6–7) socio-economic status, and 23.5% reported high socio-economic status (clusters 8–10).

Admission profile: Graduates' Matriculation grades ranged from 80 to 110, with an average of 96. The Matriculation average of approximately one-third of the graduates (35.8%) is lower than the current minimum Matriculation average requirement of 95. Differences in Matriculation grades were found by graduation year: Matriculation grade averages of students who graduated in the years between 2003 and 2005 (M = 91, SD = 6, N = 28) were lower than students who graduated in the years between 2006 and 2008 (M = 99, SD = 6, N = 31) or students who graduated in 2009 (M = 98, SD = 4, N = 18).

Graduates' psychometric scores ranged from 557 to 687, with an average of 623. Forty-two or less than one-half (38%) of the graduates received a psychometric score that is lower than the current minimum admission requirement of 630. Differences in psychometric scores were found by graduation year. The psychometric scores of students who graduated in the years between 2003 and 2005 (M = 615, SD = 34, N = 29) and between 2006 and 2008 (M = 615, SD = 28, N = 28) were lower than the scores of students who graduated in 2009 (M = 648, SD = 19, N = 17).

Graduates' final grade in the program ranged from 78 to 93, with an average of 85. Matriculation grades and final program grades were positively correlated ($r = 0.27$, $p < 0.05$, $N = 74$). No differences in final grades were found by year of graduation.

Continuing studies – Close to three-quarters of the graduates (71%) participated in courses for certified physical therapists. Of 2008 graduates, 83% participated in courses for certified physical therapists. Ten percent continued to a master's degree studies; of these students, four graduated between 2003 and 2005, four graduated between 2006 and 2008, and one graduated in 2009. Two-thirds (66%) noted that they plan to pursue a master's degree.

Working in physical therapy – Most graduates (97.2%, N = 106) were employed as physical therapists at the time of the survey: 83 work in one area, while 23 work in more than one area. More than one half (55.8%) of the graduates work in community-based PT clinics, 8.7% work in rehabilitation, 7.7% work with children, 11.5% work in general hospitals, 8.7% work in geriatric institutions, 2.9% work in institutions with mentally impaired individuals, and the remainder work in other areas. Notably, several graduates work in more than one place. Of the 2004–2009 graduates, 41% (32) have changed jobs, and 10% (8) are considering leaving the profession. We assumed that such information is not relevant for the most recent graduates and therefore their responses were excluded from the data processing of this item.

Satisfaction with training in the PT program

Correlation between satisfaction with program, admission profile, and graduation year. A negative correlation was found between graduates' satisfaction with the PT program and their psychometric scores ($r=-0.27$, $p<0.05$), graduation year ($r=-0.30$ $p<0.01$). More recent graduates were less satisfied with the program. No association was found between Matriculation scores and any satisfaction measure.

Correlation between overall satisfaction with the PT program and satisfaction with the program's clinical training in specific areas– Positive correlations were found between general satisfaction with the PT program and measures of satisfaction with work and clinical training in various areas, with the exception of training in the area of treatments for children.

Differences in satisfaction with training in various areas – Significant differences were found by area ($p<0.001$, eta=0.36). Results are shown in Figure 1.

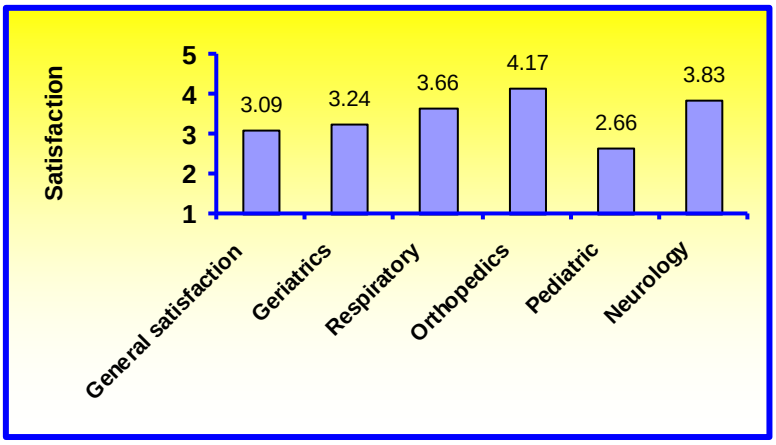

Figure 1. **Average satisfaction scores – satisfaction with undergraduate PT training, by area**

Findings show that orthopedic training generated the highest level of satisfaction, followed by (in descending order of satisfaction) neurological training and respiratory training. Pediatric training was the area in which reported satisfaction was lowest.

Satisfaction with Work

Graduates of the program work in the following settings: ambulatory PT clinics (where required training is mainly in orthopedic therapy), rehabilitation (required training is mainly neurological therapy), geriatrics (training is integrated in all clinical courses as well as in specific courses), pediatrics, general hospitals (where required training is mainly acute patient therapy), individuals with mental retardation and other special needs. As expected, the majority of the graduates (68) work in ambulatory PT clinics, which explains their ratings of their training. Fewer than 10 graduates work in each of the other physical therapy work settings. We examined the features of the profession as predictors of satisfaction with the profession and with general training. We found that job variety and challenge predicted 32.8%; degree of independence at work predicted 23.2%; satisfaction with supervisor predicted 7.2%; and satisfaction with work conditions predicted 28.7% of the satisfaction with the profession and general training. The findings are presented in Figure 2.

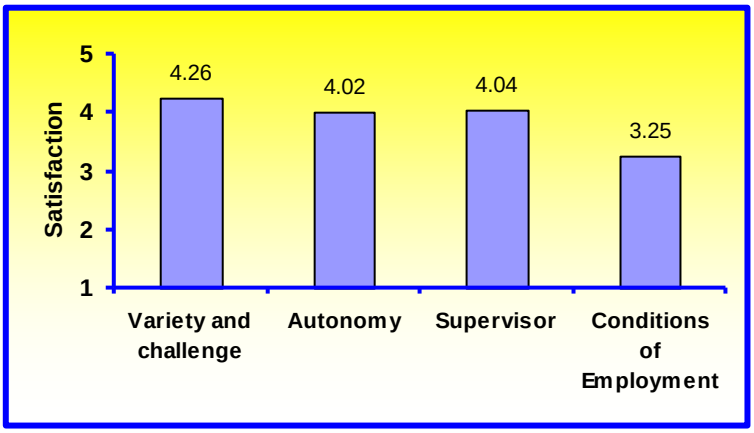

Figure 2. **Satisfaction with workplace features – average scores**

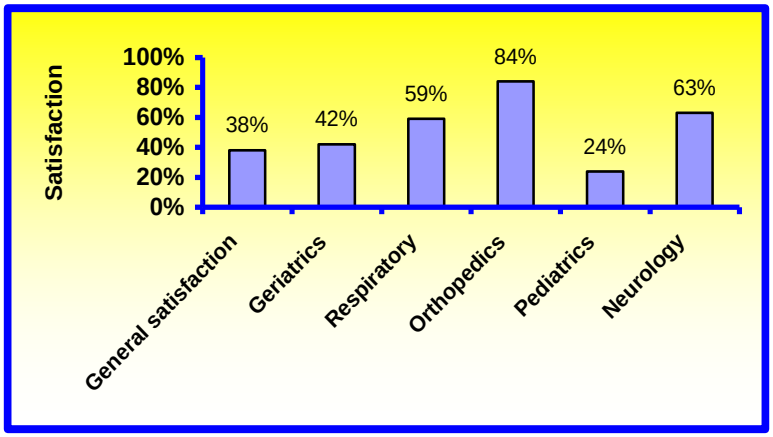

Figure 3. **Graduates who expressed high satisfaction with training, by specialty area**

Findings show that the MSQ workplace feature that received the greatest satisfaction score was variety and challenge on the job, followed by satisfaction with the supervisor, autonomy on the job, and finally, satisfaction with conditions of employment. Thirty-eight percent of the graduates noted that they were satisfied with their profession, and 74% noted that they were satisfied with the program. Significant differences were found by specialty area ($p<0.001$, eta = 0.39). Figures 3 and 4 present the percentage of graduates who reported being very highly satisfied or highly satisfied (scores of 4 and 5) in each of the specialty areas.

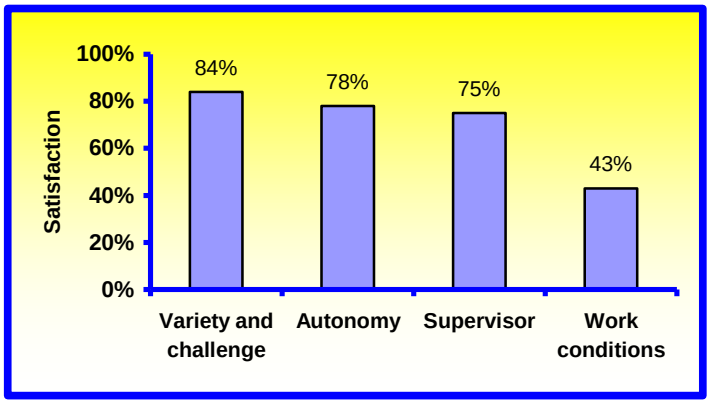

***Figure 4*. Graduates who expressed high satisfaction with workplace features**

Discussion

In the current study, we argue that the mission of the academe has changed in the post-modern world, and has become an integral part of institutions' existence delineated along disciplinary lines. While community service was previously a mission that took place outside disciplinary practice, today it has become an integral element of disciplinary programs. The case study of the Department of PT at AUC illustrates how academe and the field are closely related through the implementation of the academe's community service mission. In this case, the academe is also strongly aligned with national interests concerning training of physical therapists. These associations are evident in the program's curriculum, which takes into account the needs of the field in designing students' practical training, integrating professionals from the field in specialty courses, and in the extensive role of students' clinical training guided by professionals in the program. The findings of the study also point to a close relationship between the academe and the field, through which the field absorbs the graduates in the work place. At the same time, graduates report a high level of satisfaction with their profession and with the undergraduate program. Predictors of satisfaction with the profession are a combination of professional and organizational factors.

Graduates' high motivation to continue to study in specialty courses and earn an advanced degree is notable. Graduates are also satisfied with the basic training they received in the PT program in the majority of the specialty training areas. The fact that 97% of the graduates are currently employed and most found a job immediately or shortly after graduation testifies, first and foremost, to the demand for physical therapists in Israel. Still, the number of students admitted into the program is limited due to constraints concerning training needs and budgets. Despite their young age, approximately 20% of the graduates are already employed in senior positions such as unit management or clinical training. An interesting finding is that one-quarter of the graduates work in more than one workplace, which is similar to the situation of many physical therapists in Israel. This situation is apparently the result of the need to augment their earnings, in view of the low wages paid to physical therapists in the public sector. Graduates' distribution in specialty areas reflects the relative shares of these organizations and areas in the market.

The undergraduate program in PT provides fundamental professional training to engage in the main specialty areas of the profession. Integration of the graduates in diverse areas may also be indicative of the program's achievements. One-third of the graduates noted that they had already changed jobs at least once, although they noted that they were highly satisfied with their work. It may be assumed that some graduates begin work at the first place of employment that hires them, and not necessarily in the specialty area of their choice. Some are not sure, at graduation, which specialty area interests them, and they decide whether to pursue or change their course of action only after a period of work. Some graduates may also begin work as substitutes for employees on vacation, and therefore are forced to change jobs when the original employee returns to work. We have no indication whether graduates' mobility in the first phase of their career continues as they gain more experience. It should be noted that the program emphasizes that one of the advantages of the profession is the broad variety of specialty areas available.

The variety matches the aspirations of different students, and allows them to change direction during their career. Therefore, the change of jobs does not necessarily reflect instability, but rather speaks of one of the advantages of the profession. Nonetheless, graduates who changed their jobs were less satisfied with their supervisors, and it is conceivable that at least in some cases, the change of job was not the choice of the graduate. Only 10% of the graduates consider leaving the profession, and even these graduates continue to be employed in the profession, despite their lower level of satisfaction with the profession. In the absence of comparison data, it is difficult to judge whether this rate is similar to other groups of physical therapists or other groups of professionals, in and out of Israel. Graduates' overall satisfaction with their work is high and is similar to the level of satisfaction reported by healthcare professionals in Sweden (Weiss, 1967), and higher than the level of satisfaction reported by healthcare professionals in Japan (Jovic-Vranes et al., 2008) or Turkey (Enberg et al., 2007). The current study focuses on a group of young physical therapists who presumably have not yet experienced burn-out or frustration that is experienced by more experienced professionals and described in surveys conducted in other countries.

The high level of satisfaction of physical therapists with one to six years of experience is nonetheless encouraging. Comparison of factors related to satisfaction in other countries is difficult due to the use of different satisfaction measures. In the current study and in previous studies, factors of dissatisfaction are mainly poor work conditions. This finding raises the question of the fine line between the academe and the field: To what extent, if any, can the academe, after optimally training its graduates for work in the field (by carefully selecting students based on stringent admission requirements, a rich and diverse curriculum that exposes them to the specialty areas of practice, encounters with academic scholars and researchers as well as practitioners, etc.) take action to improve the work conditions of its graduates in view of graduates' disappointment with these conditions. Work conditions are the factor that explains the gap between satisfaction with the academic program and satisfaction with the profession.In this study, graduates expressed their satisfaction with the variety and challenge of their work, the interpersonal relations, leadership, their ability to provide a high standard of treatment, and their degree of autonomy on the job. It is interesting to note that graduates' reported satisfaction with the program is related to their satisfaction with their work.

Possibly, graduates with high achievements in the program are also those graduates who succeed in their work, are more greatly appreciated, and naturally are more satisfied. Findings of this study indicate that there is no correlation one element of graduates' admission profiles (psychometric scores) and their achievements in the program, on the job, in advanced programs, and satisfaction levels with the program and their work.
This case study points to several weaknesses that the researchers have identified, and which are reflected in satisfaction with work conditions. This case study points to the significance of reinforcing ties between the academe and the field with the aim of collaborating to reduce the difference between graduates achievements as they complete their program of studies, and the work conditions available to them when they practice their profession. The researchers recommend a comparative study with graduates of other PT training programs in Israel and in other countries.

References

[Hebrew]

Buber, M. (1981). On the educational act. In *The secret of the dialogue.* Jerusalem: Bialik.

Chen, D. (1999). A new millennium but what about the university? *The university in the year 2010*, Kfar Blum Conference, October 11-14.

Davidovitch, N., and Iram, Y. (2005). Higher education at a crossroads – The contribution of the regional colleges to higher education in Israel. In A. Gur Zeev (Ed.), *The end of the academe in Israel?* (pp. 312–359). Studies in Education. Haifa: Haifa University, Department of Education.

Gal-Nur, Y. (2009). Higher education in distress. *Alpaim Hagut Visifrut*, 34, 130–147.

Guri-Rosenblit, S. (2005). In A. Gur Zeev (Ed.), *The end of the academe in Israel?* (pp. 23–68). Haifa: Haifa University, Department of Education.

Iram, Y. (1978). The impact of traditions in higher education on the academic course of the Hebrew University. *Iyunim B'hinuch, 28*, 123–140.

Iram, Y. (1987). *Theory and practice in Jewish education – The path of Alexander M. Dushkin in Jewish education in the USA and Israel*. Tel Aviv: Cherikover.

Iram, Y. (1991). The history of education – research areas. In R. Shapira & A. Kasher (Eds.). *Sparks – Historical, philosophical, and social aspects of education* (pp. 105–120). Tel Aviv: Tel Aviv University.

Iram, Y. (1999). Unity versus diversity in pluralistic societies. In R. Laor and D. Man (Eds.). *Diversity and multi-culturalism in Israeli society* (pp. 11-14). Ramat Gan: Bar Ilan University.

Iram, Y. Shkolnikov, S., Cohen, Y., & Shechter, A. (Eds.)(2001). *Values and education in Israeli society*. Jerusalem: Ministry of Education.

Katz, D. (2005). *Martin Buber and popular education: Between the academic chair and the benches*. Thesis submitted for the degree of master of philosophy, Tel Aviv University, Tel Aviv.

Leib, Y. (Ed.) (1936). *The Chancellor's speeches on the Hebrew University of Jerusalem* (Booklet C). Jerusalem: Friends of the Hebrew University of Jerusalem in Israel Association, Jerusalem: Azrieli Press

Levinson, A. (1948). *Speech of Berl Katzenelson on the Hebrew University*. Jerusalem: Hebrew University.

Maslovati, N., and Iram, Y. (2002). Eds. *Moral education in diverse teaching contexts*. Tel Aviv: Ramot and Tel Aviv University.

Shechter, S. (2006). *Cracks in the ivory tower*. Jerusalem: Zivonim.

Shmida, M. (1987). *Between equality and excellence: Educational reforms and the comprehensive school.* Ramat-Gan: Bar-Ilan University. [Hebrew]

Yaoz, H. & Iram, Y. (1987) Changes in Literature Curricula: a comparative study, *Iyunim B'hinuch*, 46**.** 152-170

Yaoz, H. (1994). Values and their reflection in teaching disciplines (literature and history). *Iyunim B'hinuch, 59*, 367-372.

Yurtner, Y. (1999). Research universities in Israel. *The university in the year 2010*, Kfar Blum Conference, October 11-14.

Zimmerman, M. (2005). The idea of university, science, and state in a historical perspective. In A. Gur Zeev (Ed.), *The end of the academe in Israel?* (pp. 69-91). Haifa: Haifa University, Department of Education.

[**English**]

Allen, C. M., & Allen, W. B. (2003). *Habits of Mind*. Transaction Publications, USA.

Apple, M. W. (1982). *Education and Power*. Boston: Routledge and Kegan Paul.

Arimoto, A., Huang, F., & Yokoyama, K. (Eds.) (2005). *Globalization and higher education*, Higashi-Hiroshima: Research Institute for Higher Education, Hiroshima University

Atkinson, T. (2008). Textual mapping of imitation and intertextuality in college and university mission statements: A new institutional perspective. *Semiotica, 172*, 361–387.

Austin, A. E., and Gamson, Z. F. (1983). Academic Workplace: New Demands, Heightened Tensions. *ASHE-ERIC Higher Education Research Report No. 10*. Washington, DC: The George Washington University.

Baker, W. O. (1983). Organizing Knowledge for Action. In T. W. Langfitt and others (Eds.), *Partners in the Research Enterprise.* Philadelphia: University of Pennsylvania Press.

Blackmur, D. (2004). Issues in Higher Education Quality Assurance. *Australian Journal of Public Administration, 63*, 105–116.

Boice, R. (2000). Advice for New Faculty Members: Nihil Nimus. Needham Heights, MA: Allyn & Bacon.

Bonewits Feldner, S. (2006). Living Our Mission: A Study of University Mission Building. *Communication Studies, 57*, 67–85.

Boyer, C.M., and Lewis, D.R. (1985). *And On the Seventh Day: Faculty Consulting and Supplemental Income*. Washington, DC: National Institute of Education.

Bridges, P.H., Bierema, L.L., and Valentine, T. (2007). The propensity to adopt Evidence-based practice among physical therapists. *BMC Health Services Research, 7*(1), 103.

Clark, B. R. (1983) *The Higher Education System.* Berkeley: University of California Press.

Cobban, A. B. (1992). Reflections on the role of medieval universities in society. In Smith & B. Ward (Eds.), *Intellectual life in the Middle Ages* (pp. 227–241). London: Hambledon Press.

Commanger, H.S. (1963). Documents of American History. New York: Meredith.

Currie, J., and Newson, J. [Eds] (1998) *Universities and Globalisation – Critical Perspectives*. Sage: London.

Eker, L., Tuzun, E. H., Daskapan, A., and Surenkok, O. (2004). Predictors of job satisfaction among physiotherapists in Turkey. *Journal of Occupational Health, 46*, 500–5.

Enberg B., Stenlund, H., Sundelin, G., and Ohman, A. (2007). Work satisfaction, career preferences and unpaid household work among recently graduate health-care professionals – a gender perspective. *Scandinavian Journal of Caring Sciences, 21*, 169–77.

Fear, F. A., and Sandmann, L. R. (1995). Unpacking the Service Category: Reconceptualizing University Outreach for the 21st century. *Continuing Higher Education Review, 59,* 110–122.

Fenske, R. H. (1980). Setting institutional goals and objectives. In P. Jedamus & M. W. Peterson (Eds.), *Improving academic management* (pp. 177–199). San Francisco: Jossey-Bass.

Harvey, L., and Green, D. (1993). Defining quality. *Assessment & Evaluation in Higher*, 18, 9–34.

Harvey, L., & Knight, P. (1996). *Transforming Higher Education*. Buckingham, Open University Press and Society for Research into Higher Education.

Haskins, C. H. (1957). *The rise of universities*. Ithaca, NY: Cornell University Press.

Iram, Y. (1983). Vision and fulfillment: The evolution of the Hebrew University, 1901-1950, in *History of. Higher Education Annual, 3,* 123–43.

Iram, Y. (1998). *Michlalot Ezoriyot – Regional Colleges in Israel: Challenges, promises, and prospects of an alternative model in higher education. Dimensions of the Community College, International, Intercultural, and Multicultural Perspectives*. Westport, Conn: Greenwood Press.

Jovic-Vranes, A., Vesna, B., Boris, V., and Natasa, M. (2008). Job satisfaction in Serbian health care workers who work with disabled patients. *Central European Journal of Medicine, 8,* 221–224.

King, R. (2007). Governance and accountability in the higher education regulatory state. *Higher Education, 53*, 411–430.

King, R., Griffiths, P., and Williams, R. (2007). Regulatory intermediation and quality assurance in higher education: the case of the auditors. *Oxford Review of Education, 33,* 161–174.

Lieven, M., and Martin, G. (2006). Higher Education in a Global Market: The Case of British Overseas Provision in Israel. *Higher Education, 52,* 41–68.

Menon, M. (2003). Views of Teaching-focused and Research-focused Academics on the Mission of Higher Education. *Quality in Higher Education, 9,* 39–54.

Montesinos, P., Carot, J., Martinez, J., and Mora, F. (2008). Third Mission Ranking for World Class Universities: Beyond Teaching and Research. *Higher Education in Europe*, *33*(2/3), 259–271.

Ogiwara, S, and Araki H. (2006). Job satisfaction among physiotherapists in Ishikawa Prefecture, Japan. *Journal of Physical Therapy Science*, *18*, 127–32.

Readings, B. (1996). *The university in ruins.* Cambridge, MA: Harvard University Press.

Richter, R. R., and Ruebling, I. (2003). Model for development of outcome assessment surveys for allied health educational programs. *Journal of Allied Health*, *32*, 179–84.

Seaberry, J., and Davis, J. (1997). The metropolitan university: History, mission, and defining characteristics. *New Directions for Student Services*, *79*, 5–13.

Scott, J. (2006). The Mission of the University: Medieval to Postmodern Transformations. *Journal of Higher Education*, *77*, 1–39.

Slaughter, S., and Rhoades, G. (2004). *Academic Capitalism and the New Economy: Markets, State and Higher Education*. Baltimore, MD: The Johns Hopkins University Press.

Stallmann, F. (2002). Reform or Re-labeling? A Student's Perspective On The Introduction Of The Bachelor's And Master's Degree In German Higher Education. *German Policy Studies/Politikfeldanalyse*, *2* (digital format).

Ward, K. (2003). *Faculty service roles and the scholarship of engagement* (ASHE-ERIC Higher Education Report, 29). Hoboken, NJ: Jossey-Bass, in coop. with ERIC Clearinghouse on Higher Education, Association for the Study of Higher Education, Graduate School of Education and Human Development, the George Washington University.

Weiss D. J. (1967). *Manual for the Minnesota Satisfaction Questionnaire*. Work Adjustment Project, Industrial Relations Center, University of Minnesota, Minneapolis.

Wittrock, B. (1993). The modern university: the three transformation. In S. Rothblatt and B. Wittrock (Eds.), *The European and American university since 1800: historical and sociological essays*. Cambridge University Press.

World Health Organization (2001). International Classification of Functioning Disability and Health. Geneva: World Health Organization.

Worthington, F., and Hodgson, J. (2005). Academic labour and the politics of quality in higher education: a critical evaluation of the conditions of possibility of resistance. *Critical Quarterly*, *47*(1/2), 96–110.