A NEED ANALYSIS STUDY FOR FACULTY DEVELOPMENT
PROGRAMS IN METU AND STRUCTURAL
EQUATION MODELING OF FACULTY NEEDS

HOSEIN MOEINI

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A NEED ANALYSIS STUDY FOR FACULTY DEVELOPMENT

PROGRAMS IN METU AND STRUCTURAL

EQUATION MODELING OF FACULTY NEEDS

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Approval of the Graduate School of Natural and Applied Sciences

<div align="right">

_____

Prof. Dr. Canan Özgen

Director

</div>

I certify that this thesis satisfies all the requirements as a thesis for the degree of Doctor of Philosophy.

<div align="right">

_____

Prof. Dr. M. Yaşar Özden

Head of Department

</div>

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Doctor of Philosophy.

<div align="right">

_____

Prof. Dr. Doğan Alpsan

Supervisor

</div>

Examining Committee Members

Prof. Dr. Doğan Alpsan   _____

Prof. Dr. Giray Berberoğlu   _____

Prof. Dr. Sibel Güneysu   _____

Prof. Dr. Ömer Geban   _____

Asst. Prof. Dr. Soner Yıldırım   _____

ABSTRACT

A NEED ANALYSIS STUDY FOR

FACULTY DEVELOPMENT PROGRAMS IN METU

AND STRUCTURAL EQUATION MODELING OF FACULTY NEEDS

Moeini, Hosein

Ph.D., Department of Computer and Instructional Technologies Education

Supervisor: Prof. Dr. Doğan Alpsan

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The purpose of this doctoral thesis research study was first to investigate the needs for a faculty development program in Middle East Technical University (METU). Later, in the second phase, models that explained the linear structural relationships among factors that might be influential on faculty's perceived competencies about the skills necessary for the instructional practices, personal, professional and organizational developments were proposed and compared.

In this study, a questionnaire considering different aspects of faculty developments were sent to all of the academicians in METU. After collecting data from faculty members and research assistants, they were analyzed both descriptively and using principal component factor analysis. Based on the results of factor analysis, linear structural relations models fitting the data were generated through LISREL-SIMPLIS computer program runs.

The descriptive results indicated that there was a feeling for need to improve the faculty's self-proficiency in different instructional issues. On the other hand, both descriptive results and LISREL modeling results indicated that faculty members and research assistants show different characteristics based on their needs and factors affecting their self-proficiencies. These aspects will lead us to prepare different faculty development programs based on their needs and priorities.

The result for both faculty members and research assistants showed that in a faculty, instructional self-proficiency cannot be considered as a single absolute parameter. Rather, it should be considered as several interrelated parameters connected to different aspects of faculty's proficiencies.

Key Words : Faculty Development Programs, Structural Equation Modeling, Perceived self proficiency, Attribute importance.

ÖZ

ORTA DOĞU TEKNİK ÜNİVERSİTESİN'DE FAKÜLTE GELİŞİM PROGRAMLARI İÇİN İHTİYAÇ ANALİZİ ÇALIŞMASI VE FAKÜLTE İHTİYAÇLARININ YAPISAL DENKLEM MODELLERİ

Moeini, Hosein

Doktora, Bilgisayar ve Öğretim Teknolojileri Eğitimi

Tez Yöneticisi: Prof. Dr. Doğan Alpsan

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Bu çalışmanın ilk amacı, öğretim üyelerinin ve araştırma görevlilerinin fakülte gelişim programlarına yönelik ihtiyaçlarını Orta Doğu Teknik Üniversitesinde (ODTÜ) araştırmaktır. Çalışmanın ikinci evresinde öğretim üyelerinin ve araştırma görevlilerinin öğretimsel, kişisel, profesyonel ve organizasyon gelişim için gerekli becerilerin yeterliliğine yönelik algılarını etkileyen faktörler arasındaki doğrusal yapı ilişkilerini açıklayan modeller öne sürülmüş ve karşılaştırılmıştır.

Bu araştırmada fakülte gelişim programlarının değişik boyutlarını kapsayan bir anket hazırlanarak, ODTÜ'deki bütün öğretim üyeleri ve araştırma görevlilerine uygulandı. Anket verileri öğretim üyeleri ve araştırma görevlilerinden toplandıktan sonra betimsel ve temel bileşenler faktör çözümlemesi yöntemleri kullanılarak analiz edildi. Faktör analizi sonuçları baz alınarak verilere uyan düzgün doğrusal yapı ilişki modelleri LISREL-SIMPLIS bilgisayar programı çalıştırılarak yaratıldı.

Betimsel sonuçlar, fakülte üyelerinin değişik öğretimsel konularda kendi yeterliliklerin geliştirilmesine yönelik gereksinimleri olduğuna dair düşünceleri olduğunu ortaya çıkartmıştır. Diğer taraftan, betimsel sonuçlar ile LISREL modelleme sonuçları, öğretim üyelerinin ve araştırma görevlilerinin kendi gereksinimleri ve öz yeterliliklerini etkileyen faktörler konusunda değişik düşüncelere sahip olduklarını göstermiştir. Bu yaklaşımlar fakülte gelişim programlarının fakülte üyelerinin ihtiyaçları ve öncelik verdikleri konuları göz önüne alarak geliştirilmesini sağlayacaktır.

Öğretim üyeleri ve araştırma görevlilerine yönelik sonuçlar fakültede öğretimsel öz yeterliliğin tek bir parametre olarak düşünülmemesi gerektiğini göstermektedir. Öğretimsel öz yeterlilik değişik yönlere bağlı birkaç ilişkili parametre olarak ele alınmalıdır.

Anahtar Kelimeler : Fakülte Gelişim Programları, Yapısal Denklem Modelleme Yöntemi, Algısal Öz Yeterlilik, Önemlilik Etkeni.

ACKNOWLEDGEMENTS

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METU's general satisfaction factors :

g1 : Number of students in class

g2 : Campus design

g4 : Library

g5 : Campus security

g6 : Office facilities

g7 : Student registration system

g8 : Student advisory system

g9 : Campus traffic

g10 : Sports facilities

g11 : Cultural activities

g12 : Health center

g13 : Cafeteria / canteen services

Perceived self proficiency in :

y1 : Using multiple teaching methods

y2 : Class management

y3 : Applying different assessment strategies

y4 : Utilizing examination results to improve the quality of teaching

y5 : Measurement and evaluation

y6 : Knowing learning theories

y7 : Planning the instruction in line with the predetermined objects

y8 : Leadership

y9 : Administrative skills

y10 : Establishing communication with colleagues

y11 : Establishing communication with students

y12 : Time management

y13 : Self awareness & development

Importance attributed to :

n1 : Using multiple teaching methods

n2 : Class management

n3 : Applying different assessment strategies

n4 : Utilizing examination results to improve the quality of teaching

n5 : Measurement and evaluation

n6 : Knowing learning theories

n7 : Planning the instruction in line with the predetermined objects

n8 : Leadership

n9 : Administrative skills

n10 : Establishing communication with colleagues

n11 : Establishing communication with students

n12 : Time management

n13 : Self awareness & development

Performance criteria :

per1: Students' evaluation

per2 : Peer views

per3 :Head of department's view

per4 :Dean's views

per5 :Number of publications

per6 : Number of Citations

per7 : Number of supervised thesis

per8 :Teaching load

per9 : Service to university

per10 : Consultations, ongoing projects

Administration approach to :

adm1 : Openness to different views

adm2 : Problems handling

adm3 : Open to participation / interaction

adm4 :Accessibility

adm5 : Transparency

adm6 : Trustworthiness

adm7 : Consistency

Barriers to developments :

ba1 : Teaching load

ba2 : Insufficiency of computer facilities in office

ba3 : Insufficiency of computer support services

ba4 : Insufficiency of secretarial services

ba5 : Insufficiency of photocopy facilities

ba6 : Insufficiency of printing facilities

ba7 : Excess of departmental meetings

ba8 : Excess of commission membership

ba9 :Administrative duties

Job satisfaction :

js1 :General job satisfaction

js2 :Shifting the job to other universities

For Research Assistants :

CDST (items g3, g5, g9) (campus design, campus security and campus traffic)
ICSTMS(items n11, n12, n13) (importance attributed to communication with

students, time management, self awareness & development)

IIA (items n1, n2, n3, n4, n5) (importance attributed to some instructional abilities)

ILACC (items n8, n9, n10) (importance attributed to leadership & administrative

skills and communication with colleagues)

ILTCD (items n6, n7) (importance attributed to knowing learning theories and

planning the instruction in line with the predetermined objects)

NSCO (items g1, g2, g6) (number of students in class and Computer & office

facilities)

▪▪

PCLA (items y2,y8, y9) (perceived self-proficiency based on class management, leadership & administrative skills)

PCTMS (items y10, y11, y12, y13) (perceived self-proficiency based on communication with colleagues & students, time management, self awareness & development)

PIA (items y1, y3, y4, y5, y6, y7) (perceived self-proficiency based on instructional abilities)

SARHF (items g7, g8, g12, g13) (students' advisory & registration systems, health services and cafeteria / canteen services)

SFCA (items g10,g11): (sports facilities & cultural activities)

For faculty members :

ADMF (items adm1, adm2, adm3, adm4, adm5, adm6, adm7) (administration approaches based on openness to different views, problem handling, open to participation / interaction, accessibility, transparency, trustworthiness, consistency)

BEA (items ba7, ba8, ba9) (barriers due to excess of academic responsibilities)

BIOF(items ba2, ba3, ba4, ba5, ba6)(barriers due to insufficient office facilities)

COF (items g2,g6) (computer facilities, office facilities)

CSRA (items g5, g7, g8) (campus security, student registration system, student advisory system)

IASER(items n3, n4) (importance attributed to applying different assessment strategies and utilizing examination results to improve the quality of teaching)

ICMCS (items n1, n2, n10, n11, n13) (importance attributed to class management, using multiple teaching methods, communication with colleagues & students, and self awareness & development)

ILATM (items n6, n8, n9, n12) (importance attributed to knowing learning theories, leadership, administrative skills, and time management)

IMECD (items n5, n7) (importance attributed to measurement and evaluation and planning the instruction in line with the predetermined objects)

PCTCS (items y10, y11, y12, y13) (perceived self-proficiency based on communication with colleagues & students, time management, planning the instruction in line with the predetermined objects, self awareness & development)

PIACM(items y1, y2, y3, y4, y5, y6) (perceived self-proficiency in using multiple teaching methods, class management, applying different assessment strategies, utilizing examination results to improve the quality of teaching, measurement and evaluation, knowing learning theories)

PLA (items y8,y9) (perceived self-proficiency based on leadership & administrative skills)

PLSCP (items per8, per9, per10)(Preferred performance measurement criteria based on teaching load, services to university, consultations & ongoing projects)

PPCA (items per5, per6, per7) (Preferred performance measurement criteria based on number of publications, citations, supervised thesis)

PPHD (items per2, per3, per4) (Preferred performance measurement criteria based on peer views, head of department's view, dean's view)

SCLHF (items g1, g3, g4, g12, g13) (number of students in class, campus design, library, health service, cafeteria / canteen services)

TSC (items g9, g10, g11) (Campus traffic, sports facilities, cultural activities)

CHAPTER 1

INTRODUCTION

Higher education has undergone a great deal of change in the last century, especially during the last 50 years. Although there has been tremendous growth and pedagogical advances, the last decade has witnessed serious attacks on the academy, as well as on the faculty and students within higher education (Heppner & Johnson, 1994; Dilorenzo & Heppner, 1994). It seems that new challenges face the academy and widespread changes affect virtually all aspects of higher education today. According to Millis (1994), complex changes that universities are respond to can be considered as :

- Expectations about the quality of education,
- Changing technology and its impacts on teaching and learning,
- Nature and value of assessment,

- The academy's continuing ability to meet the changing and developing needs of the society effectively,

- Diverse compositions of students populations,

- Changing paradigms in teaching and learning.

Colleges and universities, for whatever reasons, have been neither sufficiently alert to the ever-changing circumstances of their instructional staffs nor adequately resourceful in meeting their changing needs for professional development. It is indeed striking how much has been written about faculty growth and renewal and how few campuses have seen fit to develop comprehensive, systematic programs (Schuster., 1990). In order to achieve an effective educational reform, faculty development emerged as a key factor. In general, faculty development facilitate the professional, personal, organizational and instructional growth of faculty and faculty members. It promotes improvement in the academy in large part through helping individuals to evolve, unfold, mature, grow, cultivate, produce, and otherwise develop themselves as individuals and as contributors to the academy's mission (Watson, Grossman, 1994).

It can be mentioned that the primary goals of higher education institutions are enhancing and maintaining academic excellence. Faculty members are the most important factor for achieving these goals since they are responsible for implementing the tasks that are directly associated with the goals. Therefore, higher education institutions need effective faculty members. Faculty development programs enhance necessary skills of faculty members and enable them to work

more effectively (Prachyapruit, 2001). Faculty development can play a significant role in increasing the quality of a faculty environment, particularly by emphasizing academicians' roles as instructors. The aim is to enhance the coherence of the general education core.

In fact, faculty development has been an integral part of higher education for many years. In the decades preceeding the 1970s faculty development programs in universities and colleges were similar to inservice programs in K-12 schools based on scope and direction. In the mid 1970s, however, faculty development went through a major metamorphosis from context and process based programs to programs designed to develop faculty members as teachers and facilitators of learning(Chun, 1999; Millis,1994).

In Turkey, the quality of higher education institutions has been an important issue for several years. Following the emergence of new private universities in the last few years, a challenge among private and public educational institutes has begun in attracting students to themselves. It seems that all of the public and private universities are facing increasingly new demands to improve the quality in their educational missions.

This study is designed to be a guide for the inevitable application of faculty development programs in METU. By studying the perceptions of the faculty and the top level of administrators of METU, it can identify the level of knowledge about faculty development and the faculty development needs of METU. In addition, this

study tries to identify the problems and restraining factor against faculty development in METU and to introduce possible recommendations for implementation and further research.

METU, in spite of a brilliant history for her quality of education, didn't have an announced and clear campus wide program for training faculty members and research assistants or other activities based on a faculty development program until the year 2001. Since then some limited activities, such as single seminars for new instructors and a compulsory course for those research assistants who came temporarily from other universities to METU have been done. Department of Basic English has also some programs to develop her academicians, however, they are not campus wide and cannot fulfill the requirements.

It seems that few professional preparatory programs are offered to graduate students to provide them with necessary teaching skills or techniques. Many new faculty members are not adequately prepared to teach at the university; they actually just use the instructional methods they faced through their own educational experience. Many of them also have been left to study on their own to improve their pedagogical skills. In general, knowing the content of the subject does not guarantee an effective teaching.

METU, similar to other universities, suffers from well-designed faculty development programs. Besides to the general problems mentioned above, METU has faced with some special cases. The level of students' English is a hot topic for

universities, especially after the emergence of private universities in Turkey and their contest with the public higher education institutes. In METU, for example, the students' English is best at the time of their graduation from the Department of Basic English but afterwards; their English proficiency decreases gradually. The fact is that they seldom speak English during their education, since courses are usually in lecture types and a little participation from students is done. This trend continues in further stages such as applications for research assistantship. Although METU graduates apply for assistantship pass their departments' science exams/interviews, their proficiency exams' score is a difficult barrier for them. Lately, the need for faculty development in METU has been discussed in different platforms such as the university's discussion lists in WEB environment. There is also a felt need in METU administrators to initialize faculty development activities in METU (Alpsan, 2001).

Therefore the purposes of this study are:

- First, to investigate the perceptions of faculty members and research assistants about general satisfaction level, their perceived proficiency and importance attributed to instructional, personal and professional development activities and to explore if there is a need for a faculty development program in the Middle East Technical University (METU);

- Second, considering faculty members and research assistants as two main distinct groups, to propose a model that explains the possible sources of factors that might be influential on faculty's perceived competencies about

the skills that are necessary for instructional practices, personal, professional and organizational developments.

In other words, this study tries to guide the application of faculty development programs in METU. In order to determine the factors affecting faculty's perceived self-proficiency, structural equation modeling is introduced to analyze the relationships between those factors.

To achieve the purposes of an investigation into the needs of faculty development in METU, four major questions were proposed:

1. What are the perceptions of faculty members and research assistants about general satisfaction level at METU, the importance they attributed to instructional, personal and professional development activities and their proficiency in those fields?

2. What are the factor structures across faculty members and research assistants with respect to general satisfaction, attributed importance and their perceived proficiency in instructional, personal and professional development issues?

3. Which model does explain the factors that might be influential on faculty's perceived competencies about the skills required for the instructional practices, personal, professional and organizational development issues?

4. What does faculty think about faculty development training programs types, criteria that should be used in evaluating performance, university administration, barriers to their academic life and their job satisfaction?

The study conducted is significant in that it is the only one analytically searches for the relationships among a set of variables that are related to faculty development activities. This means that at the end, you could gain more insights for faculty development issues, and the relationships will also tell you when and under which condition you can develop a program that helps individual instructional practices, personal and professional developments for each group.

In order to confirm constructs and study relationships among factors, Linear Structural Relations (LISREL) modeling, or Structural Equation Modeling (SEM) seemed to be an appropriate and promising analytical procedure for this study. In the LISREL model, the linear structural relationship and the factor structure are combined into one comprehensive model applicable to observational studies in many fields. The model allows (Ssicentral,2003) :

- multiple latent constructs indicated by observable explanatory (or exogenous) variables,

- recursive and non-recursive relationships between constructs, and

- multiple latent constructs indicated by observable responses (or endogenous) variables.

According to Kelloway (1998), "Social science research commonly uses measures to represent constructs. Most fields of social science research have a corresponding interest in measurement and measurement techniques. Structural equation modeling provides a unique analysis that simultaneously considers questions of both measurement and prediction. Typically referred to as "latent

variable models," this form of structural equation modeling provides a flexible and powerful means of simultaneously assessing the quality of measurement and examining predictive relationships among constructs." In addition to LISREL models proposed in this study, a detailed comparison is applied in order to find the best model that fits the requirements.

Reminding that faculties are the cores of any institution of higher education, it is worth studying on faculty development and relationships between factors affecting these activities. This study may provide basic information and insights to initiate, plan and implement faculty development programs that can be organized to meet the requirements of academicians and match higher institutional goals.

CHAPTER 2

REVIEW OF THE LITERATURE

2.1 Faculty and functions

The word faculty refers to a department of instruction in an educational institution (Merriam-Webster, 1974). It can also be considered as a department teaching a specified subject in a university or college. Functions of the faculty may be defined in four overlapping tasks as follows (Bowen & Schuster, 1986) :

Instruction: The main function of faculties is instruction, that is, direct teaching of students. Instruction involves formal teaching of groups of students in classrooms, laboratories, studios, gymnasia, and field settings. It also involves conferences, tutorials, and laboratory apprenticeships for students individually. Instruction also entails advising students on matters pertaining to their current

educational programs, plans for advanced study, choice of career, and sometime more personal matters.

Research: Faculties contribute to the quality and productivity of society not only through their influence on students but also directly through the ramified endeavors called as research. This term is used as shorthand for all the activities of faculties that advance knowledge and the arts. The activities may be classed as research if they involve the discovery of new knowledge or the creation of original art and if they result in dissemination usually by means of some form of durable publication.

Public service: Public services can be performed by faculties in connection with their teaching and research. The most notable is health care delivered by faculty in university hospitals and clinics. Faculties are also engaged in activities designed specifically to serve the public, usually in an educational and consulting capacity. Perhaps the most important public service function of faculties is that they serve as a large pool of diversified and specialized talent available on call for consultation and technical services to meet an infinite variety of needs and problems.

Institutional governance and operation: Faculties, individually and collectively, usually occupy a prominent role in the policies, decisions, and ongoing activities falling within the wide-ranging realm of institutional governance and operation. Faculty members contribute enormously to institutional success through

their efforts to create and sustain a rich cultural, intellectual, and recreational environment in the campus.

As it can be seen the work of faculty members is extraordinarily important to the economic and cultural development of the nation. If the quality of the system and its people deteriorate, it will be less able to provide the teaching, research, and public service activities.

2.2 Background of faculty development

The growing diversity of the student population, societal needs, changes in expectations about the quality and assessment of education, rapid changes in information and technology and their impacts on teaching and learning, nature and value of assessment, and paradigms about teaching and learning have made many instructors to reconsider not only the importance of the content they are teaching, but also the effectiveness of their teaching methods based on students' learning. According to Chism, Lees and Evenbeck (2002), the basic model of teaching changed from teaching as transmission of content to teaching as the facilitation of learning.

In the decades preceding the 1970s faculty development programs in higher education institutions were similar to in-service programs. According to Katz & Henry (1988), waves of students' protests in the 1960s were to protest not just the impersonality of their education, but also the contents of education; not just the

relevance of their studies to their lives and to their society, but also the epistemological assumptions under girding the pursuit of knowledge. The student movement came to a halt in 1970 but the thrust against the established curriculum and ways of teaching was continued from a new source. The sheer growth in the numbers of both colleges and students attending them and the need for attracting and holding large numbers of students brought a shift to a new orientation that viewed students as customers and consumers. The rapid acceptance of the concept of faculty development from about 1970s onward and the many programs that exist in a majority of institutions encouraging faculty development testify to at least an implicit awareness of the historical changes.

Brawer (1990) stated that during the 1960s, when institutions of higher education were admonished by their students and other critics for their impersonality, and when community college spokespersons castigated the universities while lauding their own colleges as teaching institutions, the universities became concerned with further developing their own staff members.

In the mid 1970s, faculty development went through a major metamorphosis from context and process-based programs to programs designed to develop faculty members as teachers and facilitators of learning. Faculty development efforts, which gained wide support in the 1960s in North America, continue to be widely supported today. Wilkerson and Irby (1998) believe that the development of teaching improvement practices in higher education through the decades of the 1970s, 1980s, and 1990s has showed that each of these decades is characterized by

a predominant learning theory. Behavioral theories in the 1970s, cognitive theories in the 1980s, and social learning theories in the 1990s guided research and teaching practices related to faculty development programs.

Faculty development is a process of enhancing and promoting any form of academic scholarship in individual faculty members. Watson and Grossman (1994) mentioned that faculty development promotes improvement in the academy in large part through helping individuals to evolve, unfold, mature, grow, cultivate, produce, and otherwise develop themselves as individuals and as contributors to the academy's mission. Although there are numerous definitions of faculty development, the common theme is promoting the growth and effectiveness of faculty teaching and research (Heppner & Johnson, 1994).

Nathan (1994) indicated that faculty development is no longer an optional or dispensable "add-on" to the list of benefits available to faculty at universities in the United States. Faculty development programs have become increasingly burdened with the responsibility of fixing what is wrong with the universities, at least to the extent that what is wrong is a function of faculty shortcomings and inadequacies. Wilkerson & Irby (1998) stated that it is a tool for improving the educational vitality of academic institutions through attention to the competencies needed by individual teachers, and to the institutional policies required to promote academic excellence.

2.3 Importance of faculty development

According to Daigle and Jarmon (1997) faculty development is an important component of building and maintaining human capital, which in turn is part of the total capital assets of the university. Much like the supporting physical and technology infrastructures, intellectual capital should be planned and managed around broad institutional goals for the future. Hitchcock & Stritter (1992), suggest that the concept of faculty development is evolving and expanding. Faculty development, originally defined as the improvement of teaching skills, has expanded to include all areas of a faculty member's responsibility.

In May 1997, the Senate of Ohio State University appointed a commission to address a number of concerns pertaining to faculty development. The Commission was charged with making recommendations, as appropriate, regarding how the University could enhance its support of faculty professional development. Based on final report of the Commission, "faculty vitality, both from the perspective of professional expertise and from the perspective of enthusiasm and engagement, is a sine qua non of a successful university. Although faculty members accept the primary responsibility for maintaining that vitality, the growing pressures and demands facing faculty make it increasingly challenging for many to find the time and resources needed for professional development. The rapid growth of knowledge, sweeping technological change, and increasing social demands on the academy make it imperative that even the best of our universities work to ensure

that adequate institutional means for professional development are made available to faculty" (Commission of faculty development and careers, 1999).

Higher education cannot simply rely on current methods of faculty preparation because these methods may leave instructors unprepared for the challenges of the twenty-first century (Miller, 1997). Cohen, Manion and Morrison, (1996), believe that even being able to update with the developments due to exponential increase in knowledge and information and use of new technologies, has become a major challenge for faculties. It is unavoidable that the extended use of information technology will bring a revolution in teaching and learning, just as it has brought a revolution in knowledge and its acquisition. According to Simpson (1990), during an earlier period of academic history, a professor might have expected mastery of the knowledge in a given area of expertise as a realistic goal. Rate of knowledge development today, however, makes this no longer feasible. Therefore, part of becoming a scholar is to live with the fact that complete mastery of a particular subject is not possible. Also, the rate at which technology is developing compounds the lack-of-mastery feeling of professors. In some instances, technology is growing at a rate that exceeds professors' ability to assimilate and use new information before the knowledge is already obsolete.

Faculty development represents an investment in human capital. Educational institutions receive a return on this investment in the form of an improved institution over time. Disciplines also receive a return through improved research and better training or the next generation of the profession provided by the

graduates of faculty development programs. The return to individual faculty members comes in the form of improved vitality and growth that can help sustain them in their academic careers. Faculty development has high payoff potential; thus it is important to design and implement effective programs (Hitchcock & Stritter, 1992).

Faculty development can play a significant role in fostering an environment conducive to valuing a broad definition of scholarship, especially with respect to what constitutes the scholarship of teaching (Watson, Grossman, 1994). It is required in higher education institutes since it develops and reinforce the abilities of faculty members. It leads faculty members to operate with increasing autonomy while having an extensive view of new educational reforms. They are prepared to work more effectively as individuals and also as members of a society through faculty development programs. They should understand themselves and their functions very well in order to improve their teaching as a part of developing the education system.

Steinert (2000) highlights that academic vitality is dependent upon faculty members' interest and expertise. In addition, faculty development has a critical role to play in promoting academic excellence and innovation. Faculty members, by better understanding of themselves and their social environment, can promote such developments. In general, faculty development programs, whatever their nature, are essential if universities are to respond to changes in (a) expectations about the quality of undergraduate education, (b) views regarding the nature and value of

assessment, (c) societal needs, (d) technology and its impact on education, (e) the diverse composition of student populations, and (f) paradigms in teaching and learning (Millis, 1994). A good faculty development program is a process designed to create a climate where recognition, institutional support and professional development are addressed (Pendleton, 2002).

2.4 Definition and dimensions of faculty development

As mentioned previously, faculty development is a process of enhancing and promoting any form of academic scholarship in individual faculty members. It refers to programs and strategies that aim both to maintain and to improve the professional competence of faculty members in fulfilling their tasks in the higher education institutes. It includes programs or activities that lead to expand the interests, improve the competence, and facilitate the professional and personal growth of faculty members in order to improve the quality of faculty instruction, research and student advisement. There exist several definitions for the faculty development and its dimensions. Besides the similarities between faculty development definitions, there is an overlap among its defined dimensions.

According to Scott (1990), in 1979 the American Association for Higher Education proposed a definition for faculty development, which went beyond the then dominant emphasis on teaching. Based on this definition, faculty development is the theory and practice of facilitating improved faculty performance in a variety

of domains, including the intellectual, the institutional, the personal, the social, and the pedagogical.

Faculty development can also be defined as any planned activity designed to improve an individual's knowledge and skills in areas considered essential to the performance of a faculty member. The aim is to improve faculty members' competence as teachers and scholars. Hence, colleges and universities try to renew and maintain vitality of their staff. Prachyapruit (2001), defined faculty development programs as activities that are designed to help faculty members improve their competence as teachers and scholars. In general, faculty development is addressed to faculty in all disciplines and to administrators who wish to help shaping an environment in which student learning can flourish. The California Postsecondary Education Commission sees the purpose of faculty development as means toward providing better education for students than would be possible without such support (California Postsecondary Education Commission, 1988). According to the same commission, most faculty development activities fit into two major categories, improving instruction and increasing knowledge. Programs oriented toward improving undergraduate instruction for students with diverse learning styles, improving the faculties' abilities to use new technology, and developing new means of student assessment are subsumed in the first category. Programs oriented to increasing knowledge, which fall into the second order, include retraining faculty for teaching in a related field and affirmative action development.

Millis (1994) mentions that faculty development can take many guises. Distinctions have traditionally been made between three terms: (a)faculty development (activities such as classroom visits or one-on-one counseling intended to improve the teaching skills of an individual faculty member) (b) instructional developments (activities such as media support or curriculum design focused on the student, the course, or the curriculum); and (c) organizational development (activities such as campus-wide retreats intended to improve institutional resources or climate). Dilorenzo & Heppner (1994) define faculty development as a process of enhancing and promoting any form of academic scholarship in individual faculty members. In practice, however, these definitions overlap, and virtually all activities affect the individual faculty member.

According to Professional and Organizational Development Network in Higher Education (POD, 2003), faculty development generally refers to those programs, which focus on the individual faculty member. The most common focus for programs of this type is the faculty member as a teacher. Faculty development specialists provide consultation on teaching, including class organization, evaluation of students, in-class presentation skills, questioning and all aspects of design and presentation. They also advise faculty on other aspects of teacher/student interaction, such as advising, tutoring, discipline policies and administration. A second frequent focus of such program is the faculty member as a scholar and professional. These programs offer assistance in career planning, professional development in scholarly skills such as grant writing, publishing, committee work, administrative work, supervisory skills, and a wide range of other activities

expected of faculty. A third area on which faculty development programs focus is the faculty member as a person. This includes wellness management, interpersonal skills, stress and time management, assertiveness development and a host of other programs which address the individual's well-being (POD, 2003).

California Postsecondary Education Commission (1988) reported four clusters of faculty development activities: professional, instructional, curricular, and organizational development. Professional development promotes the expertise of faculty members within their primary discipline; it is often accomplished through research grants and sabbatical grants, professional conference attendance, and similar discipline-oriented oriented activities. Instructional development improves the faculty's ability to teach more effectively. It includes videotaping classes, observing and commenting on teaching styles, and attending conferences on teaching. Curriculum development is aimed at evaluating or revising the curriculum. And finally, organizational development engages faculty members in improving their institution and its environment for teaching and decision-making. It includes evaluating institutional efforts to retain its minority students, strengthening institutional relationships, and preparing self-study reports for accreditation.

According to Wilkerson and Irby (1998), a comprehensive faculty development program should be built upon (1) professional development (new faculty members should be oriented to the university and to their various faculty roles); (2) instructional development (all faculty members should have access to teaching improvement workshops, peer coaching, mentoring, and/or consultations);

(3) leadership development (academic programs depend upon effective leaders and well designed curricula); (4) organizational development (empowering faculty members to excel in their roles as educators requires organizational policies and procedures that encourage and reward teaching and continual learning).

A detailed classification of faculty development activities as described by Chun (1999) based on four dimensions: instructional, personal, professional and organizational. As it can be seen, there are slice differences in definitions of faculty development. According to Watson and Grossman (1994), these differences often depend on whether one is addressing the appropriate focus of a faculty development program or, more philosophically, the sphere of activities that affect the growth and development of faculty in their jobs. As a philosophy, faculty development is seen by most scholars as broadly encompassing, in the holistic tradition. As a program, it is necessarily limited by an institution's scope and mission, the environment within which faculty live, the expectations for faculty performance, and the existence of other programs that address faculty development concerns.

In summary, the purposes for faculty development programs are: improving teaching, improving faculty scholarship, personal development, curriculum development, and institutional development. While the purpose remains constant, the emphasis given to any of these components varies in different institutions.

2.5 Typical activities in faculty development

As described previously in section 2.4, there are several definitions for the faculty development and its dimensions that showed similarities between themselves and overlapping among the dimensions. In our study, a four dimension structure of faculty development; instructional, personal, professional and organizational, described by Chun (1999) was selected. In a consideration of faculty development based on four dimensions, instructional development is an academic specialization that may be defined as the systematic and continuos application of learning principles and educational technology to develop the most effective and efficient learning experiences for students.

Instructional development usually takes a different approach for the improvement of the institution. These programs have as their focus the course, the curriculum and student learning. In this approach, instructors become members of a design or redesign team, working with instructional design specialists to identify appropriate course structures and teaching strategies to achieve the goals of instruction.

Instructional development programs can also examine how a course fits into the overall departmental and institutional curriculum; they help define instructional goals and methods which will maximize learning; they evaluate course effectiveness in terms of goal achievement; they produce or evaluate learning

materials for use in the course. Many instructional development programs include a media design component (POD, 2003).

According to Prachyapruit (2001), instructional development refers to programs on improving teaching skills and techniques, course design and development, improving the understanding of students' learning behavior, and improving skills in learning evaluation.

Workshops designed to help faculty to use a system approach to instruction or to explore general issues or trend in education are examples of instructional development activities. In addition, faculty with expertise consult with other faculty on course improvement, specialists assist individual faculty in instructional or course development by consulting on course objectives and course design are considered as other activities in instructional dimension. Finally, informal assessment by colleagues for course improvement is another example of instructional faculty development activities.

Personal development can be defined as activities and programs that seek to insure continuing faculty motivation, energy and productivity over the course of an academic career, including personal stress counseling, training in interpersonal skills, or career planning workshop. Systematic ratings of instruction by students to help faculty improvement, workshops and consultations to help meet the developmental interests and concerns of faculty members and administrators, are examples of personal development activities. Personal development activities also

include faculty with expertise consulting with other faculty on teaching; and a policy for leaves for developmental purposes (Chun ,1999)

According to North Central Regional Education Laboratory (NCREL, 2003), professional development is the process of improving staff skills and competencies needed to produce outstanding educational results for students. Professional dimension of faculty development contains activities such as: workshops to help faculty improve their research and scholarship skills; travel funds to attend professional conferences. Furthermore, visiting scholars program that brings people to the campus and sabbatical leaves are other activities in the field of professional development.

Simpson (1990) mentioned that professional development programs may emphasize improvement of teaching or the encouragement of faculty to participate in experiences that enrich their careers. Types of professional development in use include workshops, written descriptions of effective practice, the use of expert or peer consultation and mentoring, and involvement in a development process (such as funded course development). Faculty members as well as institutions need to know which of the types are most effective (Sunal, Hodges,Whitaker, Freeman,Edwards, Johnston,Odell, 2001)

Finally, organizational development presents activities designed to create effective organizational environments for teaching and learning, including training and team building, conflict management or problem solving, or the creation of a

campus office to support faculty development (Chun,1999). Organizational development activities include workshops on team building, joint decision-making and problem solving and also annual awards for excellence in teaching. Moreover, institutional policy statements and practices emphasizing and elevating the importance of teaching are categorized in organizational development activities.

The focus of organizational development programs is the organizational structure of the institution and its sub components. The philosophy is that if one can build an organizational structure, which will be efficient and effective in supporting the faculty and students, the teaching/learning process will naturally thrive. One activity such programs offer is administrative development for department chairs, deans and other decision makers. The reasoning is that these are the individuals who will be making the policies, which affect how courses are taught, how faculty are hired and promoted, how students are admitted and graduated. If those policies allow for growth and flexibility while maintaining standards, the amount of learning which occurs will increase. Other activities include helping subunits, understanding how curricular decisions are made, how courses are staffed, and other organizational matters (POD, 2003). However, as it can be seen, there are overlaps between these categories.

2.6 Teaching assistant training programs

According to Shapiro & Cartwright (1998), helping faculty to move their teaching, research, and service forward has long been a concern for colleges and

universities. One result of this concern has been the evolution of faculty development centers, agencies or offices specifically designed to help faculty improve their teaching, which often bear names containing the word "excellence" (Center for Teaching Excellence, for example).

Faculty development programs that provide services to faculty members and research assistants are generally divided to two main groups: centralized programs and departmental programs. In centralized programs, development services are provided on an all-university basis. Departmental training programs, on the other hand, are offered by an individual department exclusively to its own teaching assistants and therefore may be discipline specific.

2.6.1 Centralized TA programs and practices

Centralized Teaching Assistant (TA) programs are conducted by a single university-wide office such as the graduate school or the office of provost or an institution teaching center. According to POD (2003), these centers are usually administratively located under the Office of Academic Affairs.

In the United States, the National Survey of Teaching Assistant Training Programs and Practices, conducted among the 393 institutions that were members of the Council of Graduate Schools, showed that 107 of the responding 292 institutions had centralized TA programs (Syverson & Tice, 1993). Since some universities had more than one centralized programs, 134 of such programs were

described. Among them 50 had orientation, 46 had year-round, 31 had international, and 7 had other program types. Twenty-eight of these centralized programs are summarized in detail by Lambert (1993). Among these programs and practices described by Lambert, skills workshops in Carnegie Mellon University; semester-long seminar & semester-long teaching practicum in City University of New York, the graduate TA development workshop series in Cornell University, teaching orientations, consultants to courses and departments, handbooks and journals for new faculty on teaching and learning in Harvard University, videotaping services in University of Michigan can be mentioned.

In order to find out the characteristics of centralized TA programs, another study of faculty development activities in 10 universities would be helpful to show us the range of activities. The universities and their activities centers were; Arizona State University (center for learning and teaching excellence), Duke University (center for teaching, learning and writing), University of Colorado at Boulder (faculty teaching excellence program), University of Georgia (office of instructional support and development), Iowa State University (center for teaching excellence), Kansas State University (center for the advancement of teaching and learning), University of Iowa (center for teaching), Ohio State University (Faculty and TA Development), Penn State University (center for excellence in teaching and learning) and University of Oregon (teaching effectiveness program).

A wide range of activities were found including the same preparations such as: teaching assistant orientation conferences, campus wide workshops & seminars,

group discussions, grants for instructional improvement, symposiums, courses, print publications & the teaching library, videotaping services for teaching assistants and new instructors, teaching assistants forum and conference, teaching assistants training and consultation, teaching excellence center, new faculty reception-dinner & dinner panel, departmental teaching awards, mid semester teaching evaluation, faculty- colloquium series, assistance with classroom scheduling, new faculty network listserve, new instructor on line orientation , research and training seminars. As can be clearly seen, faculty members also attend in centralized training programs.

2.6.2 Departmental faculty development programs and practices

Departmental faculty development programs are conducted by each department independently, based on the discipline area and programs of the department. Therefore, different departments in the same university may have various development programs for faculty members and research assistants.

The National Survey of Teaching Assistant Training Programs and Practices in the United States, designed to respond to the need for descriptive data on TA-training programs, showed that 124 of the institutions from 292 (74 percent) of the 393 institutions surveyed, had 246 departmental TA programs (Syverson and Tice, 1993). The 246 training programs contained almost all disciplines (physical and life sciences, engineering, social sciences and humanities. Among them, humanities had

the greatest number of programs (68 programs), followed by 52 programs in physical sciences, 38 programs in sciences and 32 programs in social sciences.

Department based programs in biological sciences (Herreid, 1993), in chemistry (Quest, 1993), in english and composition (jolliffe, 1993), in Foreign Languages (Rava, 1993), in mathematics (Case & Huneke, 1993), in psychology (Benassi, 1993), in social sciences (Saunders, 1993) and in speech communication (Staton, 1993) are summarized in detail.

In discipline based programs the main idea for teaching assistants is based on the importance of their role as leaders of recitation meetings (e.g. in mathematics) or laboratory (e.g. in biology or chemistry). In both cases, teaching assistants are expected to be part of a team, following policies, and guidelines of a faculty instructor who lectures in a large class.

A wide range of activities is done in discipline-based teaching assistant programs. In biology department of Boston University, for example, six separate departmental training activities, taught by faculty or university staff, are mandated for students holding teaching fellowships: weekly preparatory sessions; orientation meetings once per semester; videotaping of a live lab performance during the first semester of their fellowship; a live animal care facility training session; a graduate seminar covers teaching styles, presenting conference papers, working as a team and ethical behavior in science research and teaching; and finally a university-

sponsored, one time laboratory safety meeting, required during the first year of teaching .

Not all innovations in discipline-based teaching assistants programs could be explained as above. Among the novel programs in evidence elsewhere is the University of North Carolina Department of Biology's, where a master TA mentors less-experienced TAs. The University of Rhode Islands provides a TA certificate for TAs who completes its thirty-hour departmental training program (Herried, 1993).

2.7 Implementations of faculty development programs

Researchers have showed different applications of faculty development activities. Here, we consider some of the newest implications in this field. At the university of Cincinnati a faculty development program was organized around competitive proposals and university institutes (Camblin & Steger, 2000). There were faculty development awards for individual faculty, groups of faculty, and departments and also for institutes for collaborative groups of faculty who had shared developmental needs and goals. To better ascertain the extent of the project's influence on the institution, a survey was distributed to all faculties at the university, regardless of whether or not they received support. The results of the survey, regarding the faculty development program's impact, clearly show that it has changed the way interdisciplinary faculty collaborate and it has significantly facilitated the ability of faculty to address specific development needs.

At the Indiana University School of Medicine, a faculty development program framework was utilized to evaluate whether clinical-teaching skills could be improved by providing teachers with augmented student feedback (Litzelman, Stratos, Marriott, Lazaridis, Skeff, 1998). The results showed that the common practice of providing augmented feedback based on students' rating to teachers seems to have a complex effect on teachers' performances. Potential deterioration in teaching performance warrants a reconsideration of distributing students' ratings to teachers with low baseline performance scores.

Another application of a faculty development program was in the department of pediatrics at the university of Texas Medical Branch at Glaveston. The aim was to address faculty needs for continuing education and improved resources for research. The program provided valuable assistance to the faculty in writing grant proposals, and it helped to generate critically needed resources. However, the program's failure to increase the publication productivity of the faculty suggests that despite financial pressures, similar programs should use their influence and resources to promote a balance between scholarly publication and grant acquisition (Baldwin, Goldblum, Rassin, Levine, 1994).

Gruber and Cherry (1997) described a program, in the department of psychiatry at the University of Texas-Houston, in which junior faculty have taken initiative to serve at a catalyst for faculty development, working with the active support of the senior faculty. Informal follow-up of junior faculty members indicate

that they feel more knowledgeable and empowered, and less anxious about faculty development and the promotions process.

In another implementation in the department of psychology, The College of St. Scholastic, a faculty enhancement program was developed to enable psychology instructors incorporate up-to-date content on aging into their courses. The primary aim was to enhance the quality of undergraduate education. Evaluation results indicated that the program made a difference in undergraduate instruction in terms of the content of courses and the way participant instructors managed the teaching-learning process. It was also found that the participants' disciplinary expertise had been strengthened through the program and they fostered positive attitude toward aging (Mehrota, 1996).

Shay, Simpson and Biernat (1996), explained an approach to faculty development in the Medical College of Wisconsin. The goal of the dental component of the Medical College of Wisconsin Faculty Training Project in Geriatrics for physicians and dentists was to recruit dentists committed to the health issues of the elderly and help them to acquire the clinical, research, education, and administrative skills and knowledge necessary for careers in academic dentistry. The advanced training was under a mentorship system. The results of this approach demonstrated program efficacy in all areas. According to DiLorenzo & Heppner (1994), a mentoring program provides a short-term, informal relationship between an experienced and new faculty member. Specific objectives of the mentoring program are: (a) to facilitate the socialization of new faculty members to the

working world of academic professional through the provision of information and basic nurturance, (b) to facilitate a one-to-one relationship between an experienced member of the faculty and a new member, and (c) to establish informal meetings of these partners for discussion of career development issues.

Applications of different faculty development programs can also be observed in University of California. The social work faculty development program of the California Geriatric Education Center at the University of California, Los Angles presents a model for faculty development in gerontology, which addresses major issues in social work education (Damron-Rodriguez, Dorfman, Lubben, Beck, 1992). Department of family and Community Medicine at the University of California, San Francisco also established a faculty development program to address the needs of family physicians holding full-time faculty positions devoted to teaching, curriculum planning, program leadership, and patient care (Sommers, Muller, Ozer, Chu, 2001).

Marks (1999), stated that although the impact of faculty development programs may be influenced by environmental factors, instructors perceive these programs as contributing to their career development. In an assessment of the effectiveness of faculty development program investigated by Hewson, Copeland and Fishleder (2001), it was found that the faculty development program had a positive effect and improved the teaching competencies of the participants.

Finally, it should be reminded that not all of the activities related to faculty developments showed desired results. In a study done by Murray (1998), faculty development programs in New York community colleges were focused. The findings of the study were disappointing since faculty development programs appeared to be a low priority in colleges. In addition, a coherence of goals or purpose for faculty development activities was not found on the campuses. Leadership was woefully lacking. It seems that community college leaders must forge a vision of faculty development that values teaching and teachers.

2.8 Structural equation modeling and LISREL applications

It seems that ordinary regression methods are no longer suffice, and indeed give misleading results, in purely observational studies in which all variables are subject to measurement error or uncontrolled variation and the purpose of the inquiry is to estimate relationships that account for variation among the variables in question. This is the essential problem of data analysis in those fields where experimentation is impossible or impractical and mere empirical prediction is not the objective of the study (Ssicentral, 2003). It is typical of almost all research in fields such as sociology, economics, ecology, and even areas of physical science such as geology and meteorology. In these fields, the essential problem of data analysis is the estimation of structural relationships between quantitative observed variables. When the mathematical model that represents these relationships is linear we speak of a linear structural relationship. The various aspects of formulating, fitting, and testing such relationships we refer to as structural equation modeling.

Structural equation models are divided into two parts: a measurement model and a structural model. The measurement model deals with the relationships between measured variables and latent variables. The structural model deals with the relationships between latent variables only. A measured variable is a variable that can be observed directly and is measurable. A latent variable is a variable that can not be observed directly and must be inferred from measured variables.

According to Chin (1998), structural equation modeling provides the researcher with the flexibility to: (a) model relationships among multiple predictor and criterion variables, (b) construct unobservable latent variables, (c) model errors in measurements for observed variables, and (d) statistically test a priori substantive/theoretical and measurement assumptions against empirical data. Structural equation modeling involves generalizations and extensions of earlier first-generation procedures. By applying certain constraints or assumptions on an structural equation modeling analysis, a researcher can end up performing the equivalent of techniques such as canonical correlation, multiple regression, multiple discriminate analysis, analysis of variance or covariance, or principle components analysis.

Although structural equation modeling has become a prominent form of data analysis only in the last twenty years (thanks in part to the availability of the LISREL program), the concept was first introduced nearly eighty years ago by the population biologist, Sewell Wright, at the University of Chicago. He showed that

linear relationships among observed variables could be represented in the form of so-called path diagrams and associated path coefficients (Ssicentral, 2003). By tracing causal and associational paths on the diagram according to simple rules, he was able to write down immediately the linear structural relationship between the variables. Wright applied this technique initially to calculate the correlation expected between observed characteristics of related persons on the supposition of Mendelian inheritance. Later, he applied it to more general types of relationships among persons.

Kelloway (1998) discussed the popularity of structural equation modeling. According to him there are at least three reasons to support this idea. First, social science research commonly uses measures to represent constructs. Most fields of social science research have a corresponding interest in measurement and measurement techniques. One form of structural equation modeling deals directly with how well our measures reflect their intended constructs.

Second, social scientists are principally interested in questions of prediction. As our understanding of complex phenomena has grown, our predictive models have become more and more complex. Structural equation modeling techniques allow for the specification and testing of complex path models that incorporate this sophisticated understanding.

Finally, and perhaps most important, structural equation modeling provides a unique analysis that simultaneously considers questions of both measurement and prediction.

In general there are five steps involved in structural equation modeling construction (Bollen and Long, 1993; Schumacker & Lomax, 1996; Kelloway, 1998) :

- Model Specification,

- Identification,

- Estimation,

- Testing Fit, and

- Respecification.

The first step, model specification, refers to the initial theoretical model the researcher formulates. The second step, identification, is to ask whether unique values can be found for the parameters to be estimated in the theoretical model. The third step, estimation, requires knowledge of the various estimation techniques that are used depending on the variable scale and/or distributional property of the variable(s) used in the model. The fourth step, testing fit, involves interpreting model fit or comparing fit indices for alternative or nested models. The fifth step, respecification, usually occurs when the model fit indices suggests a poor fit. In this instance, the researcher makes a decision regarding how to delete, add, or modify paths in the model, and then subsequently reruns the analysis (Schumacker & Lomax, 1996).

Linear structural relation (LISREL) is a program which enables the researchers to estimatie a variety of covariance structure models (Ssicentral, 2003). The LISREL model, in its most general form, consists of a set of linear structural equations. Variables in the equation system may be either directly observed

variables or unmeasured latent (theoretical) variables that are not observed but relate to observed variables. It is assumed in the model that there is a causal structure among a set of latent variables, and that the observed variables are indicators of the latent variables. The model consists of two parts, the measurement model and the structural equation model:

- The measurement model specifies how latent variables or hypothetical constructs depend upon or are indicated by the observed variables. It describes the measurement properties (reliabilities and validities) of the observed variables.

- The structural equation model specifies the causal relationships among the latent variables, describes the causal effects, and assigns the explained and unexplained variance.

- The LISREL method estimates the unknown coefficients of the set of linear structural equations. It is particularly designed to accommodate models that include latent variables, measurement errors in both dependent and independent variables, reciprocal causation, simultaneity, and interdependence.

In fact, the worth in the use of LISREL modeling has been emphasized by a lot of researchers such as Bentler (1978; 1986), Muthen (1988; 1989), Bollen and Long (1993) and Kunnan (1994).

CHAPTER 3

METHOD

3.1 Overall research design

As mentioned previously in the purpose part of this research, within the context of the literature surveyed, this study attemped to identify the level of knowledge about faculty development and the faculty development needs of METU in order to be a guide for faculty development activities. Different LISREL models of factors affecting perceived self-proficiency among METU's faculty's were generated.

Let us mention that in the present study, two main groups are defined; faculty members and research assistants. Faculty members are identified as collection of professors, assistant professors, associated professors, instructors, lecturers and experts. Research assistants are not included in the faculty member classification and are considered as a different category.

A survey questionnaire was developed and conducted among the faculty members and research assistants in METU to determine needs and goals of a faculty development program. The opinions of these people helped to have an understanding of their priorities. Furthermore, the data was analyzed through different LISREL models. The models were estimated and tested by using a covariance structure of an empirical data set. The overall research design accommodated a number of independent parameters influencing dependent factors called "Perceived Self Proficiencies". Self proficiency shows the faculty members' views with respect to their proficiency in instructional, personal and professional development aspects. Factor structure of the model was examined by assessing the overall fit of the model.

In the present study a correlational research design was used to describe the relationship among the factors that influence the needs of METU's faculty members and research assistants with respect to instructional, personal, professional and organizational development aspects.

3.2 Subjects of the study

The subjects of this study consisted of 509 prospective academics in Middle East Technical University in Ankara-Turkey. The questionnaire was distributed to all faculty and research assistants, which were about 2000 people at the time. However, only 509 academicians responded to the survey. The participants were from Faculty of Architecture, Faculty of Engineering, Faculty of Education, Faculty

of Arts and Sciences, Faculty of Economic and Administrative Sciences, and School of Foreign Languages. The study was carried out during the spring semester of 2000-2001 academic year. The distribution of subjects based on academic title is given in Table 3.2.1. This table shows that the subjects composed 25.6 % of the total faculty in METU. It is useful to remind that 25.7 % of Faculty of Architecture, 29.9 % of Faculty of Engineering, 66.0 % of Faculty of Education, 29.4 % of Faculty of Applied Sciences, 22.6 % of Faculty of Administrative Sciences, and 75.0 % of Modern Languages Department composed the subjects. A more detailed table, including distribution among faculties and gender is given in Table A-1 in Appendix A.

Table 3.2.1 Distribution of Subjects based on academic title

Title	Total
Professor	72
Assistant Professor	52
Associated Professor	34
Instructor	38
Lecturer	13
Expert	3
Research Assistant (Ph.D)	111
Research Assistant (Master)	186

3.3 Development of research instrument

In order to define the needs and goals of the faculty development activities a survey questionnaire was developed and distributed among all of the faculty members and research assistants of METU. The aim was to identify whether there is a need for a faculty development program in METU and to investigate the faculty's

perceived self-proficiency and importance attributed to instructional, personal and professional development activities.

As mentioned previously, to achieve the objectives of this research, the literature about faculty development and related areas was reviewed. This saved the primary basis for the selection and development of the questionnaire. The questions of the survey fell into the following broad categories:

- Demographic information (faculty, age, job title, gender, working experience, administrative activities);

- General satisfaction related to the university's facilities and accommodations;

- Items related to perceived self proficiency and importance attributed to instructional, personal and professional development activities;

- Experiences with faculty development programs and attitudes towards these programs;

- Items relating to job satisfaction and organizational development factors such as performance measurement criteria, rewarding, and barriers to personal and professional development.

The research assistants were requested to answer only the first three categories of the questionnaire, whereas the other faculty members were asked to respond to the whole questionnaire.

3.3.1 Validity

At the beginning, a questionnaire pool that contained about 500 questions was prepared. Through the helps of measurement and evaluation experts, those questions were analytically trimmed and reduced to the existing questionnaire. Next, a pilot study of the questionnaire was then conducted among a small group of faculty members chosen randomly. To validate the content of the research questions, the academics were asked to comment on the format and appropriateness of questions. Views of their suggestions were used to refine the questionnaire in order to improve its clarity and profundity. Simplifying language both in the items and in the instruction, discovering and deleting any bias or ambiguities in the phrasing of the questions, elimination of questions seeking redundant information, more logical grouping of the items, improvement of legibility and comprehensibility in terms of format were among the amendments incorporated to improve the survey instrument. Based on the feedback obtained from the four subject experts in Faculty of Education of METU and the pilot study, the final shape of the questionnaire was developed before distribution. In addition the results of factor analysis on questionnaire's items, shown in sections 3.5.1 and 3.5.2, provided us evidence for construct-related validity. By this way, construct validity was provided by the factor analysis.

The questionnaire is given in Appendix B. The majority of the survey questions were composed of five-point Likert scales type. However, some multiple-choice questions and open questions were also designed to facilitate the different preferences of faculty members.

3.3.2 Reliability

In order to determine the reliability of the instrument, Cronbach's Method of Alpha reliability Coefficient, which is a general form of the Kuder-Richardson Approach, was used (Franenkel and Wallen, 1996). Using Cronbach's method, the reliability coefficients of the components of the questionnaire administered in this study were obtained using the Statistical Packages for the Social Science (SPSS) Version 10.0 for Windows. For the parts of the questionnaire, the alpha coefficients ranged from 0.71 to 0.93, indicating an acceptable degree of reliability. Table 3.3.2.1 presents the reliability coefficients.

Table 3.3.2.1 Reliability Coefficients of the Components of the Questionnaire

Component	Cronbach's Alpha Reliability
General satisfaction	0.71
Perceived self-proficiency in some instructional/personal/professional development issues	0.83
Importance attributed to some instructional/personal/professional development issues	0.75
Preferred performance measurement criteria	0.75
Administrative features	0.93
Barriers to personal and professional developments	0.75

3.4 Administration of the survey questionnaire

In May 2001, the questionnaires were sent to the Deans of Faculties of Architecture, Engineering, Education, Applied Sciences, Administrative Sciences, and School of Foreign Languages in METU. Furthermore, a written letter was sent to the Deans of faculties and director of School of Foreign Languages to cooperate

and provide institutional permission for administering the survey instrument, explaining the purpose of the study, and encouraging faculty members to participate with this survey. The questionnaires were distributed from the Dean Office of each faculty to the departments and then to the faculty members and research assistants. In addition, the participants of the study were informed about the research by a written statement of purpose appeared at the top of the questionnaire. They were also asked to submit the questionnaires to the departments' secretaries from where they were sent to the secretary of Dean. The questionnaires were collected in June and July 2001.

3.5 Description of variables

In order to determine the approach of faculty members and research assistants about the survey, the questionnaire items should be considered carefully. This would also help in generating a LISREL model of factors affecting faculty members and research assistants' perceived self-proficiency. Whether the factors were dependent or independent, they were all latent variables, each of which was assessed by a number of variables clustered together. The variables forming each independent factor were selected questionnaire items that composed the observed variables.

The model of this study can be divided into six blocks of influences: general satisfaction; importance attributed to some instructional, personal and professional development activities; perceived self-proficiency in some instructional, personal and professional development activities; preferred performance measurement criteria, administrative approach, and barriers to personal and professional

developments. Except for the general satisfaction part, the literature survey has guided the selection of the variables in these blocks.

The observed variables in Part I (general satisfaction related to the university's facilities and accommodations) was composed of thirteen items (g1, g2, g3, g4, g5, g6, g7, g8, g9, g10, g11, g12, g13). Part II (perceived self proficiency and importance attributed to some instructional, personal and professional development activities) included 26 items. Half of them (n1, n2, …, n13) referred to attributed importance, whereas the other half (y1, y2, y3,…,y13) indicated the perceived proficiency of faculty members in various faculty development dimensions.

Part IV which was based on preferred performance measurement criteria, administrative features and barriers to personal and professional development process composed of twenty six items (per1, per2, per3, per4, per5, per6, per7, per8, per9 per10, ad1, ad2, ad3, ad4, ad5, ad6, ad7, ba1, ba2, ba3, ba4, ba5, ba6, ba7, ba8, ba9).

As mentioned previously, the questionnaires were distributed to all faculty members and research assistants. However, research assistants differ from the rest of faculty members based on teaching experiences, teaching loads, and ambiguity in continuing their career in future as academicians. Therefore, research assistants were required to fulfill the first three parts of the survey. This led us to analyze the data based on two major categories; i) faculty members (Professors, Assistant

Professors, Associated Professors, Instructors, Lecturers, Experts), ii) research assistants.

Consequently a principal component factor analysis on the questionnaire measurement items was applied based on two major categories; faculty members, and research assistants.

3.5.1 Faculty members

For the faculty members, the principal component factor analysis was done on six different subgroups of questionnaire's items in order to determine the dependent or independent factors through assessing a number of observed variables clustered together. As mentioned previously, "general satisfaction", "perceived self proficiency and importance attributed to some instructional/personal/professional development issues", "preferred performance measurement criteria", "administrative approach" and "barriers to personal and professional development process" were the main subgroups.

In "General Satisfaction" subgroup, thirteen items (g1,…,g13) went under a Varimax rotated principal component analysis. They were run by using SPSS 10.0 for Windows. When the terms under "General Satisfaction" subgroup were factor analyzed and rotated with respect to Varimax solutions, four meaningful groups of items were identified. When closely evaluated, the first factor represented number of students in class, campus design, library, health services and cafeteria / canteen services (SCLHF) with the eigenvalue of 2.03.

The second factor (CSRA) represented campus security, student registration system, and student advisory system. The third factor (TSC), represented campus traffic, sports facilities and cultural activities. The fourth factor (COF) represented computer & office facilities. CSRA, TSC and COF groups of items had eigenvalues of 1.85, 1.66 and 1.51 respectively. Table 3.5.1.1 tabulates the results of principal component analysis with Varimax rotation.

Table 3.5.1.1 : Four-factor Varimax rotated principal component analysis solution

Factor	Item	Loading
SCLHF	g4	0.636
(% of Variance = 15.64)	g1	0.596
	g12	0.589
	g13	0.578
	g3	0.469
CSRA	g7	0.854
(% of Variance = 14.24)	g8	0.783
	g5	0.549
TSC	g10	0.820
(% of Variance = 12.74)	g11	0.759
	g9	0.360
COF	g6	0.768
(% of Variance = 11.61)	g2	0.658

"Perceived self-proficiency in some instructional, personal and professional", composed of thirteen items (y1,…,y13) went under a Varimax rotated principal component analysis. While the terms under "perceived self-proficiency" subgroup were factor analyzed and rotated with respect to Varimax solutions, three meaningful groups of items were identified. When closely evaluated, the first factor represented perceived self-proficiency in using multiple teaching methods, class management, applying different assessment strategies, utilizing examination results to improve the quality of teaching, measurement and evaluation, and knowing learning theories (PIACM).

The second factor (PCTCS) represented perceived self-proficiency based on communication with colleagues & students, time management, planning the instruction in line with the predetermined objects, self-awareness & development. Finally, the third factor (PLA) represented perceived self-proficiency based on leadership & administrative skills. PIACM, PLA, and PCTCS groups of items had eigenvalues of 2.66, 2.15 and 1.73 respectively. Table 3.5.1.2 tabulates the results of principal component analysis with Varimax rotation.

Table 3.5.1.2: Three-factor Varimax rotated principal component analysis solution

Factor	Item	Loading
PIACM	y3	0.655
(% of Variance = 20.43)	y1	0.631
	y6	0.612
	y5	0.603
	y4	0.594
	y2	0.492
PCTCS	y10	0.774
(% of Variance = 16.50)	y11	0.652
	y13	0.573
	y7	0.491
	y12	0.470
PLA	y9	0.870
(% of Variance = 13.30)	y8	0.789

The next subgroup; "Importance attributed to some instructional/ personal/ professional development issues"; composed of thirteen items (n1,…,n13) went under a Varimax rotated principal component analysis. While the terms under "importance attributed to" subgroup were factor analyzed and rotated with respect to Varimax solutions, four meaningful groups of items were clustered. The evaluations indicated that the first factor representing importance attributed to class management, using multiple teaching methods, communication with colleagues & students, and self-awareness & development (ICMCS).

The second factor (ILATM) represented importance attributed to knowing learning theories, leadership, administrative skills, and time management. The third factor (IASER) represented importance attributed to applying different assessment strategies and utilizing examination results to improve the quality of teaching. Finally the fourth factor (IMECD) represented importance attributed to measurement & evaluation and planning the instruction in line with the predetermined objects. The eigenvalues of ICMCS, ILATM, IASER, and IMECD were 2.21, 2.19, 1.72 and 1.33 respectively. Table 3.5.1.3 tabulates the results of principal component analysis with Varimax rotation.

Table 3.5.1.3: Four-factor Varimax rotated principal component analysis solution

Factor	Item	Loading
ICMCS	n11	0.693
(% of Variance = 17.03)	n10	0.680
	n13	0.645
	n1	0.628
	n2	0.506
ILATM	n9	0.830
(% of Variance = 16.84)	n8	0.797
	n12	0.604
	n6	0.517
IASER	n3	0.784
(% of Variance = 13.21)	n4	0.735
IMECD	n5	0.732
(% of Variance = 10.24)	n7	0.667

"Preferred performance measurement criteria", composed of ten items (per1,…,per10) went under a Varimax rotated principal component analysis. While the terms under "performance measurement criteria" subgroup were factor analyzed and rotated with respect to Varimax solutions, four groups of items were identified.

When closely evaluated, the first factor represented performance criteria based on teaching load, services to university, consultations and ongoing projects (PLSCP).

The second factor (PPHD) represented preferred performance measurement criteria based on peer views, head of department's view and dean's view. The third factor (PPCA) represented preferred performance criteria based on number of publications, citations and supervised thesis. The fourth factor (per1) represented preferred performance criteria based on students' evaluations. PLSCP, PPHD, PPCA and per1 groups of items had eigenvalues of 2.06, 2.01, 1.92 and 1.12 respectively. Table 3.5.1.4 tabulates the results of principal component analysis with Varimax rotation.

Table 3.5.1.4: Four-factor Varimax rotated principal component analysis solution

Factor	Item	Loading
PLSCP	per8	0.874
(% of Variance = 20.61)	per9	0.854
	per10	0.448
PPHD	per3	0.879
(% of Variance = 20.10)	per4	0.762
	per2	0.623
PPCA	per6	0.876
(% of Variance = 19.22)	per5	0.832
	per7	0.616
student evaluation	per1	0.916
(% of Variance = 11.20)		

The next subgroup, "Administration approach", composed of seven items (adm1,…,adm7) went under a Varimax rotated principal component analysis. While the terms under "administration features" subgroup were factor analyzed and rotated with respect to Varimax solutions, one meaningful group of items were clustered. The evaluations indicated that the factor representing administration

features based on openness to different views, problem handling, open to participation / interaction, accessibility, transparency, trustworthiness and consistency (ADMF) with an eigenvalue of 5.01. Table 3.5.1.5 tabulates the results of principal component analysis with Varimax rotation.

Table 3.5.1.5 : One-factor Varimax rotated principal component analysis solution

Factor	Item	Loading
ADMF	adm6	0.913
(% of Variance = 71.66)	adm5	0.888
	adm3	0.865
	adm7	0.844
	adm1	0.834
	adm2	0.786
	adm4	0.786

"Barriers to personal & professional developments", composed of nine items (ba1,…,ba9) went under a Varimax rotated principal component analysis. While the terms under "barriers to personal & professional developments" subgroup were factor analyzed and rotated with respect to Varimax solutions, two groups of items were identified. When closely evaluated the first factor, represented barriers due to insufficient office facilities (BIOF) including insufficiency of computer facilities in office, computer support services, secretarial services, photocopy facilities and printing facilities.

The second factor (BER) represented barriers due to excess of responsibilities that refers to excess of departmental meetings, excess of commission membership, and other administrative activities. BIOF and BER had eigenvalues of 2.96, 2.36 respectively. After the Varimax rotated principal component analysis run by SPSS 10.0 , only one item (ba1) that represented the barriers due to excess of teaching load, was found to load on a factor different from its own. This item was excluded

from the analysis in order to purify the factors of the questionnaire. The remaining

eight questionnaire items were clustered under two factors. Table 3.5.1.6 tabulates

the results of principal component analysis with Varimax rotation. SPSS 10.0 for

Windows.

Table 3.5.1.6 : Two-factor Varimax rotated principal component analysis solution

Factor	Item	Loading
ICSSP	ba3	0.825
(% of Variance = 32.83)	ba6	0.771
	ba5	0.770
	ba2	0.767
	ba4	0.636
EDMCA	ba8	0.911
(% of Variance = 26.27)	ba7	0.864
	ba9	0.830

At the end, the Cronbach-α estimates were computed for the factors. As

indicated in Table 3.5.1.7 the values of the reliability coefficients were somehow

high. The only exceptions were for the measures of COF (representing general

satisfaction to computer & office facilities) and IMECD (representing importance

attributed to measurement and evaluation and planning the instruction in line with

the predetermined objects. Therefore, the results referring to these variables must be

interpreted carefully. Table 3.5.1.7 tabulates the Cronbach-α estimates.

Table 3.5.1.7 : Cronbach-α reliabilities

	Factor	Cronbach-α
General satisfaction	SCLHF	0.601
	CSRA	0.644
	TSC	0.533
	COF	0.439
Perceived self-proficiency	PIACM	0.699
	PCTCS	0.669
	PLA	0.803
Attributed importance	ICMCS	0.683
	ILATM	0.735
	IASER	0.553
	IMECD	0.424

Preferred performance criteria	PLSCP	0.711
	PPHD	0.674
	PPCA	0.739
Administrative features	ADM	0.933
Barriers to personal &	ICSSP	0.821
professional developments	EDMCA	0.839

3.5.2 Research assistants

Aside from the faculty members, for the research assistants the principal component factor analysis was done on three different subgroups of questionnaire's items in order to determine the dependent or independent factors through assessing a number of observed variables clustered together. As mentioned previously, "general satisfaction", and "perceived self proficiency and importance attributed to" some instructional/personal/professional development issues were the main subgroups.

In "General Satisfaction" subgroup, thirteen items (g1,…,g13) went under a Varimax rotated principal component analysis. They were run by using SPSS 10.0 for Windows. When the terms under "General Satisfaction" subgroup were factor analyzed and rotated with respect to Varimax solutions, five meaningful groups of items were identified. When closely evaluated, the first factor represented sports facilities and cultural activities (SFCA) with the eigenvalue of 1.81.

The second factor (CDST) represented campus design, campus security and campus traffic. The third factor (SARHF), represented students' advisory & registration systems, health services, and cafeteria/canteen services. The fourth

factor (NSCO) represented the number of students in class and computer & office facilities. The fifth factor (g4), as an individual factor, represented library. CDST, SARHF, NSCO and Library groups of items had eigenvalues of 1.53, 1.52, 1.33 and 1.23 respectively. Table 3.5.2.1 tabulates the results of principal component analysis with Varimax rotation.

Table 3.5.2.1 : Five-factor Varimax rotated principal component analysis solution

Factor	Item	Loading
SFCA	g11	0.870
(% of Variance = 13.93)	g10	0.836
CDST	g5	0.747
(% of Variance = 11.73)	g3	0.638
	g9	0.618
SARHF	g7	0.741
(% of Variance = 11.71)	g8	0.675
	g12	0.484
	g13	0.459
NSCO	g2	0.787
(% of Variance = 10.23)	g1	0.625
	g6	0.494
Library	g4	0.832
(% of Variance = 9.42)		

"Perceived self-proficiency in some instructional/personal/professional development issues", composed of thirteen items (y1,…,y13) went under a Varimax rotated principal component analysis. While the terms under "perceived self-proficiency" subgroup were factor analyzed and rotated with respect to Varimax solutions, three meaningful groups of items were identified. When closely evaluated, the first factor represented perceived self-proficiency in instructional abilities (PIA), including perceived proficiency in using multiple teaching methods, applying different assessment strategies, utilizing examination results to improve the quality of teaching, measurement and evaluation, planning the instruction in line with the predetermined objects and knowing learning theories.

The second factor (PCTMS) represented perceived self-proficiency based on communication with colleagues & students, time management, self-awareness & development. Finally, the third factor (PCLA) represented perceived self-proficiency based on class management, leadership & administrative skills. PIA, PCTMS, and PCLA groups of items had eigenvalues of 2.60, 2.17 and 2.02 respectively. Table 3.5.2.2 shows the results of principal component analysis with Varimax rotation.

Table 3.5.2.2: Three-factor Varimax rotated principal component analysis solution

Factor	Item	Loading
PIA	y4	0.715
(% of Variance = 19.98)	y3	0.699
	y7	0.610
	y1	0.570
	y5	0.548
	y6	0.524
PCTMS	y10	0.699
(% of Variance = 16.68)	y11	0.693
	y13	0.675
	y12	0.640
PCLA	y9	0.854
(% of Variance = 15.54)	y8	0.828
	y2	0.417

The next subgroup; "Importance attributed to some instructional/ personal/ professional development"; composed of thirteen items (n1,…,n13) went under a Varimax rotated principal component analysis. While the terms under "importance attributed to" subgroup were factor analyzed and rotated with respect to Varimax solutions, four meaningful groups of items were clustered. The evaluations indicated that the first factor representing importance attributed to leadership & administrative skills and communication with colleagues (ILACC).

The second factor (ICSTMS) represented importance attributed to communication with students, time management, self-awareness & development. The third factor (IIA) represented importance attributed to some instructional abilities including using multiple teaching methods, class management, applying different assessment strategies, utilizing examination results to improve the quality of teaching, measurement and evaluation. Finally the fourth factor (ILTCD) represented importance attributed to knowing learning theories, and planning the instruction in line with the predetermined objects. The eigenvalues of ILACC, ICSTMS, IIA, and ILTCD were 1.96, 1.88, 1.70 and 1.49 respectively. Table 3.5.2.3 tabulates the results of principal component analysis with Varimax rotation.

Table 3.5.2.3: Four-factor Varimax rotated principal component analysis solution

Factor	Item	Loading
ILACC	n8	0.898
(% of Variance = 15.10)	n9	0.885
	n10	0.474
ICSTMS	n12	0.765
(% of Variance = 14.49)	n13	0.658
	n11	0.654
IIA	n4	0.681
(% of Variance = 13.04)	n5	0.606
	n2	0.576
	n3	0.493
	n1	0.472
ILTCD	n6	0.784
(% of Variance = 11.42)	n7	0.756

The Cronbach-α estimates for the factors were computed and are shown in Table 3.5.2.4. As indicated in Table 3.5.2.4 the values of the reliability coefficients were somehow high. The only exceptions were for the measures of SARHF (representing general satisfaction to students' advisory & registration systems,

health services and cafeteria / canteen services) and NSCO (representing general satisfaction to the number of students in class and computer & office facilities). Therefore, the results referring to these variables must be interpreted carefully.

Table 3.5.2.4 : Cronbach-α reliabilities

	Factor	Cronbach-α
General satisfaction	SFCA	0.765
	CDST	0.475
	SARHF	0.492
	NSCO	0.407
Perceived self-proficiency	PIA	0.735
	PCTMS	0.659
	PCLA	0.696
Importance attributed	ILACC	0.732
	ICSTMS	0.589
	IIA	0.527
	ILTCD	0.501

3.6 Research questions

As mentioned previously, based on the purposes of the study, four major groups of research questions are presented. The first group is related to the perceptions of faculty members and research assistants about general satisfaction level at METU, importance attribute of instructional, personal and professional development activities and their proficiency in those fields. The second group addresses the factor structures across faculty members and research assistants with respect to general satisfaction, attributed importance and their perceived self-proficiency in instructional, personal and professional development issues. The third group is related to the models explain the factors that might be influential on faculty's perceived competencies about the skills required for the instructional practices,

personal, professional and organizational developments. The fourth group presents faculty's ideas about faculty development training programs types, evaluating performance, university administration, barriers in their academic life and their job satisfaction. The fourth group generally addresses faculty's needs issues and can be explained in details as follows:

- What are the preferred faculty development program types in METU?

- How the preferred faculty development program types should be arranged?

- What are the faculty's preferred factors that should be paid attention while evaluating their performance?

- What are the faculty's preferred criteria for awarding the faculty?

- Do the faculty members evaluate the top level administration of METU as successful?

- What are the barriers against an effective academic performance for the faculty members in METU?

- Are the faculty members satisfied from their jobs?

3.7 LISREL modeling analyses

LISREL 8.30 for Windows (SSI Inc., 1999b) with SIMPLIS command language (Jöreskog & Sörbom, 1993) was used to formulate and estimate a LISREL model of factors affecting perceived self-proficiencies of faculty members at METU. Maximum Likelihood estimation method was used to analyze the covariance matrix for the LISREL model. Significance of the model parameters was tested through t-values.

Assessment of the model fit was based on multiple criteria including chi-square (χ^2), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), standardized root mean squared residual fit index (SRMR) and Root Mean Square Error of Approximation (RMSEA). A significant χ^2 value relative to the degrees of freedom, means that the observed and estimated matrices differ. A non-significant χ^2 value means that the two matrices are not statistically different. A non-significant χ^2 (i.e. p>0.05) suggested a reasonably good fitting model.

GFI is based on a ratio of the sum of the squared differences between the observed and reproduced matrices to the observed variances. The AGFI adjusts the GFI index for the degrees of freedom of a model relative to the number of variables (Schumacher & Lomax, 1996). Another widely used index is SRMR, which is a summary of the average covariance residuals (Kline, 1998). Finally, and Root Mean Square Error of Approximation (RMSEA) adjusts for degrees of freedom.

In this study, a model that yielded uniformly accepted values across these conventional global fit indices was considered as a reasonably good fitting model. An insignificant χ^2 (i.e. $p > 0.05$), a GFI and an AGFI greater than 0.90 and a SRMR and RMSEA less than 0.05 suggested a reasonably good fitting.

3.8 Limitations

This study has two limitations on its scope. These limitations are the limitation of population generalizability and the limitation of ecological generalizability.

Population generalizability refers to the degree to which a sample represents the population of interest (Fraenkel & Wallen, 1996). In our study, faculty members with different titles were included. However, although the sample size was quite enough, the distribution of the respondents among the five faculties were not homogenous and did not reflect the population distribution. This gave rise the generalizations of the findings of this study to be limited.

Ecological generalizability refers to the degree to which results of a study can be extended to other settings or conditions (Fraenkel & Wallen, 1996). This study was performed in a university with a main approach to applied science and engineering departments. The results of the study can be generalized to similar settings. However, the results of this study might be invalid across faculties of medicine.

CHAPTER 4

RESULTS

The results of this study are divided into several sections. In the questionnaire, there are different items with different formats. All of the items were used in descriptive statistics. For LISREL modeling, however, only the Likert type items were used as the base.

The first section of the results includes the descriptive statistics associated with the data collected from the questionnaires. The aim is to determine the needs of the faculty members of METU.

The second part of this chapter presents the results of the LISREL modeling analyses under two separate headings: faculty members, and research assistants.

4.1 Descriptive statistics

The total number of the distributed questionnaires was 1985. The total number of returned questionnaires from the faculty was 509, which showed a 25.6 % return rate. Table 4.1.1 illustrates the numbers of questionnaires distributed among the faculties and the returned percentage.

A major part of the surveys that were not returned was due to faculty members belonged to administrative offices and institutes such as presidency office. In addition the questionnaires from School of Basic English were not considered due to their different system of Pre-service and In-service teacher education approach.

Table 4.1.1 Number of questionnaire distributed and percentage of return

Name of the Faculty / School	Survey Distributed	% of Returned
Faculty of Administrative Sciences	137	22.6 %
Faculty of Applied Sciences	446	29.4 %
Faculty of Architecture	140	25.7 %
Faculty of Education	106	66.0 %
Faculty of Engineering	744	29.9 %
School of Modern Language	25	75.0 %

4.1.2 Demographic characteristics of respondents

As mentioned previously, the academic titles and faculties of the survey participants are presented in the Tables 3.2.1 and 4.1.1.

4.1.3 Gender

Among the 509 returned questionnaires, 295 (58.0 %) participants were male and 213 (41.8 %) participants were female. Table 4.1.3.1 presents the participants distinguished by gender.

4.1.4 Age

Among a total of 509 surveys, the majority group was composed of 295 (58 %) respondents in the age group 21-30. On the other hand, the smallest group was 57 (11.2 %) people in the age group of 51 and older. Table 4.1.4.1 presents the data of participants distinguished by age.

Table 4.1.3.1 Gender distribution.

Gender	Number	Percentage
Male	295	58.0
Female	213	41.8
Missing	1	0.2
Total	509	100

Table 4.1.4.1 Age distribution.

Age	Number	Percentage
21-30	295	58.0
31-40	89	17.4
41-50	64	12.7
51-up	57	11.2
Missing	4	0.07
Total	509	100

4.1.5 Academic experience

In years of experience as faculty, the number for 1-5 years of experience was 305 (59.9 %) people that composed the first major group. The second major group included 60 (11.8 %) people who had 6-10 years of experience. Number of research assistants for the ranges of 1-5 years was 272 and for the range of 6-10 years that figure was 25. Table 4.1.5.1 presents the participants distinguished by experience.

Table 4.1.5.1 Academic experience.

Years of Experience	Number	Percentage
1-5	305	59.9
6-10	60	11.8
11-15	40	7.8
16-20	36	7.1
21-25	23	4.5
26-30	27	5.3
31-40	13	2.6
Missing	5	1
Total	509	100

4.1.6 Administrative duty

Among the returned questionnaires, 468 (91.9 %) participants didn't have any administrative responsibility. Only 39 (7.7 %) participants were in administrative positions. Table 4.1.6.1 presents the results.

Table 4.1.6.1 Faculty distinguished by administrative responsibility.

Administrative Duty	Number	Percentage
Yes	39	7.7
No	468	91.9
Missing	2	0.4
Total	509	100

4.2 Perceptions of faculty members and research assistants based on factor analysis results

"General satisfaction level", "importance attributed to instructional, personal and professional development activities" and "perceived self-proficiency" were the three fields in which the perceptions of faculty members and research assistants were analyzed.

4.2.1 General satisfaction

The survey contact people were asked about their degree of satisfaction related to the METU's general facilities and accommodations. Thirteen items were presented. All items were rated on a 5-point scale, with 0 the lowest rating and 4 the highest. Participants were also given the opportunity to write comments on the questionnaires. Based on the factor analysis results in sections 3.5.1 and 3.5.2, the perceptions of faculty members and research assistants related to general satisfaction level are shown in Tables 4.2.1.1 and 4.2.1.2.

Table 4.2.1.1 : General satisfaction level of faculty members

Factor	Mean	SD
COF (representing computer & office facilities)	3.17	0.64
TSC (representing campus traffic, sports facilities and cultural activities)	3.15	0.62
SCLHF (representing number of students in class, campus design, library, health services and cafeteria/canteen services)	3.04	0.55
CSRA (representing campus security, student registration system, and student advisory system)	2.74	0.75

Table 4.2.1.2 : General satisfaction level of research assistants

Factor	Mean	SD
SFCA (representing sports facilities & cultural activities)	3.39	0.76
CDST (representing campus design, campus security and campus traffic)	3.04	0.58
Library	2.89	0.78
NSCO (representing number of students in class and computer & office facilities)	2.74	0.64
SARHF (representing students' advisory & registration systems, health services and cafeteria/canteen services)	2.65	0.57

The results show that for faculty members COF (represented computer & office facilities), and for research assistants SFCA (represented sports facilities & cultural activities) received the highest rank among other subscales.

4.2.2 Attributed importance

In this part of the survey, faculty were asked to rate the importance they attributed to instructional, personal and professional development issues. Thirteen

items were presented, all of them were rated on a 5-point scale, with 1 being the lowest rating and 5 the highest. Participants were also given the opportunity to write comments on the questionnaires. Based on the factor analysis results in sections 3.5.1 and 3.5.2, the importance attributed by faculty members and research assistants are shown in Tables 4.2.2.1 and 4.2.2.2.

Table 4.2.2.1 : Importance attributed by faculty members to instructional, personal and professional development activities

Factor	Mean	SD
IMECD (representing measurement and evaluation and planning the instruction in line with the predetermined objects)	4.67	0.45
ICMCS (representing class management, using multiple teaching methods, communication with colleagues & students, and self-awareness & development)	4.58	0.47
ILATM (representing knowing learning theories, leadership, administrative skills, and time management)	4.31	0.67
IASER (representing applying different assessment strategies & utilizing examination results to improve the quality of teaching)	4.30	0.81

The results of the attribution of importance show that for faculty members IMECD (represented measurement and evaluation & curriculum development), whereas for research assistants ICSTMS (represented communication with students, time management, self-awareness & development) became the first preference among other subscales.

Table 4.2.2.2 : Importance attributed by research assistants to instructional, personal and professional development activities

Factor	Mean	SD
ICSTMS (representing communication with students, time management, self-awareness & development)	4.72	0.37
ILTCD (representing knowing learning theories & planning the instruction in line with the predetermined objects)	4.57	0.61
IIA (representing using multiple teaching methods, class management, applying different assessment strategies, utilizing examination results to improve the quality of teaching, measurement and evaluation)	4.48	0.46
ILACC (representing leadership & administrative skills and communication with colleagues)	4.30	0.74

4.2.3 Perceived self -proficiency

In this part of the questionnaire, faculty members and research assistants were asked to rate their perceived self-proficiencies in some instructional, personal and professional development activities. Similar to the "importance attributed to" part, thirteen items were presented.

All items were rated on a 5-point scale, with 1 being the lowest rating and 5 the highest. Participants had also the opportunity to write comments. Considering the factor analysis results, the perceived self-proficiency of faculty members and research assistants are shown in Tables 4.2.3.1 and 4.2.3.2. The results show that for faculty members PCTCS, and for research assistants PCTMS received the highest rank among the other subscales.

Table 4.2.3.1 : Perceived self-proficiency of faculty members in instructional, personal and professional development activities

Factor	Mean	SD
PCTCS (representing communication with colleagues & students, time management, planning the instruction in line with the predetermined objects, self-awareness & development)	4.24	0.57
PIACM (representing using multiple teaching methods, class management, applying different assessment strategies, utilizing examination results to improve the quality of teaching, measurement and evaluation, knowing learning theories)	3.98	0.63
PLA (representing leadership & administrative skills)	3.89	1.0

Table 4.2.3.2 : Perceived self-proficiency of research assistants in instructional, personal and professional development activities

Factor	Mean	SD
PCTMS (representing communication with colleagues & students, time management, self-awareness & development)	4.12	0.68
PIA (representing using multiple teaching methods, applying different assessment strategies, utilizing examination results to improve the quality of teaching, measurement and evaluation, knowing learning theories and planning the instruction in line with the predetermined objects, self-awareness & development)	3.57	0.75
PCLA (representing class management, leadership & administrative skills)	3.55	0.91

4.3 Level of general satisfaction, attribution of importance and self-proficiency

In order to find the answer of the second research question previously mentioned, faculty members and research assistants were compared based on the levels of their general satisfaction, attributed importance and self-proficiency.

4.3.1 General satisfaction and academic title

The results of general satisfaction based on two different groups (faculty members and research assistants) are shown in Table 4.3.1.1. A Fully detailed table, including distribution among each academic title, faculty type, gender and administrative duty is given in Table C-1 in Appendix C.

Table 4.3.1.1 Level of general satisfaction.

Item	Faculty Members		Research Assistants	
	Mean	SD	Mean	SD
Campus design	3.67	0.60	3.59	0.61
Cultural activities	3.52	0.75	3.36	0.82
Sports facilities	3.50	0.92	3.42	0.87
Computer facilities	3.23	0.75	2.90	0.87
Campus security	3.19	0.88	3.01	0.89
Office facilities	3.10	0.85	2.74	0.99
Health center	2.99	1.07	2.77	1.03
Cafeteria/canteen services	2.96	0.92	2.57	0.80
Library	2.89	0.81	2.89	0.78
Student registration system	2.77	1.02	2.90	0.85
Number of students in class	2.67	0.98	2.56	1.0
Traffic	2.42	0.91	2.51	0.96
Students' advisory system	2.24	1.06	2.35	0.96
All Items	3.0	0.40	2.89	0.40

The results show that "campus design" had the highest satisfaction level among faculty members and research assistants. On the other hand, "students' advisory system" and "traffic" received the lowest items in both faculty members and research assistants groups.

4.3.2 Attribution of importance and academic title

The results of importance attributed to different aspects of faculty development activities are shown in Table 4.3.2.1. A Fully detailed table, including distribution among each academic title, faculty type, gender and administrative duty is given in Table D-1 in Appendix D.

Table 4.3.2.1 The importance attributed to faculty development items categorized by academic title.

Item	Other Faculty Members		Research Assistants	
	Mean	SD	Mean	SD
Planning the instruction in line with the predetermined objects	4.75	0.47	4.65	0.63
Establishing communication with students	4.72	0.54	4.80	0.40
Time management	4.69	0.57	4.67	0.51
Self awareness & development	4.64	0.67	4.67	0.55
Using multiple teaching methods	4.61	0.69	4.70	0.54
Measurement and evaluation	4.59	0.68	4.47	0.82
Class management	4.45	0.83	4.43	0.78
Establishing communication with colleagues	4.44	0.82	4.55	0.69
Knowing learning theories	4.40	0.85	4.48	0.85
Utilizing examination results to improve the quality of teaching	4.34	0.96	4.42	0.86
Applying different assessment strategies	4.24	1.02	4.41	0.86
Administrative skills	4.10	1.05	4.18	1.01
Leadership	4.02	1.06	4.16	1.00
All Items	4.48	0.42	4.51	0.36

The results show that "curriculum development" and "establishing communication with students" obtained the highest rank for importance attribute among faculty members and research assistants respectively. On the other hand,

"leadership" and "administrating" received the lowest rank in both faculty members and research assistants groups.

4.3.3 Perceived self-proficiency and academic title

The results of perceived self-proficiency for two different groups (faculty members and research assistants) are shown in Table 4.3.3.1. A detailed table, including distribution among each academic title, faculty type, gender and administrative duty is given in Table D-1 in Appendix D.

Table 4.3.3.1 The perceived self-proficiency in faculty development items categorized by academic title.

Item	Faculty Members		Research Assistants	
	Mean	SD	Mean	SD
Measurement and evaluation	4.47	0.63	4.11	0.92
Planning the instruction in line with the predetermined objects	4.45	0.76	3.85	1.06
Establishing communication with students	4.41	0.76	4.39	0.81
Self awareness & development	4.27	0.77	4.10	0.92
Establishing communication with colleagues	4.24	0.87	4.33	0.90
Applying different assessment strategies	4.04	1.04	3.44	1.21
Utilizing examination results to improve the quality of teaching	3.97	1.03	3.52	1.21
Leadership	3.91	1.07	3.65	1.18
Class management	3.89	1.02	3.32	1.16
Administrative skills	3.87	1.12	3.69	1.12
Using multiple teaching methods	3.86	0.99	3.36	1.14
Time management	3.82	1.16	3.63	1.19
Knowing learning theories	3.70	1.16	3.10	1.31
All Items	4.08	0.54	3.74	0.62

The results show that "measurement and evaluation" had the highest rank among faculty members, whereas for research assistants, "establishing communication with students" item received the highest rank in perceived self-proficiency. On the other hand, "knowing learning theories" became the lowest item in both faculty members and research assistants' self-proficiencies

4.4 LISREL modeling results

In order to answer the third research question for the models explaining the factors that might be influential on faculty's perceived competencies, linear structural relation models of a number of independent parameters influencing faculty's self- proficiencies were generated based on two different categories; faculty members and research assistants. The postulated models were tested, evaluated and modified until they reasonably fitted the empirical data.

The fit of all the models was assessed by using four model evaluation and modification criteria: conventional global fit indices, two-tailed t-tests statistics significance at 0.05 α level, magnitude of squared multiple correlations, and modification suggestions.

4.4.1 LISREL modeling results of faculty members

In this study, two different structural models were produced for the faculty members. The first following the idea that all of the faculty members' perceived

self- proficiencies can be combined in a single independent latent variable called PSIP (Perceived Self-Instructional Proficiency). The other being the alternate model, i.e. the perceived self-proficiencies are gathered under three latent variables called PIACM (perceived self-proficiency based on offering multiple teaching methods, class management, applying different assessment strategies, utilizing examination results to improve the quality of teaching, measurement and evaluation, learning theories), PLA (perceived self-proficiency based on leadership & administration) and PCTCS (perceived self-proficiency based on communication with colleagues & students, time management, curriculum development, self awareness & development).

Several models were constructed to fulfill the mentioned requirements. The postulated models needed modifications, since they did not fit the data statistically. Therefore, the alternative models for the faculty members were modified. Modified models (intermediate models) were created as the result of the model generating process in order to give the statistical fit to the empirical data. Modification indices were used in the process of model evaluation and modification. If chi-square was large relative to the degrees of freedom, the modification indices were examined and relax the parameter with the largest modification index if this parameter could be interpreted substantively. If it did not make sense to relax the parameter with the largest modification index, the second largest modification index was considered, etc. A comparison of the fit statistics of the alternative models based on a single independent latent variable (PSIP) is shown in Table 4.4.1.1.

Table 4.4.1.1 Fit statistics of the alternative models for faculty members based on a single independent latent variable (PSIP).

Competing Model	X^2	df	X^2/df	p	GFI	AGFI	SRMR	RMSEA
Model-1	1065.44	1819	0.58	0.98	0.86	0.85	0.50	0.019
Model-2	1150.60	1833	0.63	0.99	0.85	0.84	0.052	0.010
Model-3	1065.71	1833	0.58	0.98	0.86	0.85	0.051	0.018
Model-4	987.35	1832	0.54	0.99	0.87	0.86	0.052	0.010
Model-5	463.58	770	0.60	0.98	0.90	0.89	0.50	0.017
Model-6	447.6	768	0.58	0.99	0.91	0.89	0.050	0.009

The comparisons from Table 4.4.1.1 and significance of λ-path coefficients and Y-path coefficients support the Model-6 as a reasonably good model-data fit.

For the alternative models based on the perceived self-proficiencies gathered under three latent variables called PIACM , PLA and PCTCS, a comparison of the fit statistics of the revised models is shown in Table 4.4.1.2.

Table 4.4.1.2 Fit statistics of the alternative models for faculty members based on three latent variables (PIACM, PLA, PCTCS).

Competing Model	X^2	df	X^2/df	p	GFI	AGFI	SRMR	RMSEA
Model-1	1014.23	1803	0.56	0.97	0.87	0.85	0.048	0.012
Model-2	1108.57	1825	0.61	0.98	0.86	0.84	0.052	0.011
Model-3	1125.79	1829	0.61	0.99	0.86	0.84	0.054	0.010
Model-4	1098.94	1832	0.60	0.99	0.86	0.84	0.052	0.010
Model-5	1047.94	1762	0.59	0.98	0.86	0.85	0.054	0.011
Model-6	1060.92	1745	0.61	0.99	0.86	0.84	0.055	0.010
Model-7	581.76	1165	0.50	0.99	0.90	0.89	0.048	0.010
Model-8	484.89	1030	0.47	0.98	0.91	0.90	0.045	0.011
Model-9	257.36	532	0.48	0.99	0.93	0.92	0.045	0.010
Model-10	252.15	283	0.89	0.91	0.92	0.90	0.063	0.012

Table 4.4.1.2 (Continued)

Model-11	485.14	1037	0.47	0.99	0.91	0.90	0.044	0.010
Model-12	487.17	1037	0.47	0.99	0.91	0.90	0.044	0.009
Model-13	329.9	713	0.46	0.99	0.93	0.92	0.044	0.010
Model-14	212.79	473	0.45	0.99	0.94	0.93	0.040	0.009

The comparisons from Table 4.4.1.2 and significance of λ-path coefficients and Y-path coefficients support the Model-14 as a good model-data fit.

A comparison of the LISREL solution conventional global fit indices for the best models, with respect to criterion in each group, is presented in Table 4.4.1.3. The table shows that Model-6 (from 1st category) had a weaker fit than Model-14 (from 2nd category) and is not discussed further in this research.

Table 4.4.1.3. Comparison of LISREL solutions for the two alternative models.

Competing Model	X^2 (df, p)	GFI	AGFI	SRMR	RMSEA
Model-6 (1st category)	447.6 (768, 0.99)	0.91	0.89	0.050	0.009
Model-14 (2nd category)	212.79 (473, 0.99)	0.94	0.93	0.040	0.009
Criterion	P > 0.05	GFI > 0.90	AGFI > 0.90	SRMR < 0.05	RMSEA < 0.05

Uniformly acceptable values across all the five conventional global fit indices automatically provided strong evidence for the reasonable Model-14 data fit. The conceptual diagram of the model-14 is shown in Figure E-1 in Appendix E.

Table 4.4.1.4 tabulates LISREL solution λ-path coefficients of the Model-14. As can be observed in the Table, all of them were significant at 0.05 α level (t>1.96). Table 4.4.1.5 also presents measurement errors of the observed variables for the model-14.

Table 4.4.1.4. LISREL solution λ-path coefficients

Path	λ	t
PIACM-y1	0.46	3.56
PIACM-y2	0.40	3.37
PIACM-y3	0.45	3.53
PIACM-y4	0.41	3.44
PIACM-y5	0.37	3.27
PIACM-y6	0.48	3.65
PCTCS-y7	0.41	5.27
PCTCS-y10	0.42	5.40
PCTCS-y11	0.49	6.33
PCTCS-y12	0.43	5.43
PCTCS-y13	0.46	5.86
PLA-y8	0.64	4.53
PLA-y9	0.64	4.54
ICMCS-n1	0.50	6.59
ICMCS-n2	0.31	4.02
ICMCS-n10	0.34	4.46
ICMCS-n11	0.40	5.36
ICMCS-n13	0.47	6.21
ADMF-adm1	0.57	8.20
ADMF-adm2	0.56	7.99
ADMF-adm3	0.62	8.93
ADMF-adm4	0.55	7.88
ADMF-adm5	0.64	9.40
ADMF-adm6	0.67	9.82
ADMF-adm7	0.60	8.59

Table 4.4.1.5. Measurement Errors of the observed variables

Observed variables	Measurement errors	Observed variables	Measurement errors
y1	0.79	y6	0.77
y3	0.80	y7	0.84
y4	0.83	y2	0.84
y5	0.86	y8	0.59
y9	0.59	n1	0.75
y10	0.82	n2	0.90
y11	0.76	n3	0.78
y12	0.82	n4	0.79
y13	0.79	n5	0.77
n6	0.84	Adm1	0.67
n7	0.75	Adm2	0.68
n8	0.83	Adm3	0.62
n9	0.89	Adm4	0.69
n10	0.88	Adm5	0.59
n11	0.84	Adm6	0.56
n12	0.80	Adm7	0.64
n13	0.78		

Table 4.4.1.6 tabulates LISREL solution φ-correlations of the Model-14. As can be observed in the Table, all of them were significant at 0.05 α level (t>1.96).

Table 4.4.1.6. LISREL solution φ-correlations

ξ-factors	φ	t
ICMCS-PCTCS	0.31	3.26
ADMF-PCTCS	0.25	2.75
PCTCS-PIACM	0.84	3.32
PCTCS-PLA	0.79	3.71

Table 4.4.1.7 tabulates LISREL solution θ-error covariance added to the model. As can be observed in the Table, both of these parameters were significant at 0.05 α level (t>1.96).

Table 4.4.1.7. LISREL solution θ-error covariance

Path	θ	t
n8-n9	0.23	3.50

The LISREL modeling results showed that faculty members' importance attributed to class management, using multiple teaching methods, communication with colleagues & students, self-awareness & development (ICMCS) is loaded positively and significantly (0.31) on their perceived self-proficiency based on communication with colleagues & students, time management, planning the instruction in line with the predetermined objects, self-awareness & development (PCTMS). ICMCS has indirect influences on perceived self-proficiency based on leadership & administrative skills (PLA) and on perceived self-proficiency in using multiple teaching methods, class management, applying different assessment strategies, utilizing examination results to improve the quality of teaching, measurement and evaluation, and knowing learning theories (PIACM). Although the indirect effects of ICMCS on PLA and PIACM were weaker, 0.24 and 0.26 respectively, they were contributing to the faculty members' instructional proficiencies.

In addition, faculty members' views in the top level administration of METU based on their openness to different views, problem handling, open to participation / interaction, accessibility, transparency, trustworthiness and consistency (ADMF) had a significant effect (0.25) on their perceived self-proficiency based on communication with colleagues & students, time management, planning the instruction in line with the predetermined objects, self-awareness &

development (PCTMS). The indirect effects of ADMF on PLA and PIACM were 0.20 and 0.17. Furthermore, the results of the faculty members showed a clear impact of their perceived self-proficiencies on each other. PCTCS had pervasive direct effects on PIACM (0.84), and to a lesser degree on PLA (0.79). Finally, the LISREL model also showed that faculty members' attributed importance in leadership and administrative skills were correlated (0.23).

Table 4.4.1.8 tabulates LISREL solution squared multiple correlations for the best model of the faculty members. As mentioned previously in section 4.2.1, Cohen's (1977) (as cited in Weinfurt, 1995) classification of effect sizes has become somewhat of a standard in research studies. Based on this classification, as can be seen in Table 4.4.1.8, the squared multiple correlation values for the observed variables were generally in medium or large category. This led to justify the interpretation of the observed variables as reliable measures of their associated factor.

Table 4.4.1.8. Faculty members' LISREL solution squared multiple correlation

Variable	R^2	Variable	R^2
y1	0.21	y6	0.23
y3	0.20	y7	0.16
y4	0.17	y2	0.16
y5	0.14	y8	0.41
y9	0.41	n1	0.25
y10	0.18	n2	0.10
y11	0.24	n3	0.22
y12	0.18	n4	0.21
y13	0.21	n5	0.23
n6	0.16	Adm1	0.33
n7	0.25	Adm2	0.32

Table 4.4.1.8 (Continued)

n8	0.17	Adm3	0.38
n9	0.11	Adm4	0.31
n10	0.12	Adm5	0.41
n11	0.16	Adm6	0.44
n12	0.20	Adm7	0.36
n13	0.22		

4.4.2 LISREL modeling results of research assistants

The same procedure in LISREL modeling of faculty members was applied to the research assistants group, i.e. two structural models were suggested and produced for research assistants. The first followed the idea that all of the research assistants' perceived self-proficiencies can be combined in a single independent latent variable called PSIP (Perceived Self-Instructional Proficiency). The other being the alternate model, i.e. the self-proficiencies are gathered under three latent variables called PIA (Perceived self-proficiency based on instructional abilities), PCLA (Perceived self-proficiency based on class management, leadership & administration) and PCTMS (Perceived self-proficiency based on communication with colleagues & students, time management, self awareness & development).

Several models were created to fulfill the mentioned requirements. The postulated models needed modifications, since they did not fit the data statistically. Hence the alternative models for research assistants were modified. Modified models (intermediate models) were created as the result of the model generating

process in order to give the statistical fit to the empirical data. In addition, modification indices were used in the process of model evaluation and modification.

A comparison of the fit statistics of the alternative models based on a single independent latent variable (PSIP) is shown in Table 4.4.2.1. The comparisons from Table 4.4.2.1. and significance of λ-path coefficients and Y-path coefficients support the Model-9 as a reasonably good model-data fit.

Table 4.4.2.1. Fit statistics of the alternative models for research assistants based on a single independent latent variable (SIP).

Competing Model	X^2	df	X^2/df	p	GFI	AGFI	SRMR	RMSEA
Model-1	420.09	681	0.62	0.98	0.93	0.92	0.042	0.011
Model-2	420.54	683	0.62	0.99	0.93	0.92	0.042	0.010
Model-3	485.38	689	0.70	0.98	0.92	0.91	0.047	0.011
Model-4	472.22	687	0.69	0.98	0.92	0.91	0.048	0.011
Model-5	508.85	689	0.74	0.97	0.92	0.91	0.052	0.012
Model-6	472.62	688	0.69	0.99	0.92	0.91	0.048	0.011
Model-7	458.30	686	0.67	0.96	0.93	0.92	0.048	0.013
Model-8	422.68	686	0.62	0.97	0.93	0.92	0.042	0.013
Model-9	392.84	689	0.57	0.98	0.94	0.93	0.041	0.012

For the alternative models based on the perceived self-proficiencies gathered under three latent variables called PIA (Perceived self-proficiencies based on instructional abilities), PCLA (Perceived self-proficiencies based on class management, leadership & administration) and PCTMS (Perceived self-proficiencies based on communication with colleagues & students, time management, self awareness & development), a comparison of the fit statistics of the revised models is shown in Table 4.2.1.2.

Table 4.4.2.2 Fit statistics of the alternative models for research assistants based on three latent variables (PIA, PCLA, PCTMS).

Competing Model	X^2	df	X^2 / df	p	GFI	AGFI	SRMR	RMSEA
Model-1	479.27	676	0.71	0.99	0.92	0.91	0.047	0.010
Model-2	499.90	636	0.79	0.97	0.92	0.90	0.058	0.012
Model-3	408.10	640	0.64	0.98	0.93	0.92	0.043	0.011
Model-4	340.27	634	0.54	0.98	0.94	0.93	0.041	0.011
Model-5	336.96	639	0.53	0.99	0.94	0.93	0.040	0.010
Model-6	281.2	225	1.2	0.064	0.92	0.91	0.060	0.029
Model-7	189.2	285	0.66	0.99	0.95	0.94	0.041	0.010
Model-8	271.89	179	1.52	0.0001	0.92	0.90	0.061	0.042
Model-9	177.58	286	0.62	0.98	0.96	0.95	0.039	0.009
Model-10	172.1	287	0.60	0.99	0.96	0.95	0.038	0.009

The comparisons from Table 4.4.2.2 and significance of λ-path coefficients and Y-path coefficients support the Model-10 as a good model-data fit. Comparison of the LISREL solution conventional global fit indices for the best model in each category, with respect to criterion in each group, is presented in Table 4.4.2.3. The table shows that Model-9 (from 1st category) had a weaker fit than Model-10 (from 2nd category) and is not discussed further in this research.

Table 4.4.2.3. Comparison of LISREL solutions for the two alternative models.

Competing Model	X^2 (df, p)	GFI	AGFI	SRMR	RMSEA
Model-9 (1st category)	392.84 (689, 0.98)	0.94	0.93	0.041	0.012
Model-10 (2nd category)	172.1 (287, 0.99)	0.96	0.95	0.038	0.009
Criterion	P > 0.05	GFI > 0.90	AGFI > 0.90	SRMR < 0.05	RMSEA<0.05

Uniformly acceptable values across all the five conventional global fit indices automatically provided strong evidence for the reasonable Model-10 data fit. The conceptual diagram of the model is shown in Figure F-1 in Appendix F. Observed variables are enclosed in rectangles, and latent variables are enclosed in ellipses

Table 4.4.2.4 tabulates LISREL solution λ-path coefficients of the Model-10. As can be observed in the Table, all of them were significant at 0.05 α level (t>1.96). Table 4.4.2.5 also presents measurement errors of the observed variables for the model-10.

Table 4.4.2.4. LISREL solution λ-path coefficients

Path	λ	t
PIA-y1	0.26	3.64
PIA-y3	0.40	5.38
PIA-y4	0.76	2.49
PIA-y5	0.26	3.54
PIA-y6	0.39	5.34
PIA-y7	0.44	5.94
PCLA-y2	0.17	2.04
PCLA-y8	0.65	8.13
PCLA-y9	0.65	8.13
PCLA-y10	0.22	2.70
PCTMS-y2	0.30	3.02
PCTMS-y4	-0.49	-2.04
PCTMS-y10	0.34	3.41
PCTMS-y11	0.57	4.37
PCTMS-y12	0.48	4.21
PCTMS-y13	0.49	4.21
ILTCD-n6	0.45	6.40
ILTCD-n7	0.51	7.25
ILACC-n8	0.64	5.58
ILACC-n9	0.60	5.58

Table 4.4.2.4 (Continued)

ILACC-n10	0.31	3.95
ICSTMS-n11	0.43	4.35
ICSTMS-n12	0.38	4.06
ICSTMS-n13	0.45	4.40

Table 4.4.2.5. Measurement Errors of the observed variables

Observed variables	Measurement errors	Observed variables	Measurement errors
y1	0.93	y12	0.77
y3	0.84	y13	0.76
y4	0.76	n6	0.80
y5	0.93	n7	0.74
y6	0.85	n8	0.59
y7	0.80	n9	0.64
y2	0.84	n10	0.90
y8	0.58	n11	0.81
y9	0.58	n12	0.85
y10	0.78	n13	0.80
y11	0.67		

Table 4.4.2.6 tabulates LISREL solution φ-correlations of the Model-11. As can be observed in the Table, all of them were significant at 0.05 α level (t>1.96).

Table 4.4.2.6. LISREL solution φ-correlations

ξ-factors	φ	t
ICSTMS-ILACC	0.74	3.28
PIA-PCTMS	0.78	3.22
PCLA-PIA	0.49	4.31
ILACC-PCLA	0.40	3.57
ILTCD-ICSTMS	0.76	3.82

Table 4.4.2.7 tabulates LISREL solution θ-error covariance added to the model. As can be observed in the Table, both of these parameters were significant at 0.05 α level (t>1.96).

Table 4.4.2.7. LISREL solution θ-error covariances

Path	θ	t
y10-n10	0.14	2.83
n10-n11	0.21	3.74

The model identified three factors that could be possible contributors towards research assistants' perceived self-proficiencies. The results showed that research assistants' importance attributed to knowing learning theories and planning the instruction in line with the predetermined objects (ILTCD) have positive indirect effects on their self-proficiency based on class management, leadership & administrative skills (PCLA), self-proficiency based on instructional abilities (PIA) and their self-proficiency based on communication with colleagues & students, time management, self awareness & development (PCTMS). The impact of ILTCD on PCLA, PIA and PCTMS was 0.22, 0.11 and 0.09 respectively.

Similarly, the research assistants' attributed importance to communication with students, time management, self awareness & development (ICSTMS) had positive indirect effects on their perceived self- proficiency based on class management, leadership & administrative skills (PCLA), self-proficiency based on instructional abilities (PIA) and their self-proficiencies based on communication with colleagues & students, time management, self awareness & development

(PCTMS). The effect of ICSTMS on PCLA was statistically significant with a factor loading of 0.30. However the impact of ICSTMS on PIA and PCTMS was low with factor loadings of 0.15 and 0.11 respectively.

Furthermore, attributed importance of leadership, administrative skills and communication with colleagues (ILACC) had a direct effect (0.40) on self-proficiency based on class management, leadership & administrative skills (PCLA). On the other hand, the influence of ILACC on self-proficiencies based on instructional abilities (PIA) and PCTMS were smaller but notable (0.20 and 0.15 respectively).

Moreover, the results showed a clear impact of research assistants' perceived self-proficiencies on each other. Studying closely the three latent variables PCLA, PIA and PCTMS revealed that, self-proficiency based on class management, leadership & administrative skills (PCLA) affects self-proficiency based on instructional abilities (PIA) with a significant positive loading of 0.49. At the same time, PIA influences self-proficiency based on communication with colleagues & students, time management, self awareness & development (PCTMS) with a large impact of 0.78. The indirect effect of PCLA on PCTMS is 0.38 that is also large enough to justify its interpretation as being a valid effect.

The LISREL model for research assistants in METU also showed that attributed importance in establishing communication with colleagues and attributed

importance in establishing communication with students were substantially correlated (0.41). Another significant correlation was also among attributed importance and perceived self-proficiency in establishing communication with colleagues (0.29). Table 4.4.2.8 tabulates LISREL solution squared multiple correlations for the best model of the research assistants.

Table 4.4.2.8. Research assistants' LISREL solution squared multiple correlations

Variables	R^2	Variables	R^2
y1	0.11	y12	0.23
y3	0.16	y13	0.24
y4	0.24	n6	0.20
y5	0.10	n7	0.26
y6	0.15	n8	0.41
y7	0.20	n9	0.36
y2	0.16	n10	0.10
y8	0.42	n11	0.19
y9	0.42	n12	0.15
y10	0.22	n13	0.20
y11	0.33		

An effect size can be explained as the magnitude of an independent variable's effect, usually expressed as a proportion of explained variance in the dependent variables (Weinfurt, 1995). Squared multiple correlation (R^2) is roughly equivalent to the measure of effect size in multiple regression. According to Cohen's (1977) classification (as cited in Weinfurt, 1995), 0.01 is small, 0.09 is medium and 0.25 or greater is large for the magnitude of R^2. The social researches generally produce small to medium effect sizes (Weinfurt, 1995). Due to the relationship between structural equation modeling and multiple regression, measures of squared multiple correlation were used as the index of effect size in this

study. As can be seen in Table 4.2.2.8, the squared multiple correlation values for the observed variables were generally in medium or large category, to justify the interpretation of the observed variables as reliable measures of their associated factor.

4.5 Training programs, evaluating performance, barriers in the academic life

In order to find the faculty's ideas about faculty development training program types, evaluation performance, university top level administration's approach, barriers to personal and professional developments, and job satisfaction, the related descriptive results are considered in this section. The results for experience of attending training programs for the faculty members and research assistants and the type of the training programs (compulsory or voluntary) and their intentions are shown in Tables 4.5.1, 4.5.2 and 4.5.3.

Table 4.5.1 Participation of faculty in training programs

Attendance in training programs	Faculty Members		Research Assistants	
Response	Number	%	Number	%
Yes	61	29.6	21	7.1
No	145	70.4	274	92.9

Table 4.5.2 Type of participated training programs

Type of attended training programs	Faculty Members		Research Assistants	
	Number	%	Number	%
Compulsory	14	22.9	10	47.6
Voluntary	47	77.1	11	52.4

Table 4.5.3 Views of the faculty based on their intention to participate faculty development oriented programs.

Interested in attending faculty development programs?	Faculty Members		Research Assistants	
	Number	%	Number	%
Yes	121	57.6	214	72.5
No	43	20.5	34	11.5
Not decided	46	21.9	47	15.9

The results showed that majority of faculty did not attend training programs previously but were interested to participate in such programs. Fully details, including the preferences of faculty for the type and duration of faculty development programs based on academic titles, faculties, gender and administrative duty are given in Tables G-1 and H-1 in Appendices G and H respectively. Their preferences of the programs based on faculty members and research assistants are presented in Tables 4.5.4 and 4.5.5.

Table 4.5.4 Preferred faculty development program formats

Type of faculty development programs	Faculty Members		Research Assistants	
	Number	%	Number	%
Workshop	67	57.3	122	57.8
Discussion sessions with subject experts and other participants	26	22.2	38	18.0
Seminar	14	12.0	39	18.5
Internet based learning	6	5.1	11	5.2
Seminar/Workshop/Internet based education/Discussion session	2	1.7	0	0.0
Seminar/Workshop/Discussion session	2	1.7	1	0.5

Table 4.5.5 shows the preferences of faculty for the duration of those development programs.

Table 4.5.5 Preferences for duration of faculty development programs

Duration of faculty development programs	Faculty Members		Research Assistants	
	Number	%	Number	%
2-3 hours per month	68	57.6	122	58.1
2-3 hours per semester	24	20.3	21	10.0
2-3 hours per week	20	16.9	62	29.5

These results show that the first preference for both faculty members and research assistants was workshops. In addition 2-3 hours per month was the most preferred duration type of such programs among faculty. A detailed Table (I-1), including the preferences of faculty for responsibility of preparing faculty development programs based on academic titles, faculties, gender and

administrative duty is given in Appendix I. Table 4.5.6 shows the results based on priorities responsible for teaching the faculty development programs.

Table 4.5.6 Preferences of faculty in teaching staff of faculty development programs.

Who should teach the faculty development programs?	Faculty Members		Research Assistants	
	Number	%	Number	%
An education center in METU devoted to the faculty development programs and its staff	42	37.2	68	32.7
Experts in Continuing Education Center of METU	31	27.4	53	25.5
Experts of a private educational company independent of METU	17	15.0	7	3.3
Faculty of Education's staff	12	10.6	32	15.4
Interested departments and experienced faculty staff of those departments	11	9.7	48	23.1

Table 4.5.7 represents the idea of the faculty about target groups that seems to be trained under different faculty development programs.

Table 4.5.7 Target groups for training programs.

Are there any suggested target groups who need faculty development training programs?	Faculty Members		Research Assistants	
	Number	%	Number	%
Yes	153	95.6	227	93.0
No	7	4.4	17	7.0

A detailed Table (J-1) showing the distribution of target group preferences of faculty based on academic titles, faculties, gender and administrative duty is

given in Appendix J. Table 4.5.8 represents these preferences based on two major groups of faculty members and research assistants. The results show that a majority of both faculty members and research assistants believe that there should be an education center for faculty development programs in METU and junior members of the faculties must be the target group to be trained.

Table 4.5.8 Suggested target groups for training programs.

Suggested target groups to participate in faculty development training programs	Faculty Members		Research Assistants	
	Number	%	Number	%
All of the faculty who started their job recently	98	64.1	126	55.5
Only volunteer faculty members	52	34.0	75	33.0
All of the research assistants	33	21.6	37	16.3
Research assistants doing their PhD	28	18.3	22	9.7
All of the faculty	14	9.1	18	7.9

In the fourth part of the questionnaire, the faculty members were requested to explain the factors that should be paid attention to while evaluating their performance. Research assistants were not asked to reply to the questions in part IV of the questionnaire. In the first section, ten items were presented, all items were rated on a 5-point scale, with 1 being the lowest rating and 5 the highest. Fully detailed Table (K-1), including distribution among academic titles, faculties, gender and administrative duty is given in Appendix K. Table 4.5.9 shows a summary of the results of the faculty members' views. Table 4.5.10 also presents the views of the faculty related to staff awarding.

Table 4.5.9 Performance Measurement Criteria

Performance Measurement Items	Degree of paying attention	
	Mean	SD
Publications	4.03	0.99
Numbers of administrated thesis	3.86	0.93
Service to university	3.86	1.0
Lecture hours	3.84	0.99
Students' evaluation	3.59	1.17
Consultations, ongoing projects	3.46	1.08
Cited references	3.30	1.25
Head of department's views	3.17	1.07
Peer views	3.10	1.15
Dean's views	2.51	1.16

Table 4.5.10 Views related to the awarding the academicians.

Should university administration awards the academicians based on their success in some academic fields?	Faculty members' views	
	Number	%
Yes	170	82.1
No	16	7.7
Not decided	21	10.1

The results show that "publications" took the first rank among performance measurement items. A detailed table (L-1), presenting the distribution for the preferences of faculty determining who should be rewarded based on different categories of academic titles, faculties, and gender is given in Appendix L. Table 4.5.11 shows a summary of the views of the academicians.

Table 4.5.11 Faculty to be awarded.

Who should be rewarded?	Faculty members' views	
	Number	%
Those who pass the general performance limit measured based on weighting criteria mentioned in Table 4.5.9	36	21.3
Those who shows an outstanding performance in one or more of the criteria mentioned in Table 4.5.9	27	16.6
Both those who pass the general performance limit and those who shows an outstanding performance in the criteria mentioned in Table 4.5.9	103	60.9

Table M-1 in Appendix M demonstrates the faculty members' preferences determining the fields for which outstanding performances should be rewarded based on different categories of academic titles, faculties, and gender. Table 4.5.12 also shows a summary of the results.

Table 4.5.12 Fields of outstanding performance

Outstanding performances' fields	Faculty Members' priorities	
	Number	%
International articles numbers	94	57.3
National and international publication activities	91	55.5
Student evaluation	75	45.7
International cited references	68	41.5
National and international articles numbers	63	38.4
Colleague evaluation	33	20.1
Academic activities (editing, seminar, conference, projects, research & development activities)	8	4.9

Next, the faculty members were asked to show their views about success of METU administrative in different fields. Seven items were presented, all were rated on a 5-point scale, with 1 being the lowest rating and 5 the highest. Table N-1 in Appendix N demonstrates in details the faculty members' view to the approaches of METU's administration in different perspectives. Table 4.5.13 represents a summary of the results based on administrative success ness.

Table 4.5.13 Faculty's views to successful of the top level of administration of METU

Topics in evaluating the university administration	Degree of being successful	
	Mean	SD
Accessibility	3.75	1.01
Trustworthiness	3.49	0.99
Consistency	3.45	0.95
Problem handling	3.40	0.80
Transparency	3.33	1.05
Openness to different views	3.31	1.01
Open to participation / interaction	3.14	1.03
Overall	3.41	0.84

Afterwards, the faculty members were asked to present their ideas about the factors that can be considered as barriers to an effective academic performance in METU. Nine items were presented, all were rated on a 5-point scale, with 1 being the lowest rating and 5 the highest. Table O-1 in Appendix O demonstrates in details the faculty members' views to these barriers. Table 4.5.14 also represents a summary of the results. The results show that excess of teaching load was considered as the main item preventing faculty members' academic performance improvement.

Table 4.5.14 Faculty members' views for barriers in their academic environment

Factors that prevent a more efficient performance	Degree of prevention	
	Mean	SD
Excess of teaching load	3.39	1.11
Excess of departmental meetings	2.77	1.04
Excess of commission membership	2.58	1.12
Insufficiency of computer support services	2.41	1.14
Insufficiency in secretarial services	2.39	1.24
Administrative activities	2.33	1.30
Insufficiency of computer facilities	2.07	1.15
Insufficiency in photocopy facilities	2.03	1.11
Insufficiency of printing facilities	2.03	1.10

Finally, in the last part of the questionnaire, the faculty members were asked to explain about the satisfaction level they feel in their jobs in general. Two items were presented, both were rated on a 5-point scale, with 1 being the lowest rating and 5 the highest. Fully detailed table (P-1), including distribution among academic titles, faculties, gender and administrative duty is given in Appendix P. Table 4.5.15 presents a summary of the results of the faculty members' views.

Table 4.5.15 Faculty members' views related to job satisfaction

Job satisfaction item	Degree of satisfaction	
	Mean	SD
Are you generally satisfactied in your job?	3.69	0.73
How much are you interested to do your job in another institute/organization?	1.99	1.03

The results show that in general the faculty members are satisfied in their jobs in METU.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

This study was designed to gather the information related to the needs of the faculty members in METU and the possibilities and advantages of using a structural equation modeling method in detecting and estimating the relationship structure among multiple variables in faculty development process. Therefore, the goal of this research was, first, to define the needs of the faculty members and research assistants at METU and determine their views related to different aspects of faculty development activities and, second, to construct and estimate the best structural model of factors affecting perceived self-proficiencies of both faculty members and research assistants.

5.1 Discussion of the results

5.1.1 Descriptive results of faculty needs

Descriptive results of our study showed that, in METU, there was a general satisfaction from the job. This was also confirmed by the result that the faculty members were not interested in changing their job to other higher education institutes. According to Pendleton (2002), faculty satisfaction seems a good barometer of institutional health. Another result obtained from the data showed that in general, all the participants (whether they teach or not) gave more weight to the attributed importance of instructional abilities items in compare with their self-proficiencies in those items. This showed that there was a feeling for need to improve their self-proficiency in different instructional issues. This result was compatible with the descriptive findings that showed both faculty members and research assistants believed that there are groups to be trained for development programs. The low percentage of faculty attended such programs, supports the idea. On the other hand, the majority of faculty members were interested in attending such programs. These results indicate that faculty development programs seem to be critical to the faculty hoping to be developed and promoted. That could be an explanation of why academicians are eager to improve their instructional proficiencies.

According to Chism, Lees and Evenbeck (2002), perceptions of the importance of faculty development have changed dramatically over the past few

decades. Needs and perceptions of the faculty development activities tend to be changed among different groups of the university. Faculty members and research assistants were the two distinct groups in our study. Research assistants, having less teaching load in comparison with the faculty members, are not as experienced as they are. As mentioned previously, being at the beginning of their careers leads to different needs based on teaching skills, personal developments, perception of leadership, and management in their future academic life. Quantitative results also showed that generally, research assistants evaluate themselves as less proficient in comparison with the faculty members. On the other hand, faculty members who have experienced more teaching hours, should have different needs, based on professional academic skills, personal developments, and reward systems to promote. Apart from the characteristics of the two groups, the qualitative results also showed that there was a major difference between percentage of faculty members and research assistants who attended instructional training programs. Research assistants showed a very low percentage in previous attendance for those programs. That's probably why research assistants were much more interested in participating different faculty development programs in comparison with the faculty members.

The distinction between faculty members and research assistants emerged in different aspects. Reminding that the most attribution of importance item for faculty members was "planning the instruction in line with the predetermined objects", whereas "establishing communication with students" was research assistants' first preference. The same differences happened in perceived self-proficiencies.

"Measurement & evaluation" obtained the highest rank among faculty members. Research assistants, however, selected "establishing communication with students" as the highest self-proficient item.

Factor analysis results also confirm this distinction between the two groups. Faculty members and research assistants exhibited different patterns in factor analysis through all of the questionnaire groups, i.e. "general satisfaction level", "attributed importance" and "perceived self-proficiency". For example in "perceived self-proficiency", leadership and administrative skills were gathered in a cluster (called PLA) for faculty members. Research assistants, however, clustered leadership, administrative skills and also class management in the same group. In other words, research assistants considered class management in the same cluster with leadership and administrative skills. Lack of experience in teaching in research assistants led to such a different classification. These findings suggest that when professional development plans for faculty are prepared, the needs of each group should be considered carefully.

On the other hand, as mentioned previously, faculty development activities are conducted basically at two levels: centralized and decentralized. Centralized (university-wide) programs are those that are important to the university as a whole and appropriate to a wide range of faculty. Decentralized (departmental) programs are primarily responsible for fulfilling the needs of individual faculty members at each department. The results of our study indicated that among the different alternatives, both faculty members and research assistants selected "an education

center in METU devoted to the faculty development programs and its staff" as their favorite authority for faculty development training programs. Farquhar (2001) identified that the universities are pushing a general attention to teaching and learning internally as well, most assertively through the establishment and quite phenomenal growth of instructional resource centers.

Furthermore, the results showed that departmental faculty development programs had also a significant importance among faculty's preferences. This finding agrees with the idea of needs for separate centralized and decentralized faculty development programs in METU. However, the balance between centralized and decentralized responsibilities for faculty development activities should be maintained carefully.

Another important result observed from the survey was that among both faculty members and research assistants, workshop was the most preferred medium for faculty development activities. As Hitchcock and Maurice (1992) also mentioned, short programs such as workshops are among the most common faculty development activities that can increase knowledge, motivate interest in change, and raise level of awareness among faculty. Workshops are a frequent and preferred mode for the conduct of faculty development. Such instructional workshops provide opportunities for continued learning.

On the other hand, Internet based learning system had a low degree of acceptance among faculty. These results were in contrary with the expectations

about Internet and faculty members' interest for Internet based learning. This may be due to the poor quality of educational materials prepared for faculty members in the Internet till now. According to Potter and Mellar (2000), such trainings should address the personal and professional needs of the faculty holistically, otherwise it will fail to meet the requirements. It seems that a detailed qualitative search related to existing knowledge and abilities to use information technologies is required for faculty members with respect to their low degree of preferences for Internet based learning. Quantitative results also showed that the majority of faculty (both faculty members and research assistants) preferred a faculty development training program, which takes about 2-3 hours per month. Furthermore, a significant percentage of faculty members (95.6 %) and research assistants (93.0 %) declared that they believe there are certain groups in the university needed to be trained under these programs. The majority of both faculty members and research assistants mentioned that all of the faculty members who start their job recently should attend the training programs. These findings are in line with the previous studies conducted in faculty development activities. Sorcinelli(1994), DiLorenzo and Heppner (1994) also mentioned that training programs can shorten the time newcomers take to become integrated into their departments, university and community. All of the above results emphasized that both faculty members and research assistants at METU pay attention to faculty development programs. At the same time, they were interested to recover their deficiencies and improve their proficiencies through different faculty development training programs. Quantitative results of part IV of the questionnaire, which was mainly related to organizational developments of METU indicated that a majority of faculty (82.1 %) shows an agreement on rewarding

system for academic staff. Murray(1998), Clark, Corcoran, & Lewis(1986), Eble & McKeachie(1985), Kort(1992), Stark et al.(1998), Murray (2002) also mentioned about connecting faculty development to t he reward structure as an important component of the faculty development programs. A faculty development program that addresses behaviors that are irrelevant to a rewards system has little chance of success (Watson and Grossman, 1994).

According to the survey results, both general performance and outstanding performance in specific fields should be the determining criteria for rewarding system of METU. A majority of faculty members showed their agreement on performance criteria. In addition, the number of international and national articles and publications were the major preferred groups that should be considered for outstanding performance criteria. The results were in confirmation with Murray (1998) stating that activities such as offering incentives to present papers indicates the extent of support for faculty development programming.

Furthermore, faculty members in METU considered the top level administration's approaches as successful in different aspects. As can be observed from the survey, administrative evaluations were graded highly positive. Clearly, administrative evaluation is critical to the faculty hoping to be promoted. One explanation for this positive approach may that the faculty members at METU hope that administrators of the university will aim a quality faculty.

5.1.2 Results of LISREL Modeling

As mentioned previously, different item grouping through the factor analysis procedure led us to analyze the LISREL results based on two major categories; faculty members and research assistants.

5.1.2.1 LISREL modeling for research assistants

Through considering the linear structural equation modeling, the following results can be drawn from the modeling study for research assistants:

- The views about METU's general facilities and accommodations assessed by the observed variables of sports facilities, cultural activities, campus design, campus security, campus traffic, students' advisory & registration systems, health services, cafeteria / canteen services, library, number of students in class, computer and office facilities does not affect their perceived self proficiencies.

- The importance they attributed to instructional abilities (IIA) assessed by the observed variables of using multiple teaching methods, class management, applying different assessment strategies, utilizing examination results to improve the quality of teaching, measurement and evaluation does not affect their perceived self proficiencies.

- The importance they attributed to knowing learning theories, and planning the instruction in line with the predetermined objects (ILTCD) affects their perceived self proficiencies.

- The importance they attributed to leadership, administrative skills and establishing communication with colleagues (ILACC) affects their perceived self proficiencies.

- The importance they attributed to communication with students, time management, self-awareness & development (ICSTMS) affects their self proficiencies.

As mentioned previously ILTCD had positive indirect effects on research assistants' perceived self-proficiency based on class management, leadership & administrative skills (PCLA), self-proficiency based on instructional abilities (PIA) and their self-proficiency based on communication with colleagues & students, time management, self-awareness & development (PCTMS). The impact of ILTCD on PCLA, PIA and PCTMS was not large enough to justify its interpretation as being very valid effects. However, it somehow seemed to be contributing to the research assistants' perceived self proficiencies. The results suggest that insufficient knowledge about learning theories and planning the instruction in line with the predetermined objects for research assistants were among the topics that affected their proficiencies. This means that research assistants are aware of importance of those items in their career.

The research assistants' view in attributed importance of communication with students, time management, self awareness & development (ICSTMS) had positive indirect effects on their perceived self-proficiency based on class management, leadership & administrative skills (PCLA), perceived self-proficiency based on

instructional abilities (PIA) and self-proficiency based on communication with colleagues & students, time management, self awareness & development (PCTMS). Moreover, importance attributed to leadership, administrative skills and communication with colleagues (ILACC) had a direct effect on PCLA and smaller but notable indirect effects on PIA and PCTMS.

The significant influences of ILACC and ICSTMS indicate that perceptions of importance of leadership, administrative skills, communication with colleagues, communication with students, time management, self-awareness & development positively impact research assistants' instructional self-proficiencies. The above results can be interpreted due to being only at the beginning of their academic lives and lack of teaching experience in research assistants. Being at the start of their career and having less academic responsibilities, gives rise to pay more attention to self oriented topics with respect to their future in compare with teaching oriented issues such as knowing learning theories, curriculum development and other instructional abilities. This may explain why research assistants' views in importance of using multiple teaching methods, class management and applying different assessment strategies didn't play a role in their final modified LISREL model. It seems that research assistants feel less responsibilities for issues such as using multiple teaching methods, applying different assessment strategies, utilizing examination results to improve the quality of teaching, importance of measurement & evaluation and class management. These results should play a significant role in establishing special faculty development programs for research assistants to improve their instructional proficiencies in the future.

Furthermore, the results showed a clear impact of research assistants' perceived self-proficiencies on each other. Perceived self-proficiency based on class management, leadership and administrative skills (PCLA) affected self-proficiency based on instructional abilities (PIA) significantly. At the same time, PIA influenced self-proficiency based on communication with colleagues & students, time management, self-awareness & development (PCTMS) with a large impact. The indirect effect of PCLA on PCTMS was also large enough to justify its interpretation as being a valid effect. These findings stress the point that different aspects of self-proficiencies should be considered as interrelated issues. They are not absolute isolated items. Therefore research assistants are expected to develop their proficiencies in different aspects even if they think that they are eligible in assigned academic activities.

The substantial correlation between importance attributed to establishing communication with colleagues and students in the LISREL model for research assistants showed that as new graduates, the research assistants try to keep their relationships with students well. At the same time, being as the novice members of a faculty, their relationships with other faculty members and its improvement is quite important to them. They try to keep this balance carefully.

5.1.2.2 LISREL modeling for faculty members

For the faculty members, the following conclusions can be drawn from the results of the LISREL modeling study:

- METU's general facilities and accommodations assessed by the observed variables of sports facilities, cultural activities, campus design, campus security, campus traffic, students' advisory & registration systems, health services, cafeteria / canteen services, library, number of students in class, computer and office facilities does not affect their perceived self-proficiencies.

- The importance they attribute to class management, using multiple teaching methods, communication with colleagues & students, self awareness & development (ICMCS) affects their perceived self-proficiencies.

- The importance they attribute to knowing learning theories, leadership, administrative skills, and time management (ILATM) does not affect their perceived self-proficiencies.

- The importance they attribute to applying different assessment strategies and utilizing examination results to improve the quality of teaching (IASER) does not affect their perceived self-proficiencies.

- The importance they attribute to measurement and evaluation and planning the instruction in line with the predetermined objects (IMECD) does not affect their perceived self-proficiencies.

- The performance evaluation criteria they prefer regarding teaching load, service to university, consultations and ongoing projects (PLSCP) does not affect their perceived self-proficiencies.

- The performance evaluation criteria they prefer regarding peer's views, head of department's view and dean's view (PPHD) does not affect their perceived self-proficiencies.

- The performance evaluation criteria they prefer regarding number of publications, number of citations and number of supervised thesis (PPCA) does not affect their perceived self-proficiencies.

- The views they have on the successfulness of the top level of administration of METU regarding openness to different views, problem handling, open to participation / interaction, accessibility, transparency, trustworthiness and consistency (ADMF) affects their perceived self-proficiencies.

- The barriers they consider which affect their personal and professional development including insufficiency of computer facilities, computer support services, secretarial services, photocopy & printing facilities (ICSSP) does not affect their perceived self-proficiencies.

- The barriers they consider which affect their personal and professional development including excess of department meetings, excess of commission membership and administrative activities (EDMCA) does not affect their perceived self-proficiencies.

Similar to the model for research assistants, METU's general facilities and accommodations did not influence faculty members' instructional self-proficiencies according to the LISREL model results. Considering the descriptive results for general satisfaction part of the questionnaire, it can be explained that METU's general facilities and accommodations are in such a medium satisfactory level for majority of the faculty members that they do not affect their instructional proficiencies significantly.

The results showed that the importance faculty members attributed to class management, using multiple teaching methods, communication with colleagues & students, self-awareness & development (ICMCS) is loaded significantly on their self-proficiency based on communication with colleagues & students, time management, planning the instruction in line with the predetermined objects, self-awareness & development (PCTMS). As mentioned previously, ICMCS has indirect influences on self-proficiency based on leadership & administrative skills (PLA) and on self-proficiency in using multiple teaching methods, class management, applying different assessment strategies, utilizing examination results to improve the quality of teaching, measurement and evaluation, and knowing learning theories (PIACM). As can be observed, communication with colleagues is loaded positively and significantly on all aspects of instructional self-proficiencies in both faculty members and research assistants. According to Sorcinelli(1994), lack of collegial relations are the most surprising and disappointing aspects of the new faculty.

However, in contrast with the research assistants, the importance faculty members attributed to using multiple teaching methods and class management influences their professional efficiencies. This may suggest that faculty members who have more teaching load and carry more academic responsibilities in comparison with the research assistants, are much more aware of the importance of multiple teaching methods and class management in their academic life. The results also showed that for the faculty members, importance attributed to knowing learning theories, leadership, administrative skills, and time management (ILATM)

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does not affect their self-proficiencies. This was a finding not confirmed in the research assistants' model.

In addition, attributed importance to measurement and evaluation, and planning the instruction in line with the predetermined objects (IMECD) does not influence the perceived self-proficiencies of faculty members. This was another difference between instructors and the research assistants. As mentioned previously, attributed importance to knowing learning theories, leadership, administrative skills, time management, and planning the instruction in line with the predetermined objects had positive effects on research assistants' instructional self-proficiencies. One explanation for the lack of these effects may be that faculty members feel confident that these areas won't affect their instruction negatively, since they think that they are already competent in those areas. In fact, the problem for the academicians is that since they evaluate themselves as proficient in some faculty development aspects, they believe that they are eligible in all instructional fields.

Like the model for research assistants, the results of the faculty members showed a clear impact of their perceived self-proficiencies on each other. PCTCS had pervasive direct effects on PIACM and PLA. The above results could be considered as a relevant explanation for considering different aspects of professional abilities as interrelated issues of a faculty development program. This explains why faculty members and research assistants should be evaluated and developed on different aspects of instructional procedures.

In addition, faculty members' view in administration features based on their openness to different views, problem handling, open to participation / interaction, accessibility, transparency, trustworthiness and consistency (ADMF) had significantly affected their perceived self-proficiencies. These findings and similar results from descriptive analysis suggest that the approach of the university's top level of administration about faculty members plays an important role in their instructional proficiencies. A positive perspective of the university's administration on faculty members may result in a great motivation for them to develop and improve their instructional abilities. Baker (2002) and Murray (2002) also emphasize the importance of university administration on faculty developments.

Finally, similar to the descriptive results, LISREL models also indicated that faculty type, gender and administrative duties didn't influence the results of this study.

In general, for the factors that didn't show any effect on instructional proficiencies of both groups, it can be explained in such a way that if the faculty members and research assistants do not perceive the usefulness of those factors in their academic career, they are unlikely to develop themselves in those aspects. Changing values in our culture, characteristics of the research assistants' age group and faculty members' opinion about their profession can be causes of those factors' negligible effects on instructional proficiencies.

5.2 Conclusions

The results of the questionnaire showed that faculty members and research assistants perceived that their instructional, personal and professional proficiencies need to be improved. In other words, they have a wide range of specific knowledge needs. However, both descriptive results and LISREL modeling results indicated that faculty members and research assistants show different characteristics based on their needs and factors affecting their self-proficiencies. Let us remind that even through principal components factor analysis on the questionnaire items related to their attribution of importance and perceived self-proficiency, faculty members and research assistants exhibited different patterns also.

LISREL model results of faculty members and research assistants, aforementioned at the beginning of this chapter, confirmed this distinction between the two groups showing different self perceived development priorities. The findings have suggested that for research assistants; importance attributed to knowing learning theories, planning the instruction in line with the predetermined objects, leadership, administrative skills, time management, self-awareness and development has an effect on their instructional self-proficiencies. On the other hand, for the faculty members, importance attributed to using multiple teaching methods, class management, self-awareness and development, and university's top-level administration influence their instructional self-proficiencies.

This makes sense conceptually in that faculty members and research assistants, as different groups of faculty represent different needs and consequently different structural equation models. These aspects lead us to prepare different faculty development programs based on their needs and priorities. These results are particularly striking in that in the existing training programs, a distinction between the two groups is rarely found.

Another important result was the similarity between faculty members and research assistants in their perceived self-proficiencies. Among the constructed LISREL models for both groups, defining perceived self-proficiencies as dependent interrelated variables produced better results in comparison with the models with a single dependent self-proficiency variable. This was valid for both faculty members and research assistants. This result showed that in a faculty, instructional self-proficiency cannot be considered as a single absolute parameter. Rather, it should be considered as several interrelated parameters connected to different aspects of faculty's proficiencies. Consequently, it will be useless to evaluate an instructor as completely proficient in different aspects of teaching that give rise to the lack of a requirement / stimulus to develop his/her instructional proficiencies. Merely having teaching experience without having an organized faculty development program accompanying it leads to inefficiency in different instructional areas.

Unfortunately, in this field no previous experimental research is available to provide a basis to justify. It is hoped that the results from this study will stimulate future research on new models of faculty development programs based on the needs

of faculty members and research assistants. The results showed that the scope of such programs should be based on instructional, personal, professional and organizational growth.

The descriptive results indicated that in order to enhance the faculty development programs in METU, first a center for faculty development activities should be established. This center should have obtained the necessary faculty development activities experts, instructors and facilities. On the other hand, a regular and systematic detailed needs assessment should be applied on faculty through this center. During this procedure, the needs, ambitions and conditions of each group, i.e. faculty members and research assistants, should be considered carefully. Based on the analyses of the needs assessment, training programs should be organized for the faculty, mostly in the form of the workshops. Besides newcomers, the entire faculty should attend these programs regularly. Rewarding points may be assigned to successful participant and these points may be regarded as their performance measurement criteria and affect their academic rewarding system. Based on departmental needs and expertise, decentralized training programs may be established, especially for research assistants, in each department. Rouseff (2002) stated that the existence of a partnership between teaching and learning is a dynamic event that makes good teaching go hand in hand with ongoing learning.

During all these faculty development activities, the training programs need to be evaluated through continuous feedback from participants, and the new findings must be used in redesigning and delivery of the programs.

According to Reich (1994), faculty development should be established as a program, not a one-time-event. Hence, a specific mission for the faculty development programs should also be developed and the programs should be integrally related to the university's mission. This can be applied only through wide support from all levels of administration at the university. An institution that supports and encourages faculty initiative, innovation and productivity provides an infrastructure for accomplishing its own mission (Pendleton, 2002). Therefore, in METU, the top level administrative should approach for faculty development programs through a deliberate mission framework in order to increase the quality of teaching. Without clear goals tied to institutional plans, faculty development becomes a series of loosely related activities that administrators hope will improve teaching and learning (Murray, 2002).

One of the most important application people should bear in mind is that faculty must involve in planning the faculty development program. In METU, faculty's commitment to the faculty development projects will be increased by their participation in planning. Consequently, the members of each faculty will feel ownership of the program and believe that it is being applied to improve their capabilities and effectiveness. Unfortunately in METU, there is not an active participation from faculty in the limited faculty development programs applied.

Finally, as an increasing portion of current faculty is reaching retirement age in METU and other universities, it will become important to retain and attract new

faculty in the following years and train them based on faculty development programs adjusted to their needs.

It can be stated that investigation like this is important in helping universities to understand how they can train and develop academicians effectively. It emphasizes the need for educational institutes to determine the proficiency of faculty on different teaching items and designing training programs that help faculty members and research assistants to gain competencies in those fields.

5.3 Implications

Since it was found that faculty members and research assistants might experience special problems in adjusting to faculty life, faculty development opportunities have become even more valuable to them than to others. Hence, a specific mission for the faculty development program should be developed first. The formulation of the mission should be based on an evaluation of the needs of the faculty and its members. Therefore a faculty development program should be launched with a needs assessment survey of faculty. Considering the advantages of using a structural equation modeling method, the relationship structure among multiple variables in the faculty development process of each group of faculty must be detected and estimated. Based on the results obtained from quantitative and qualitative searches of the distributed survey, a faculty development program should be designed.

Consequently centralized and decentralized training programs can be established to fulfill the requirements of different faculties. The type and duration of these training programs should be adjusted according to the preferences of the faculty and the new members. Rewarding points should be assigned to the faculty who pass these programs successfully. Furthermore, these programs should be evaluated by participants and experts regularly and necessary changes should be applied.

Finally, an effective leader for the faculty development activities in the university should be appointed. She or he should have specific expertise and visibility to create and head a professional development plan effectively.

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APPENDIX A

DISTRIBUTION OF SUBJECTS AMONG FACULTIES

	Fac. of Education	Fac. of Applied Sciences	Fac. of Admin. Sciences	Fac. of Architecture	Fac. of Engineering	Dept. of Modern Languages
Prof.	11	21	2	1	37	-
Assist. Prof.	3	9	3	4	33	-
Assoc. Prof.	5	8	4	4	12	-
Instructor	6	3	4	11	8	6
Lecturer	-	1	-	-	1	11
Expert	-	-	-	1	2	-
Res. Assist. (Ph.D)	21	40	6	9	35	-
Res. Assist. (M.S.)	24	49	12	6	94	1
Female	36	73	17	14	151	4
Male	34	57	14	22	72	14
With Admin. title	9	4	2	4	20	-
Without Admin. title	61	126	29	31	203	18

Questionnaire

GELİŞİM PROGRAMLARI İHTİYAÇ ANALİZİ ANKETİ

Bu anket yürütülmekte olan bir doktora tez çalışması için hazırlanmıştır. Anketin iki amacı vardır :

    1. ODTÜ öğretim elemanlarının eğitim-öğretim etkinlikleri ile kişisel ve mesleki gelişmeye yönelik bazı konulara ilişkin görüşlerinin belirlenmesi.

    2. Bu konularda kurumdan/yönetimden beklentilerin belirlenmesi.

Bu amaca yönelik literatür taraması yapılmış, uzman görüşleri de alınarak anketteki sorular hazırlanmıştır.

Anket dört bölümden oluşmaktadır ve doldurulması yaklaşık 15-20 dakika sürmektedir. Araştırma görevlilerinin sadece ilk üç bölümü, diğer öğretim elemanlarının ise dört bölümü de doldurmaları beklenmektedir.

Kişisel bazda toplanan bilgiler araştırmacı tarafından kesinlikle gizli tutulacaktır. Araştırmanın başarıyla sonuçlandırılabilmesi için değerli katkılarınızı esirgemeyeceğiniz inancı ile şimdiden teşekkür ederim.

<div align="right">

Saygılarımla,
Hüseyin Moini
ODTÜ, FBE, Doktora öğrencisi

</div>

Görev yaptığınız Bölümün/Enstitünün adı : _____

Doğum yılı : _____

Cinsiyet :   **Erkek** ☐   **Kadın** ☐

Kaç yıldır ODTÜ'de çalışıyorsunuz ? _____

Var ise idari göreviniz : _____

Ünvanınız :   ☐ **Profesör**

             ☐ **Doçent**

             ☐ **Yardımcı Doçent**

             ☐ **Öğretim görevlisi**

             ☐ **Okutman**

             ☐ **Uzman**

             ☐ **Araştırma görevlisi :**

                        ☐ **Yüksek lisans öğrencisi**

                        ☐ **Doktora öğrencisi**

Bölüm I :

ODTÜ ile ilgili olarak aşağıdakilerden ne derece memnunsunuz?

	Hiç	Biraz	Oldukça	Çok	Bilgim Yok
• Sınıflardaki öğrenci sayısı	☐	☐	☐	☐	☐
• Bilgisayar olanakları	☐	☐	☐	☐	☐
• Yerleşkenin görünümü	☐	☐	☐	☐	☐
• Kütüphane	☐	☐	☐	☐	☐
• Yerleşke güvenliği	☐	☐	☐	☐	☐
• Ofis ortamı	☐	☐	☐	☐	☐
• Öğrenci kayıt sistemi	☐	☐	☐	☐	☐
• Öğrenci danışmanlık sistemi	☐	☐	☐	☐	☐
• Trafik	☐	☐	☐	☐	☐
• Spor olanakları	☐	☐	☐	☐	☐
• Kültürel etkinlikler	☐	☐	☐	☐	☐
• Sağlık merkezi	☐	☐	☐	☐	☐
• Kafeterya/Kantin hizmetleri	☐	☐	☐	☐	☐
• Diğer (lütfen tanımlayınız)					
_____	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐

Bölüm II :

Aşağıda eğitim-öğretim etkinliklerine ve kişisel gelişmeye yönelik bazı konular yer almaktadır. Verilen her bir konu için, kendinizi o konuda **ne derece yeterli gördüğünüzü** ve o konuyu **ne derece önemli bulduğunuzu** size uygun gelen seçenekleri işaretleyerek belirtiniz.

	Yeterlilik düzeyi					Önem				
	Kendinizi bu konuda ne derece yeterli görüyorsunuz?					Sizce bu konu ne derece önemlidir?				
	Hiç	Biraz	Oldukça	Çok	Kararsızım	Hiç	Biraz	Oldukça	Çok	Kararsızım
1. Çeşitli öğretim yöntemlerinin ders verirken kullanımı	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2. Kalabalık sınıflarla başa çıkma yöntemleri	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3. Farklı sınav soru tiplerinin etkin kullanımı	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4. Sınav sonuçlarını dersin niteliğini artırma amacı ile kullanma	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5. Not verme ve değerlendirme	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6. Öğrenme kuramlarını bilme	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7. Dersin belirlenen hedefler doğrultusunda planlanması	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8. Liderlik becerileri	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9. Yönetim becerileri	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10. Çalışma arkadaşları ile iletişim kurma becerileri	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
11. Öğrencilerle iletişim kurma becerileri	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
12. Zamanın etkili kullanımı	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
13. Kendini tanıma ve geliştirme	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
14. Başka (lütfen belirtiniz)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

_____

Bölüm III

1. Daha önce, Bölüm II'de adı geçen ve benzeri konularda herhangi bir gelişim/eğitim programına katıldınız mı?

    ☐ Evet   ☐ Hayır

    Eğer 1. soruya yanıtınız **"Evet" ise, 2. sorudan devam** ediniz. Yanıtınız **"Hayır" ise**
    3. sorudan devam ediniz.

2. Programa ilişkin ayrıntıları lütfen belirtiniz.

    Programın adı   : _____

    Katıldığınız yıl   : _____

    Süresi   : _____

    Katılma nedeni   :   ☐ Zorunlu   ☐ Gönüllü

3. Siz, Bölüm II'de sayılan konularda düzenlenecek eğitim/gelişim programlarına katılmayı düşünür müsünüz?

    ☐ Evet   ☐ Hayır   ☐ Kararsızım

    Eğer 3. soruya yanıtınız **"Evet" ise, 4. sorudan devam** ediniz. Yanıtınız **"Hayır" ise**
    7. sorudan devam ediniz. **Kararsız** iseniz **Bölüm IV'den devam** ediniz.

4. Bu tür programlar sizce ne biçimde düzenlenmelidir? (Sadece bir kutuyu işaretleyiniz.)

    ☐ Seminer
    ☐ Uygulamalı çalışma (workshop)
    ☐ Internet üzerinden öğretim
    ☐ Konu uzmanı ile katılımcıların sorunlarının tartışılması
    ☐ Başka (lütfen belirtiniz)_____

5. Düzenlenecek gelişim programlarına ne kadar zaman ayırırsınız?

    ☐ Dönem boyunca 2-3 saat
    ☐ Ayda 2-3 saat
    ☐ Haftada 2-3 saat
    ☐ Başka (lütfen belirtiniz)_____

6. Bu tür programlar nerede, kimler tarafından yapılmalıdır? (Sadece bir kutuyu işaretleyiniz.)

- ☐ Eğitim Fakültesi öğretim üyelerince
- ☐ Sürekli Eğitim Merkezinde, konuların ODTÜ'lü uzmanlarınca
- ☐ Salt bu amaca yönelik üniversitede kurulacak bir eğitim merkezi ve uzmanlarınca
- ☐ Üniversite dışı özel bir eğitim kurumu ve uzmanlarınca
- ☐ Konuyla ilgilenen bölümlerde, o bölümün deneyimli öğretim üyelerince
- ☐ Başka (lütfen belirtiniz)_____

7. Üniversitede, bu tür gelişim/eğitim programlarına katılmasının yararlı olacağını düşündüğünüz öğretim elemanı grubu var mı?

☐ Evet   ☐ Hayır

Eğer 7. soruya yanıtınız **"Evet" ise, 8. Sorudan devam** ediniz. Yanıtınız **"Hayır" ise 9.sorudan devam** ediniz.

8. Bu programa sizce kimler katılmalıdır?

- ☐ Bütün araştırma görevlileri
- ☐ Doktora yapan araştırma görevlileri
- ☐ Göreve yeni başlayacak bütün öğretim üyeleri ve görevlileri
- ☐ Sadece istekli araştırma görevlileri ile öğretim üyeleri ve görevlileri
- ☐ Başka (lütfen belirtiniz)_____

9. Yanıtınız "Hayır" ise nedenini kısaca yazınız.

_____

_____

_____

Bölüm IV

1. Sizce öğretim üyelerinin performansları değerlendirilirken aşağıdaki faktörlerden hangileri ne ölçüde dikkate alınmalıdır?

	Hiçbir zaman	Nadiren	Bazen	Çoğu zaman	Her zaman
Öğrenci değerlendirmesi	☐	☐	☐	☐	☐
Meslektaşların görüşü	☐	☐	☐	☐	☐
Bölüm Başkanı görüşü	☐	☐	☐	☐	☐
Dekan görüşü	☐	☐	☐	☐	☐
Yayın sayısı	☐	☐	☐	☐	☐
Atıf sayısı	☐	☐	☐	☐	☐
Yönetilen tez sayısı	☐	☐	☐	☐	☐
Ders yükü	☐	☐	☐	☐	☐
Üniversiteye hizmet	☐	☐	☐	☐	☐
Üniversite dışı akademik etkinlikler (danışmanlık, seminer, proje, v.b.)	☐	☐	☐	☐	☐
Başka(lütfen belirtiniz) _____	☐	☐	☐	☐	☐

2. Sizce üniversite yönetimi öğretim elemanlarının bazı alanlardaki başarılarını ödüllendirmeli midir?

☐ Evet   ☐ Hayır   ☐ Kararsızım

Eğer 2. soruya yanıtınız **"Evet" ise, 3. sorudan devam** ediniz. Yanıtınız **"Hayır" ise, 5. sorudan devam** ediniz. **"Kararsız" iseniz, 6. sorudan devam** ediniz.

3. Sizce kimlere ödül verilmelidir?

☐ Sadece, 1. soruda sayılan etkinliklerin/değerlendirmelerin ağırlıklandırılmasıyla elde edilecek genel performans puanı belirli bir düzeyi aşanlara.
☐ Birinci soruda sayılanlar arasında seçilecek sadece bir veya birkaç akademik etkinlik alanının her birinde üstün başarı gösterenlere.
☐ Hem ağırlıklandırılmış genel performans puanı belirli bir düzeyi aşanlara, hem de seçilecek bir veya birkaç etkinlik alanının her birinde üstün başarı gösterenlere.
☐ Başka (lütfen belirtiniz)_____

4. Üstün başarının ödüllendirilmesi durumunda hangi alan veya alanlarda ödül tahsis edilmelidir? (Birden çok kutuyu işaretleyebilirsiniz)

☐ Öğrenci değerlendirmesi
☐ Meslektaş değerlendirmesi
☐ Uluslararası makale sayısı
☐ Uluslararası atıf sayısı
☐ Ulusal ve uluslararası makale sayısı
☐ Toplam ulusal ve uluslararası yayın etkinlikleri
☐ Başka (lütfen belirtiniz)_____

5 . Eğer 2. soruya yanıtınız "Hayır" ise bunun nedenini kısaca yazınız.

_____

_____

_____

6. Üniversite üst düzey yönetimini, aşağıdaki konular açısından ne derece başarılı buluyorsunuz?

	Hiçbir zaman	Nadiren	Bazen	Çoğu zaman	Her zaman
Farklı görüşlere açık olmak	☐	☐	☐	☐	☐
Sorunlara çözüm getirmek	☐	☐	☐	☐	☐
Katılımcı / paylaşımcı yönetim	☐	☐	☐	☐	☐
Erişilebilirlik	☐	☐	☐	☐	☐
Şeffaflık	☐	☐	☐	☐	☐
Güven verme	☐	☐	☐	☐	☐
Tutarlı olma	☐	☐	☐	☐	☐
Başka (lütfen belirtiniz) _____	☐	☐	☐	☐	☐

7. Aşağıda sayılan faktörler sizin, alanızla ilgili etkinliklerde daha üretken olmanızı ne ölçüde engellemektedir?

	Hiçbir zaman	Nadiren	Bazen	Çoğu zaman	Her zaman
Ders yükü fazlalığı	□	□	□	□	□
Ofisteki bilgisayar kapasitesi yetersizliği	□	□	□	□	□
Bilgisayar destek servisi yetersizliği	□	□	□	□	□
Sekreterlik hizmetleri yetersizliği	□	□	□	□	□
Fotokopi olanakları yetersizliği	□	□	□	□	□
Bilgisayar çıktı alma olanakları yetersizliği	□	□	□	□	□
Toplantıların fazlalığı	□	□	□	□	□
Komisyon üyeliklerinin fazlalığı	□	□	□	□	□
Yönetim yükü	□	□	□	□	□
Başka (lütfen tanımlayınız) _____	□	□	□	□	□

8. İşinizde kendinizi genellikle tatmin olmuş hisseder misiniz?

□ Hiçbir zaman   □ Nadiren   □ Bazen   □ Çoğu zaman   □ Her zaman

9. Yapmakta olduğunuz işi bir başka kurumda yapmayı ne derece istersiniz?

□ Hiç   □ Az   □ Çok   □ Pek çok   □ Kararsızım

10. Eklemek istediklerinizi ve önerilerinizi lütfen aşağıya yazınız.

_____

_____

_____

APPENDIX C

GENERAL SATISFACTION LEVEL

| | Özet ÜNVAN | | | | | | | | | | | | | | | | Özet FAKÜLTE | | | | | | | | | | | | | | Cinsiyet | | | | İdari Görev | | | |
| | Prof. | | Doç | | Y.Doç | | ÖG/Uz | | Okutm | | AG.d | | AG.m | | TOPL. | | EF | | FEF | | İİBF | | MİF | | MÜF | | M.Dille | | TOPL. | | E | | K | | Var | | Yok | |
	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x
g1	71	2,9	52	2,8	33	2,5	41	2,4	13	1,8	110	2,4	185	2,7	505	2,6	69	2,4	130	2,7	31	2,6	36	2,4	222	2,5	18	2,1	506	2,6	294	2,7	211	2,4	39	3,0	465	2,6
g2	72	3,4	52	3,2	33	3,1	41	3,0	13	3,1	111	2,9	186	2,9	508	3,0	70	3,2	131	2,9	31	3,0	36	2,8	223	3,0	18	3,2	509	3,0	295	3,1	213	2,9	39	3,2	468	3,0
g3	72	3,8	52	3,6	33	3,7	41	3,4	13	3,5	111	3,5	186	3,6	508	3,6	70	3,3	131	3,7	31	3,8	36	3,6	223	3,6	18	3,7	509	3,6	295	3,6	213	3,4	39	3,8	468	3,6
g4	72	3,2	51	2,9	33	2,7	41	2,6	13	2,7	111	3,0	186	2,8	507	2,9	69	3,0	131	3,0	31	2,6	36	2,4	223	3,0	18	2,6	508	2,9	295	2,9	212	2,9	39	3,2	467	2,9
g5	72	3,3	52	3,3	33	3,1	41	2,9	13	3,1	111	3,0	186	3,0	508	3,1	70	2,8	131	3,5	31	3,2	36	3,1	223	3,1	18	3,0	509	3,1	295	3,2	213	2,9	39	3,3	468	3,1
g6	72	3,1	52	3,2	33	3,2	41	2,7	13	3,6	111	2,6	186	2,8	508	2,9	70	2,7	131	2,5	31	3,0	36	2,5	223	3,1	18	3,5	509	2,9	295	2,9	213	2,8	39	3,3	468	2,9
g7	72	2,9	52	2,8	33	2,6	41	2,8	13	2,4	111	2,8	186	3,0	508	2,8	70	2,8	131	2,8	31	2,8	36	2,8	223	2,8	18	2,4	509	2,8	295	2,8	213	2,9	39	3,0	468	2,8
g8	72	2,6	52	2,3	33	2,0	40	2,1	13	1,2	111	2,3	186	2,4	507	2,3	69	2,4	131	2,3	31	2,5	36	2,4	223	2,3	18	1,5	508	2,3	295	2,3	212	2,3	39	2,7	467	2,3
g9	72	2,4	52	2,3	32	2,4	41	2,5	13	2,7	111	2,6	186	2,5	507	2,5	70	2,4	131	2,5	31	2,6	35	2,3	223	2,4	18	2,9	508	2,5	294	2,4	213	2,5	39	2,5	467	2,5
g10	72	3,6	52	3,4	33	3,6	41	3,3	13	3,2	111	3,5	186	3,4	508	3,5	70	3,3	131	3,5	31	3,3	36	3,5	223	3,5	18	3,3	509	3,5	295	3,4	213	3,5	39	3,6	468	3,4
g11	72	3,7	52	3,4	33	3,5	41	3,4	13	3,4	111	3,5	186	3,3	508	3,4	70	3,3	131	3,4	31	3,4	36	3,5	223	3,4	18	3,4	509	3,4	295	3,4	213	3,5	39	3,6	468	3,4
g12	72	3,3	52	2,9	33	2,8	41	2,9	13	2,5	111	2,8	186	2,7	508	2,9	70	2,7	131	2,5	31	2,8	36	3,1	223	2,9	18	2,7	509	2,9	295	2,9	213	2,8	39	2,9	468	2,9
g13	72	3,2	52	2,7	33	3,0	41	2,8	13	2,8	110	2,5	186	2,6	507	2,7	69	2,5	131	2,7	31	3,1	36	2,7	223	2,7	18	2,8	508	2,7	295	2,7	212	2,7	39	2,1	467	2,7
Total	72	3,2	52	3,0	33	2,9	41	2,8	13	2,8	111	2,9	186	2,9	507	2,9	70	2,8	131	2,9	31	3,0	36	2,8	223	2,9	18	2,8	508	2,9	295	2,9	213	2,9	39	3,1	467	2,9

EF : Eğitim Fakültesi   MİF : Mimarlık Fakültesi
FEF : Fen Edebiyat Fakültesi   MÜF : Mühendislik Fakültesi
İİBF : İktisadi İdari Bilimler Fakültesi   M.Diller : Modern Diller Bölümü

APPENDIX D

ATTRIBUTED IMPORTANCE AND SELF PROFICIENCY

	Özet FAKÜLTE (Tüm elemanlar)														Özet FAKÜLTE (Sadece ders verenler)														Cinsiyet				İdari Görev			
	EF		FEF		İİBF		MİF		MÜF		M.Diller		TOPL.		EF		FEF		İİBF		MİF		MÜF		M.Diller		TOPL.		E		K		Var		Yok	
	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x
N1	68	4,9	128	4,6	31	4,6	36	4,9	219	4,6	18	4,6	500	4,7	25	4,8	42	4,5	13	4,3	21	4,9	93	4,6	17	4,6	211	4,6	291	4,7	208	4,7	39	4,6	459	4,7
Y1	67	4,1	128	3,6	31	3,3	36	3,6	220	3,4	18	3,6	500	3,6	25	4,3	42	3,8	13	3,5	21	3,9	93	3,8	17	3,6	211	3,8	292	3,6	207	3,6	39	3,7	459	3,5
N2	69	4,6	128	4,4	31	4,4	36	4,4	217	4,4	18	4,6	499	4,4	25	4,6	42	4,3	13	3,9	21	4,4	91	4,4	17	4,6	209	4,4	290	4,3	208	4,6	37	4,2	460	4,4
Y2	67	3,9	128	3,7	31	3,2	36	3,7	217	3,4	18	3,9	497	3,6	25	4,1	42	4,0	13	3,9	21	3,9	90	3,8	17	3,9	208	3,9	290	3,6	206	3,5	36	3,7	459	3,5
N3	67	4,6	128	4,4	30	4,0	35	4,3	213	4,3	18	4,3	491	4,3	25	4,7	42	4,0	13	4,1	21	4,3	92	4,3	17	4,3	210	4,2	287	4,3	203	4,4	38	4,0	451	4,3
Y3	66	3,9	128	3,8	31	3,7	34	3,7	216	3,6	18	4,0	493	3,7	25	4,2	42	4,0	13	4,2	21	3,9	93	4,0	17	3,9	211	4,0	290	4,4	202	3,7	39	3,9	452	3,7
N4	69	4,6	126	4,3	30	4,5	35	4,4	212	4,3	18	4,6	490	4,4	25	4,6	41	4,0	12	4,3	21	4,4	89	4,3	17	4,5	205	4,3	283	4,3	206	4,5	38	4,3	450	4,4
Y4	66	4,0	125	3,6	30	3,8	34	3,8	210	3,7	18	3,5	483	3,7	24	4,2	41	3,7	12	4,2	21	3,8	90	4,1	17	3,6	205	4,0	280	3,7	202	3,7	38	3,8	443	3,6
N5	68	4,8	128	4,5	31	4,3	35	4,7	219	4,5	18	4,8	499	4,5	25	4,8	42	4,3	13	4,7	20	4,6	92	4,6	17	4,8	209	4,6	289	4,4	209	4,6	37	4,6	460	4,5
Y5	67	4,3	128	4,2	31	4,3	36	4,4	219	4,1	18	4,4	499	4,3	25	4,5	42	4,3	13	4,5	21	4,6	93	4,5	17	4,4	211	4,5	291	4,3	207	4,2	39	4,5	458	4,2
N6	68	4,5	127	4,5	30	4,1	36	4,4	217	4,5	17	4,4	495	4,5	25	4,6	42	4,3	13	4,2	21	4,6	92	4,4	16	4,4	209	4,4	288	4,5	206	4,4	38	4,3	455	4,5
Y6	67	4,1	127	3,4	30	3,2	36	3,0	216	3,1	18	4,0	494	3,3	25	4,4	42	3,8	13	3,3	21	3,5	92	3,5	17	4,0	210	3,7	288	3,3	205	3,3	38	3,5	454	3,3
N7	69	4,8	128	4,6	30	4,5	36	4,9	217	4,7	18	4,7	498	4,7	25	4,9	42	4,6	13	4,8	21	4,8	93	4,7	17	4,7	211	4,7	289	4,6	208	4,7	39	4,7	457	4,7
Y7	67	4,4	128	4,2	30	4,0	36	4,4	217	4,0	17	3,9	495	4,1	25	4,7	42	4,4	13	4,1	21	4,6	93	4,5	16	3,9	210	4,4	288	4,1	206	4,1	39	4,5	454	4,1
N8	68	4,4	127	4,0	30	3,9	36	4,2	217	4,1	18	3,7	496	4,1	24	4,5	41	4,0	13	3,6	21	4,4	93	3,9	17	3,7	209	4,0	288	4,0	207	4,1	39	4,1	455	4,1
Y8	66	3,8	128	3,7	30	4,0	36	3,8	218	3,7	18	3,7	496	3,8	24	3,7	42	4,0	13	4,1	21	4,3	93	3,9	17	3,6	210	3,9	287	3,8	208	3,7	39	3,6	455	3,8
N9	69	4,3	127	4,0	30	3,8	36	4,4	216	4,1	18	3,8	496	4,1	25	4,4	42	4,1	13	3,8	21	4,6	92	4,0	17	3,7	210	4,1	287	4,0	208	4,3	39	4,3	455	4,1
Y9	67	3,9	128	3,6	30	3,6	36	3,9	216	3,8	17	3,7	494	3,8	25	3,9	42	3,8	13	4,2	21	4,1	92	3,8	16	3,7	209	3,9	286	3,8	207	3,7	39	3,9	453	3,7
N10	69	4,7	129	4,4	30	4,2	36	4,5	218	4,5	18	4,5	500	4,5	25	4,7	42	4,2	13	4,4	21	4,6	93	4,4	17	4,5	211	4,4	292	4,5	207	4,5	39	4,7	459	4,5
Y10	67	4,4	129	4,2	30	4,1	36	4,5	221	4,3	18	4,2	501	4,3	25	4,2	42	4,1	13	4,3	21	4,5	93	4,2	17	4,1	211	4,2	292	4,2	208	4,4	39	4,0	460	4,3
N11	69	4,8	128	4,7	30	4,8	36	4,7	219	4,8	18	4,9	500	4,8	25	4,8	41	4,7	13	4,8	21	4,8	93	4,7	17	4,9	210	4,7	292	4,7	207	4,8	39	4,6	459	4,8
Y11	67	4,7	129	4,3	30	4,5	36	4,6	221	4,3	18	4,6	501	4,4	25	4,7	42	4,4	13	4,4	21	4,7	93	4,2	17	4,5	211	4,4	292	4,3	208	4,5	39	4,2	460	4,4
N12	68	4,6	128	4,6	30	4,8	36	4,9	217	4,7	18	4,6	497	4,7	25	4,6	42	4,5	13	4,7	21	4,8	93	4,8	17	4,6	211	4,7	289	4,6	207	4,7	39	4,6	456	4,7
Y12	66	3,8	128	3,8	30	3,8	36	3,8	221	3,6	18	3,7	499	3,7	25	4,0	42	3,7	13	3,8	21	3,8	93	3,8	17	3,8	211	3,8	291	3,7	207	3,8	39	3,9	458	3,7
N13	68	4,8	127	4,6	30	4,4	36	4,7	219	4,6	18	4,7	498	4,6	24	4,8	40	4,7	13	4,1	21	4,7	93	4,6	17	4,7	208	4,6	290	4,6	207	4,7	39	4,5	457	4,7
Y13	66	4,4	128	4,1	30	4,3	36	4,3	221	4,1	18	4,2	499	4,2	24	4,5	41	4,3	13	4,4	21	4,2	93	4,2	17	4,2	209	4,3	290	4,1	208	4,2	39	4,0	458	4,2

APPENDIX D

ATTRIBUTED IMPORTANCE AND SELF PROFICIENCY (CONTINUED)

| | Özet ÜNVAN | | | | | | | | | | | | | | | |
| | Prof | | Doç | | Y.Doç | | ÖG/Uz | | Okutm | | AGd | | AG.m | | TOPL. | |
	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x
N1	72	4,4	52	4,7	33	4,7	41	4,7	13	4,6	105	4,8	183	4,6	499	4,7
Y1	72	4,0	52	3,8	33	3,7	41	3,7	13	3,7	106	3,3	182	3,4	499	3,6
N2	70	4,3	52	4,5	33	4,6	41	4,6	13	4,5	105	4,5	184	4,4	498	4,4
Y2	69	4,0	52	3,8	33	4,0	41	3,6	13	4,1	105	3,5	183	3,2	496	3,5
N3	71	4,1	52	4,2	33	4,1	41	4,5	13	4,2	103	4,6	177	4,3	490	4,3
Y3	72	4,1	52	4,2	33	3,9	41	3,9	13	4,2	101	3,4	180	3,4	492	3,7
N4	70	4,3	49	4,1	32	4,3	41	4,6	13	4,5	103	4,5	181	4,3	489	4,4
Y4	71	4,1	48	3,8	32	4,2	41	3,6	13	3,6	100	3,3	177	3,6	482	3,7
N5	72	4,6	51	4,6	33	4,4	40	4,6	13	4,8	105	4,6	184	4,4	498	4,5
Y5	72	4,6	52	4,5	33	4,4	41	4,2	13	4,5	104	4,0	183	4,2	498	4,3
N6	71	4,4	52	4,5	33	4,3	41	4,4	12	4,2	104	4,5	181	4,5	494	4,4
Y6	71	3,9	52	3,6	33	3,7	41	3,3	13	4,1	103	3,1	180	3,1	493	3,3
N7	72	4,7	52	4,8	33	4,7	41	4,8	13	4,6	104	4,7	182	4,6	497	4,7
Y7	72	4,6	52	4,4	33	4,4	40	4,4	13	4,1	104	3,8	180	3,9	494	4,1
N8	72	4,0	51	4,2	32	3,8	41	4,6	13	3,7	104	4,1	182	4,2	495	4,1
Y8	72	4,0	52	4,0	32	4,0	41	3,6	13	3,8	105	3,4	180	3,8	495	3,7
N9	72	4,0	52	4,3	32	4,0	41	4,1	13	3,8	104	4,2	181	4,2	495	4,1
Y9	72	3,9	52	4,0	32	3,8	41	3,6	12	4,1	105	3,5	179	3,8	493	3,8
N10	72	4,5	52	4,3	33	4,4	41	4,5	13	4,6	104	4,5	184	4,6	499	4,5
Y10	72	4,3	52	4,4	33	4,4	41	3,9	13	4,5	106	4,2	183	4,6	500	4,3
N11	72	4,6	51	4,7	33	4,7	41	4,7	13	4,8	105	4,8	184	4,8	499	4,8
Y11	72	4,4	52	4,4	33	4,5	41	4,4	13	4,4	106	4,3	183	4,5	500	4,4
N12	72	4,7	52	4,6	33	4,6	41	4,8	13	4,7	103	4,8	182	4,6	496	4,7
Y12	72	4,3	52	3,5	33	3,6	41	3,6	13	3,8	104	3,4	183	3,7	498	3,7
N13	72	4,6	50	4,7	32	4,5	41	4,6	13	4,8	105	4,7	184	4,6	497	4,6
Y13	72	4,4	51	4,2	32	4,2	41	4,1	13	4,3	106	4,0	183	4,2	498	4,2

EF : Eğitim Fakültesi   MİF : Mimarlık Fakültesi

FEF : Fen Edebiyat Fakültesi   MÜF : Mühendislik Fakültesi

İİBF : İktisadi İdari Bilimler Fakültesi   M.Diller : Modern Diller Bölümü

CONCEPTUAL DIAGRAM OF THE MODEL FOR FACULTY MEMBERS
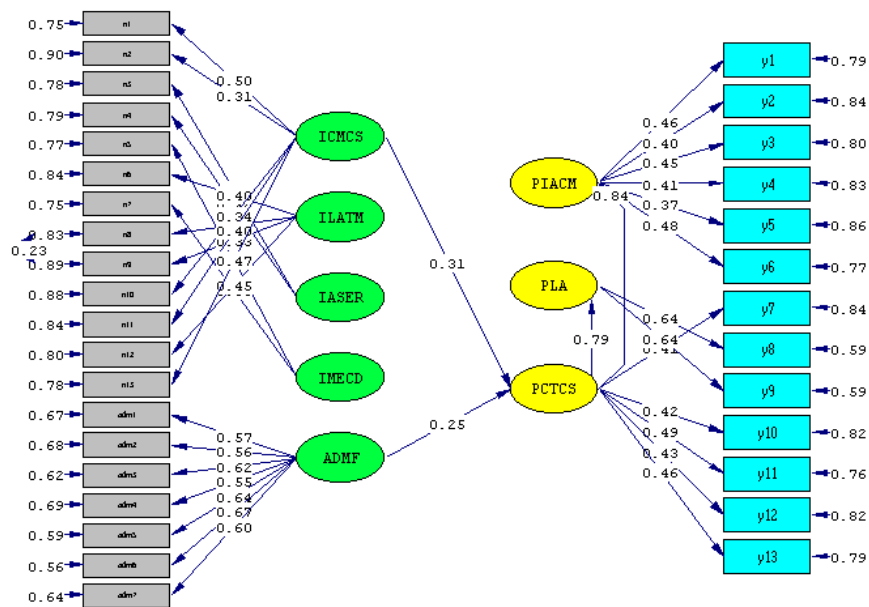
DIAGRAM OF THE MODEL FOR RESEARCH ASSISTANTS
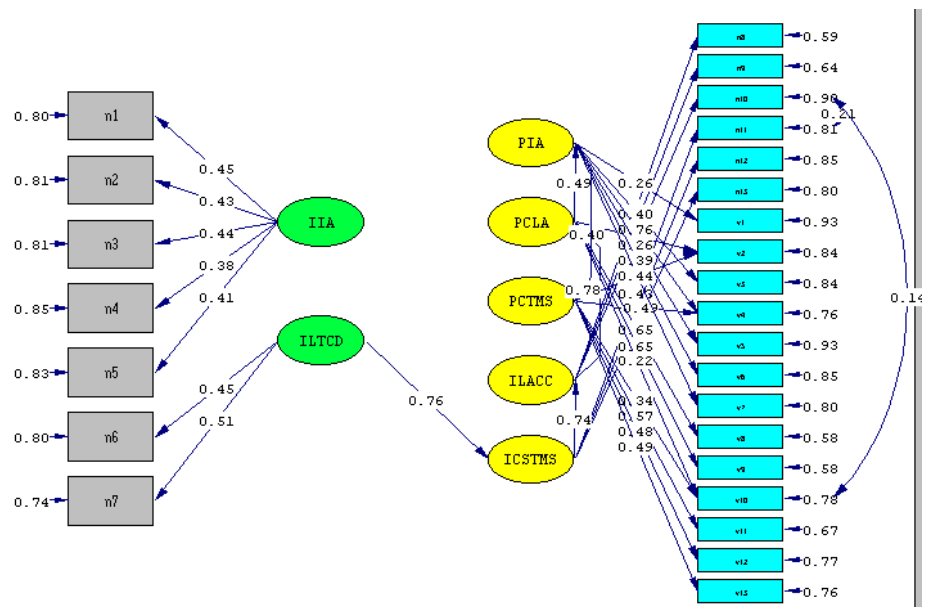
APPENDIX G

FACULTY DEVELOPMENT PROGRAMS TRAINING TYPES

	Seminer													Uygulamalı Çalışma													
	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.		EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	0	0,0	0	0,0	0	0,0	0	0,0	1	4,8	0	0,0	1	2,9	3	75,0	5	62,5	0	0,0	0	0,0	10	47,6	0	0,0	18	52,9
Doç	0	0,0	0	0,0	0	0,0	0	0,0	5	25,0	0	0,0	5	16,1	3	100,0	3	100,0	1	50,0	2	66,7	9	45,0	0	0,0	18	58,1
Y.Doç	0	0,0	2	40,0	0	0,0	0	0,0	0	0,0	0	0,0	2	13,3	0	0,0	2	40,0	1	50,0	0	0,0	2	33,3	0	0,0	5	33,3
ÖG/U	0	0,0	0	0,0	0	0,0	0	0,0	4	44,4	0	0,0	4	13,3	5	100,0	3	100,0	0	0,0	6	85,7	4	44,4	3	75,0	21	70,0
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	2	22,2	2	18,2	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	5	55,5	5	45,5
AGd	3	18,7	3	10,3	0	0,0	0	0,0	3	10,7	0	0,0	9	10,6	8	50,0	17	58,6	4	80,0	6	85,7	19	67,8	0	0,0	54	63,5
AGm	2	9,5	11	32,3	1	11,1	1	16,7	15	25,9	0	0,0	30	23,3	14	66,7	14	41,2	8	88,9	5	83,3	26	44,8	1	100,0	68	52,7
Total	5	10,0	16	19,3	1	5,0	1	4,0	28	19,6	2	14,3	53	15,8	33	66,0	44	53,0	14	70,0	19	76,0	70	48,9	9	64,3	189	56,4
Male	2	8,3	9	20,4	0	0,0	0	0,0	16	18,4	0	0,0	27	15,5	14	58,3	23	52,3	7	70,0	6	85,7	39	44,8	1	50,0	90	51,7
Fem.	3	11,5	7	18,4	1	10,0	1	5,5	12	21,4	2	16,7	26	16,3	19	73,1	21	55,3	7	70,0	13	72,2	31	55,3	8	66,7	99	61,9

	Konu uzmanı ile tartışma														Hepsi bir arada													
	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.		EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	1	25,0	1	12,5	0	0,0	1	100,0	8	38,1	0	0,0	11	32,3	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
Doç	0	0,0	0	0,0	1	50,0	1	33,3	4	20,0	0	0,0	6	19,3	0	0,0	0	0,0	0	0,0	0	0,0	1	5,0	0	0,0	1	3,2
Y.Doç	0	0,0	1	20,0	1	50,0	0	0,0	4	66,7	0	0,0	6	40,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
ÖG/U	0	0,0	0	0,0	1	50,0	0	0,0	0	0,0	0	0,0	1	3,3	0	0,0	0	0,0	1	50,0	0	0,0	0	0,0	0	0,0	1	3,3
Okut	0	0,0	1	100,0	0	0,0	0	0,0	0	0,0	1	11,1	2	18,2	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
AGd	3	18,7	6	20,7	1	20,0	0	0,0	4	14,3	0	0,0	14	16,5	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
AGm	3	14,3	8	23,5	0	0,0	0	0,0	13	22,4	0	0,0	24	18,6	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
Total	7	14,0	17	20,5	4	20,0	2	8,0	33	23,1	1	7,1	64	19,1	0	0,0	0	0,0	1	5,0	0	0,0	1	0,7	0	0,0	2	0,6
Male	4	16,7	7	15,9	3	30,0	0	0,0	22	25,3	0	0,0	36	20,7	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
Fem.	3	11,5	9	23,7	1	10,0	2	11,1	11	19,6	1	8,3	27	16,9	0	0,0	0	0,0	1	10,0	0	0,0	1	1,8	0	0,0	2	1,3

APPENDIX G

FACULTY DEVELOPMENT PROGRAMS TRAINING TYPES

İnternet üzerinden eğitim													
	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	0	0,0	0	0,0	0	0,0	0	0,0	2	9,5	0	0,0	2	5,9
Doç	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
Y.Doç	1	100,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	1	6,7
ÖG/U	0	0,0	0	0,0	0	0,0	0	0,0	1	11,1	0	0,0	1	3,3
Okut	0	0,0	0	0,0	0	0,0	0	0,0	1	100,0	1	11,1	2	18,2
AGd	2	12,5	2	6,9	0	0,0	1	14,3	1	3,6	0	0,0	6	7,0
AGm	2	9,5	1	2,9	0	0,0	0	0,0	2	3,4	0	0,0	5	3,9
Total	5	10,0	3	3,6	0	0,0	1	4,0	7	4,9	1	7,1	17	5,1
Male	4	16,7	3	6,8	0	0,0	0	0,0	7	8,0	1	50,0	15	8,6
Fem	1	3,8	0	0,0	0	0,0	1	5,5	0	0,0	0	0,0	2	1,3

EF : Eğitim Fakültesi MİF : Mimarlık Fakültesi

FEF : Fen Edebiyat Fakültesi MÜF : Mühendislik Fakült...

İİBF : İktisadi İdari Bilimler Fakültesi M.Diller : Modern Diller Bö...

İnternet dışında hepsi													
	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	0	0,0	1	12,5	0	0,0	0	0,0	0	0,0	0	0,0	1	2,9
Doç	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
Y.Doç	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
ÖG/U	0	0,0	0	0,0	0	0,0	1	14,3	0	0,0	0	0,0	1	3,3
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
AGd	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
AGm	0	0,0	0	0,0	0	0,0	0	0,0	1	1,7	0	0,0	1	0,8
Total	0	0,0	1	1,2	0	0,1	1	4,0	1	0,7	0	0,0	3	0,9
Male	0	0,0	1	2,3	0	0,0	0	0,0	1	1,1	0	0,0	2	1,1
Fem	0	0,0	0	0,0	0	0,0	1	5,5	0	0,0	0	0,0	1	0,6

APPENDIX H

DURATION OF TRAINING PROGRAMS

	Dönem boyunca 2-3 saat													Ayda 2-3 saat													
	EF		FEF		İBF		MİF		MÜF		M.Diller		TOPL.		EF		FEF		İBF		MİF		MÜF		M.Diller		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	0	0,0	0	0,0	0	0,0	1	100,0	7	33,3	0	0,0	8	23,5	3	75,0	7	87,5	0	0,0	0	0,0	10	47,6	0	0,0	20	58,8
Doç	0	0,0	1	33,3	2	100,0	0	0,0	5	25,0	0	0,0	8	25,8	2	66,7	1	33,3	0	0,0	3	100,0	7	35,0	0	0,0	13	41,9
Y.Doç	0	0,0	2	40,0	1	50,0	0	0,0	1	16,7	0	0,0	4	26,7	0	0,0	1	20,0	1	50,0	0	0,0	4	66,7	0	0,0	6	40,0
ÖG/U	0	0,0	1	33,3	0	0,0	1	14,3	2	22,2	0	0,0	4	13,3	3	60,0	2	66,7	2	100,0	5	71,4	5	55,5	3	75,0	20	66,7
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	1	100,0	0	0,0	0	0,0	1	100,0	7	77,8	9	81,8
AGd	1	6,2	0	0,0	1	20,0	1	14,3	3	10,7	0	0,0	6	7,0	7	44,0	21	72,4	2	40,0	2	28,6	18	64,3	0	0,0	50	58,8
AGm	2	9,5	4	11,8	2	22,9	1	16,7	6	10,3	0	0,0	15	11,6	10	47,6	18	52,9	3	33,3	3	50,0	38	65,5	0	0,0	72	55,8
Total	3	6,0	8	9,6	6	30,0	4	16,0	24	16,8	0	0,0	45	13,4	25	50,0	51	61,4	8	40,0	13	52,0	83	58,0	10	71,4	190	56,7
Male	1	4,2	6	13,6	2	20,0	0	0,0	17	19,5	0	0,0	26	14,9	14	58,3	26	59,1	5	50,0	6	85,7	43	49,4	1	50,0	95	54,6
Fem	2	7,7	2	5,3	4	40,0	4	22,2	7	12,5	0	0,0	19	11,9	11	42,3	25	65,8	3	30,0	7	38,9	40	71,4	9	75,0	95	59,4

	Haftada 2-3 saat													
	EF		FEF		İBF		MİF		MÜF		M.Diller		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	1	25,0	1	12,5	0	0,0	0	0,0	3	14,3	0	0,0	5	14,7
Doç	0	0,0	0	0,0	0	0,0	0	0,0	5	25,0	0	0,0	5	16,1
Y.Doç	1	###	1	20,0	0	0,0	0	0,0	1	16,7	0	0,0	3	20,0
ÖG/U	2	40,0	0	0,0	0	0,0	1	14,3	1	11,1	1	25,0	5	16,7
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	2	22,2	2	18,2
AGd	6	37,5	6	20,7	1	20,0	3	42,9	7	25,0	0	0,0	23	27,0
AGm	9	42,9	11	32,3	2	22,9	2	33,3	14	24,1	1	100,0	39	30,2
Total	19	38,0	19	22,9	3	15,0	6	24,0	31	21,7	4	28,6	82	24,5
Male	8	33,3	9	20,4	2	20,0	0	0,0	24	27,6	1	50,0	44	25,3
Fem	11	42,3	10	26,3	1	10,0	6	33,3	7	12,5	3	25,0	38	23,7

EF : Eğitim Fakültesi   MİF : Mimarlık Fakültesi
FEF : Fen Edebiyat Fakültesi   MÜF : Mühendislik Fakültesi
İBF : İktisadi İdari Bilimler Fakültesi   M.Diller : Modern Diller Bölümü

APPENDIX I

TRAINERS OF FACULTY DEVELOPMENT PROGRAMS

Eğitim Fakültesi öğretim üyelerince

	EF n	EF %	FEF n	FEF %	İİBF n	İİBF %	MİF n	MİF %	MÜF n	MÜF %	YDYO n	YDYO %	TOPL. n	TOPL. %
Prof	0	0,0	1	12,5	0	0,0	0	0,0	3	14,3	0	0,0	4	11,8
Doç	1	33,3	0	0,0	0	0,0	0	0,0	1	5,0	0	0,0	2	6,4
Y.Doç	0	0,0	0	0,0	2	100,0	0	0,0	0	0,0	0	0,0	2	13,3
ÖG/U	1	20,0	1	33,3	1	50,0	1	14,3	0	0,0	0	0,0	4	13,3
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
AGd	8	50,0	4	13,8	0	0,0	2	28,6	6	21,4	0	0,0	20	23,5
AGm	5	23,8	3	8,8	0	0,0	0	0,0	4	6,9	0	0,0	12	9,3
TOP	15	30,0	9	10,8	3	15,0	3	12,0	14	9,8	0	0,0	44	13,1
Male	9	37,5	5	11,4	1	10,0	1	14,3	7	8,0	0	0,0	23	13,2
Fem	6	23,1	4	10,5	2	20,0	2	11,1	7	12,5	0	0,0	21	13,1

Sürekli Eğitim Merkezinde, konuların ODTÜ'lü uzmanlarınca

	EF n	EF %	FEF n	FEF %	İİBF n	İİBF %	MİF n	MİF %	MÜF n	MÜF %	YDYO n	YDYO %	TOPL. n	TOPL. %
Prof	2	50,0	2	25,0	0	0,0	1	100,0	7	33,3	0	0,0	12	35,3
Doç	0	0,0	2	66,7	1	50,0	1	33,3	4	20,0	0	0,0	8	25,8
Y.Doç	0	0,0	3	60,0	0	0,0	0	0,0	2	33,3	0	0,0	5	33,3
ÖG/U	0	0,0	1	33,3	0	0,0	0	0,0	4	44,4	0	0,0	5	16,7
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	1	11,1	1	9,1
AGd	2	12,5	5	17,2	1	20,0	1	14,3	8	28,6	0	0,0	17	20,0
AGm	3	14,3	6	17,6	4	44,4	0	0,0	23	39,6	0	0,0	36	27,9
TOP	7	14,0	19	22,9	6	30,0	3	12,0	48	33,6	1	7,1	84	25,1
Male	3	12,5	7	15,9	4	40,0	0	0,0	29	33,3	0	0,0	43	24,7
Fem	4	15,4	11	28,9	2	20,0	3	16,7	19	33,9	1	8,3	41	25,6

Üniversite dışı özel bir eğitim kurumu ve uzmanlarınca

	EF n	EF %	FEF n	FEF %	İİBF n	İİBF %	MİF n	MİF %	MÜF n	MÜF %	YDYO n	YDYO %	TOPL. n	TOPL. %
Prof	0	0,0	1	12,5	0	0,0	0	0,0	3	14,3	0	0,0	4	11,8
Doç	0	0,0	0	0,0	1	50,0	0	0,0	5	25,0	0	0,0	6	19,3
Y.Doç	0	0,0	0	0,0	0	0,0	0	0,0	2	33,3	0	0,0	2	13,3
ÖG/U	0	0,0	1	33,3	0	0,0	1	14,3	0	0,0	1	25,0	3	10,0
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	2	22,2	2	18,2
AGd	0	0,0	2	6,9	0	0,0	0	0,0	3	10,7	0	0,0	5	5,9
AGm	0	0,0	0	0,0	0	0,0	0	0,0	2	3,4	0	0,0	2	1,5
TOP	0	0,0	4	4,8	1	5,0	1	4,0	15	10,5	3	21,4	24	7,2
Male	0	0,0	3	6,8	1	10,0	1	14,3	8	9,2	1	50,0	14	8,0
Fem	0	0,0	1	2,6	0	0,0	0	0,0	7	12,5	2	16,7	10	6,2

Konuyla ilgilenen bölümlerde, o bölümün deneyimli öğretim üyelerince

	EF n	EF %	FEF n	FEF %	İİBF n	İİBF %	MİF n	MİF %	MÜF n	MÜF %	YDYO n	YDYO %	TOPL. n	TOPL. %
Prof	0	0,0	0	0,0	0	0,0	0	0,0	1	4,8	0	0,0	1	2,9
Doç	1	33,3	1	33,3	0	0,0	0	0,0	1	5,0	0	0,0	3	9,7
Y.Doç	0	0,0	1	20,0	0	0,0	0	0,0	0	0,0	0	0,0	1	6,7
ÖG/U	1	20,0	0	0,0	0	0,0	1	14,3	0	0,0	2	50,0	4	13,3
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	2	22,2	2	18,2
AGd	2	12,5	3	10,3	3	60,0	2	28,6	2	7,1	0	0,0	12	14,1
AGm	4	19,0	14	41,2	2	22,2	2	33,3	13	22,4	1	100,0	36	27,9
TOP	8	16,0	19	22,9	5	25,0	5	20,0	17	11,9	5	35,7	59	17,6
Male	4	16,7	11	25,0	3	30,0	1	14,3	11	12,6	0	0,0	30	17,2
Fem	4	15,4	8	21,1	2	20,0	4	22,2	6	10,7	5	41,7	29	18,1

TRAINERS OF FACULTY DEVELOPMENT PROGRAMS (CONTINUED)

Salt bu amaca yönelik üniversitede kurulacak bir eğitim merkezi ve uzmanlarınca													
	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof.	2	50,0	3	37,5	0	0,0	0	0,0	5	23,8	0	0,0	10	29,4
Doç.	1	33,3	0	0,0	0	0,0	2	66,7	9	45,0	0	0,0	12	38,7
Y.Doç	1	100,0	1	20,0	0	0,0	0	0,0	1	16,7	0	0,0	3	20,0
ÖG/U	3	60,0	0	0,0	1	50,0	4	57,1	4	44,4	1	25,0	13	43,3
Okut	0	0,0	1	100,0	0	0,0	0	0,0	0	0,0	3	33,3	4	36,4
AG.d	4	25,0	14	48,3	1	20,0	1	14,3	8	28,6	0	0,0	28	32,9
AG.m	8	38,1	11	32,3	3	33,3	4	66,7	14	24,1	0	0,0	40	31,0
Total	19	38,0	30	36,1	5	25,0	11	44,0	41	28,7	4	28,6	110	32,8
Male	8	33,3	16	36,4	1	10,0	3	42,8	25	28,7	1	50,0	54	31,0
Fem.	11	42,3	14	36,8	4	40,0	8	44,4	16	28,6	3	25,0	56	35,0

EF : Eğitim Fakültesi	MİF : Mimarlık Fakültesi
FEF : Fen Edebiyat Fakültesi	MÜF : Mühendislik Fakültesi
İİBF : İktisadi İdari Bilimler Fakültesi	M.Diller : Modern Diller Bölümü

APPENDIX J

TARGET GROUPS FOR TRAINING PROGRAMS

Bütün araştırma görevlileri

	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	5	62,5	6	40,0	0	0,0	1	100,0	3	11,1	0	0,0	15	29,4
Doç	0	0,0	2	33,3	1	50,0	2	50,0	3	14,3	0	0,0	8	22,2
Y.Doç	0	0,0	0	0,0	1	33,3	3	75,0	1	12,5	0	0,0	5	20,8
ÖG/U	1	20,0	2	66,7	1	50,0	1	12,5	0	0,0	1	100,0	5	17,2
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	10	100,0	0	0,0
AG.d	5	29,4	8	25,0	1	20,0	0	0,0	5	21,0	0	0,0	19	22,3
AG.m	4	21,1	4	10,0	1	11,1	1	20,0	8	11,8	1	100,0	18	12,7
Total	15	27,8	22	21,5	5	23,8	8	27,6	20	12,6	12	100,0	70	18,5
Male	7	24,1	14	22,9	3	27,3	4	36,4	12	11,8	2	100,0	40	18,5
Fem.	8	32,0	8	19,0	2	20,0	4	22,2	8	13,8	10	100,0	30	18,4

Doktora yapan araştırma görevlileri

	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	4	50,0	3	20,0	0	0,0	1	100,0	4	14,8	0	0,0	12	23,5
Doç	0	0,0	1	16,7	1	50,0	0	0,0	4	19,0	0	0,0	6	16,7
Y.Doç	1	50,0	0	0,0	3	100,0	3	75,0	0	0,0	0	0,0	7	29,2
ÖG/U	0	0,0	0	0,0	1	50,0	1	12,5	1	10,0	1	100,0	3	10,3
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	10	100,0	0	0,0
AG.d	2	11,8	4	12,5	2	40,0	2	28,6	1	4,2	0	0,0	11	12,9
AG.m	3	15,8	2	5,0	1	11,1	0	0,0	5	7,3	1	100,0	11	7,7
Total	10	18,5	10	9,6	8	38,1	7	24,1	15	9,4	12	100,0	50	13,2
Male	8	27,6	7	11,5	5	45,5	2	18,2	11	10,8	2	100,0	33	15,3
Fem.	2	8,0	3	7,1	3	30,0	5	27,8	4	6,9	10	100,0	17	10,4

Göreve yeni başlayacak herkes

	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	7	87,5	15	100,0	0	0,0	1	100,0	16	59,3	0	0,0	39	76,5
Doç	1	33,3	4	66,7	2	100,0	1	25,0	9	42,9	0	0,0	17	47,2
Y.Doç	2	100,0	6	85,7	3	100,0	4	100,0	5	62,5	0	0,0	20	83,3
ÖG/U	4	80,0	2	66,7	2	100,0	6	75,0	5	50,0	0	0,0	19	65,5
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	3	30,0	3	25,0
AG.d	8	47,1	20	62,5	1	20,0	4	57,1	11	45,8	0	0,0	44	51,8
AG.m	6	31,6	27	67,5	7	77,8	4	80,0	37	54,4	1	100,0	82	57,7
Total	28	51,8	74	71,1	15	71,4	20	69,0	83	52,2	4	33,3	224	59,1
Male	15	51,7	46	75,4	8	72,7	8	72,7	57	55,9	1	50,0	135	62,5
Fem.	13	52,0	27	64,3	7	70,0	12	66,7	26	44,8	3	30,0	88	54,0

Sadece istekli araştırma görevlileri ile öğretim üyeleri

	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	1	12,5	1	6,7	0	0,0	0	0,0	8	29,6	0	0,0	10	19,6
Doç	3	100,0	3	50,0	0	0,0	2	50,0	9	42,9	0	0,0	17	47,2
Y.Doç	0	0,0	4	57,1	1	33,3	0	0,0	4	50,0	0	0,0	9	37,5
ÖG/U	0	0,0	1	33,3	2	100,0	1	12,5	2	20,0	1	100,0	7	24,1
Okut	0	0,0	0	0,0	0	0,0	0	0,0	1	100,0	8	80,0	9	75,0
AG.d	4	23,5	6	18,7	2	40,0	2	28,6	9	37,5	0	0,0	23	27,1
AG.m	10	52,6	12	30,0	3	33,3	1	20,0	25	36,8	1	100,0	52	36,6
Total	18	33,3	27	26,0	8	38,1	6	20,7	58	36,5	10	83,3	128	33,8
Male	9	31,0	13	21,3	4	36,4	0	0,0	34	33,3	1	50,0	61	28,2
Fem.	9	36,0	13	31,0	4	40,0	6	33,3	25	43,1	9	90,0	66	40,5

APPENDIX J

TARGET GROUPS FOR TRAINING PROGRAMS (CONTINUED)

	Bütün öğretim üyeleri													
	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	0	0,0	0	0,0	0	0,0	0	0,0	3	11,1	0	0,0	3	5,9
Doç	0	0,0	0	0,0	0	0,0	0	0,0	5	23,8	0	0,0	5	13,9
Y.Doç	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
ÖG/U	1	20,0	0	0,0	0	0,0	1	12,5	3	30,0	0	0,0	5	17,2
Okut	0	0,0	1	100,0	0	0,0	0	0,0	0	0,0	0	0,0	1	8,3
AG.d	1	5,9	4	12,5	2	40,0	0	0,0	5	21,0	0	0,0	12	14,1
AG.m	0	0,0	2	5,0	0	0,0	0	0,0	4	5,9	0	0,0	6	4,2
Total	2	3,7	7	6,7	2	9,5	1	3,4	20	12,6	0	0,0	32	8,4
Male	1	3,4	4	6,5	0	0,0	1	9,1	14	13,7	0	0,0	20	9,3
Fem.	1	4,0	3	7,1	2	20,0	0	0,0	6	10,3	0	0,0	12	7,4

EF : Eğitim Fakültesi	MİF : Mimarlık Fakültesi
FEF : Fen Edebiyat Fakültesi	MÜF : Mühendislik Fakültesi
İİBF : İktisadi İdari Bilimler Fakültesi	M.Diller : Modern Diller Bölümü

APPENDIX K

PERFORMANCE MEASUREMENT CRITERIA

	Özet ÜNVAN										Özet FAKÜLTE														Cinsiyet				İdari Görev			
	Prof		Doç		Y.Doç		ÖG/Uz		Okutm		EF		FEF		İİBF		MİF		MÜF		M.Diller		TOPL.		E		K		Var		Yok	
	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x
Öğr. Değerlendirme	70	3,4	51	3,6	33	3,6	39	3,7	11	4,0	24	3,5	42	3,5	13	3,9	20	3,7	91	3,5	15	3,9	205	3,6	134	3,6	70	3,6	38	3,5	165	3,6
Meslektaş görüşü	68	3,1	50	3,3	33	3,0	38	3,0	11	2,9	23	2,5	42	3,2	12	3,4	20	3,1	89	3,2	15	3,1	201	3,1	131	3,2	69	2,8	38	3,1	161	3,1
Bölüm Başkanı	68	3,3	51	3,3	33	3,1	38	2,8	11	3,3	23	2,8	41	2,9	12	3,2	20	3,1	91	3,3	15	3,5	202	3,2	133	3,1	68	3,2	38	3,2	162	3,2
Dekan	68	2,7	51	2,5	33	2,5	38	2,3	8	2,0	23	2,4	41	2,2	12	2,2	20	3,0	91	2,6	12	2,4	199	2,5	133	2,5	65	2,5	38	2,7	159	2,5
Yayın sayısı	68	4,3	51	4,1	33	4,0	39	3,8	11	3,0	24	3,9	41	4,3	12	4,2	20	3,5	91	4,2	15	3,2	203	4,0	133	4,0	69	4,0	38	3,9	163	4,0
Atıf sayısı	68	3,5	51	3,2	33	3,2	38	3,3	8	3,1	23	2,5	41	3,7	12	2,6	20	2,9	91	3,4	12	3,2	199	3,3	133	3,3	65	3,3	38	3,1	159	3,3
Yönetilen tez	69	4,1	51	4,0	33	3,8	39	3,6	9	2,8	24	3,6	42	3,9	12	3,8	20	3,7	91	4,1	13	3,0	202	3,9	133	3,9	68	3,8	38	4,0	162	3,8
Ders yükü	68	3,8	51	3,9	33	3,9	39	3,9	11	3,5	24	4,0	41	3,5	12	3,8	20	4,2	91	3,9	15	3,7	203	3,8	133	3,8	69	3,9	38	3,8	163	3,8
Üniversiteye hizmet	66	4,0	49	3,8	33	4,0	38	3,5	10	4,2	24	3,8	41	3,7	12	3,8	20	3,8	86	3,9	14	4,2	197	3,9	128	3,8	68	3,9	37	4,0	158	3,9
Üniv. dışı etkinlik	67	3,4	50	3,5	32	3,6	38	3,2	11	3,7	24	3,3	41	3,3	12	3,5	20	3,5	86	3,5	15	3,7	198	3,4	130	3,3	67	3,7	36	3,4	160	3,5
Araştırma/Tez niteliği	2	5,0	2	4,5	1	5,0	2	4,0	0	0,0	1	4,0	3	4,7	0	0,0	0	0,0	3	4,7	0	0,0	7	4,6	6	4,7	1	4,0	1	5,0	6	4,5

EF : Eğitim Fakültesi MİF : Mimarlık Fakültesi
FEF : Fen Edebiyat Fakültesi MÜF : Mühendislik Fakültesi
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APPENDIX L

FACULTY TO BE AWARDED

	Sadece 1. Soruda...														Birinci soruda sayılanlar....													
	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.		EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	2	25,0	5	29,4	1	50,0	0	0,0	10	32,2	0	0,0	18	30,5	1	12,5	1	5,9	0	0,0	1	100,0	5	16,1	0	0,0	8	13,6
Doç	0	0,0	0	0,0	0	0,0	1	25,0	6	21,4	0	0,0	7	15,9	0	0,0	2	25,0	1	50,0	2	50,0	5	17,8	0	0,0	10	22,7
Y.Doç	1	25,0	1	12,5	1	25,0	0	0,0	1	10,0	0	0,0	4	13,3	0	0,0	1	12,5	1	25,0	1	25,0	3	30,0	0	0,0	6	20,0
ÖG/U	2	40,0	1	33,3	0	0,0	0	0,0	1	12,5	2	40,0	6	23,1	0	0,0	1	33,3	0	0,0	0	0,0	1	12,5	1	20,0	3	11,5
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	1	11,1	1	9,1	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
Total	5	26,3	7	18,9	2	20,0	1	8,3	18	23,1	3	21,4	36	21,2	1	5,3	5	13,5	2	20,0	4	33,3	14	17,9	1	7,1	27	15,9
Male	3	21,4	4	18,2	1	16,7	0	0,0	15	25,0	1	33,3	24	21,6	1	7,1	3	13,6	1	16,7	1	16,7	8	13,3	0	0,0	14	12,6
Fem.	2	40,0	2	14,3	1	25,0	1	16,7	3	16,7	2	18,2	11	19,0	0	0,0	2	14,3	1	25,0	3	50,0	6	33,3	1	9,1	13	22,4

	Hem ağırlıklandırılmış genel....													
	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	5	62,5	11	64,7	1	50,0	0	0,0	16	51,6	0	0,0	33	55,9
Doç	2	100,0	6	75,0	1	50,0	1	25,0	16	57,1	0	0,0	26	59,1
Y.Doç	2	50,0	6	75,0	2	50,0	3	75,0	6	60,0	0	0,0	19	63,3
ÖG/U	2	40,0	1	33,3	2	100,0	2	66,7	6	75,0	2	40,0	15	57,7
Okut	0	0,0	1	100,0	0	0,0	0	0,0	1	100,0	8	88,9	10	90,9
Total	11	57,9	25	67,6	6	60,0	6	50,0	45	57,7	10	71,4	103	60,6
Male	8	57,1	15	68,2	4	66,6	4	66,7	36	60,0	2	66,7	69	62,2
Fem.	3	60,0	10	71,4	2	50,0	2	33,3	9	50,0	8	72,7	34	58,6

EF : Eğitim Fakültesi
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MÜF : Mühendislik Fakültesi
M.Diller : Modern Diller Bölümü

Sadece, 1. soruda sayılan etkinliklerin/değerlendirmelerin ağırlıklandırılmasıyla elde edilecek genel performans puanı belirli bir düzeyi aşanlara.

Birinci soruda sayılanlar arasında seçilecek sadece bir veya birkaç akademik etkinlik alanının her birinde üstün başarı gösterenlere

Hem ağırlıklandırılmış genel performans puanı belirli bir düzeyi aşanlara, hem de seçilecek bir veya birkaç etkinlik alanının her birinde üstün başarı gösterenlere.

APPENDIX M

FIELDS OF OUTSTANDING PERFORMANCE

Öğrenci değerlendirmesi

	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	5	62,5	5	29,4	1	50,0	0	0,0	14	45,2	0	0,0	25	42,4
Doç	2	100,0	4	50,0	2	100,0	2	50,0	9	34,6	0	0,0	19	45,2
Y.Doç	3	100,0	3	37,5	3	75,0	3	75,0	3	37,5	0	0,0	15	55,5
ÖG/U	0	0,0	0	0,0	1	50,0	0	0,0	6	75,0	4	80,0	11	44,0
Okut	0	0,0	1	100,0	0	0,0	0	0,0	0	0,0	4	44,4	5	45,4
Total	10	58,8	13	35,1	7	70,0	5	41,7	32	43,2	8	57,1	75	45,7
Male	7	58,3	5	22,7	4	66,7	3	50,0	25	43,8	2	66,7	46	43,4
Fem.	3	60,0	8	57,1	3	75,0	2	33,3	7	41,2	6	54,5	29	50,9

Meslektaş değerlendirmesi

	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	1	12,5	3	17,6	1	50,0	0	0,0	6	19,3	0	0,0	11	18,6
Doç	1	50,0	2	25,0	0	0,0	2	50,0	6	23,1	0	0,0	11	26,2
Y.Doç	0	0,0	2	25,0	1	25,0	0	0,0	2	25,0	0	0,0	5	18,5
ÖG/U	0	0,0	0	0,0	1	50,0	0	0,0	2	25,0	2	40,0	5	20,0
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	1	11,1	1	9,1
Total	2	11,8	7	18,9	3	30,0	2	16,7	16	21,6	3	21,4	33	20,1
Male	2	16,7	5	22,7	2	33,3	1	16,7	13	22,8	0	0,0	23	21,7
Fem.	0	0,0	2	14,3	1	25,0	1	16,7	3	17,6	3	27,3	10	17,5

Uluslararası atıf sayısı

	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	2	25,0	9	52,9	2	100,0	0	0,0	15	48,4	0	0,0	28	47,4
Doç	0	0,0	4	50,0	1	50,0	1	25,0	15	57,7	0	0,0	21	50,0
Y.Doç	1	33,3	2	25,0	2	50,0	0	0,0	2	25,0	0	0,0	7	25,9
ÖG/U	1	25,0	2	66,7	1	50,0	0	0,0	4	50,0	1	20,0	9	36,0
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	3	33,3	3	27,3
Total	4	23,5	17	45,9	6	60,0	1	8,3	36	48,6	4	28,6	68	41,5
Male	3	25,0	11	50,0	4	66,7	0	0,0	27	47,4	2	66,7	47	44,3
Fem.	1	20,0	5	35,7	2	50,0	1	16,7	9	52,9	2	18,2	20	35,1

Ulusal ve uluslararası makale sayısı

	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	5	62,5	6	35,3	2	100,0	0	0,0	10	32,3	0	0,0	23	39,0
Doç	0	0,0	2	25,0	2	100,0	1	25,0	7	26,9	0	0,0	12	28,6
Y.Doç	2	66,7	2	25,0	3	75,0	1	25,0	2	25,0	0	0,0	10	37,0
ÖG/U	2	50,0	1	33,3	2	100,0	0	0,0	5	62,5	1	20,0	11	44,0
Okut	0	0,0	1	100,0	0	0,0	0	0,0	0	0,0	6	66,7	7	63,6
Total	9	52,9	12	32,4	9	90,0	2	16,7	24	32,4	7	50,0	63	38,4
Male	6	50,0	7	31,8	5	83,3	1	16,7	18	31,6	1	33,3	38	35,8
Fem.	3	60,0	5	35,7	4	100,0	1	16,7	6	35,3	6	54,5	25	43,8

FIELDS OF OUTSTANDING PERFORMANCE (CONTINUED)

	Uluslararası makale sayısı													akademik faaliyetler (editörlük, seminer, konferans, proje, araştırma ve geliştirme)													
	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.		EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	6	75,0	11	64,7	2	100,0	0	0,0	20	64,5	0	0,0	39	66,1	1	12,5	0	0,0	0	0,0	0	0,0	1	3,2	0	0,0	2	3,4
Doç	0	0,0	6	75,0	2	100,0	1	25,0	17	65,4	0	0,0	26	61,9	0	0,0	0	0,0	0	0,0	1	25,0	3	11,5	0	0,0	4	9,5
Y.Doç	2	66,7	2	25,0	3	75,0	0	0,0	3	37,5	0	0,0	10	37,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0
ÖG/U	3	75,0	3	100,0	1	50,0	0	0,0	5	62,5	2	40,0	14	56,0	0	0,0	0	0,0	0	0,0	0	0,0	1	12,5	0	0,0	1	4,0
Okut	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	5	55,5	5	45,4	0	0,0	1	100,0	0	0,0	0	0,0	0	0,0	0	0,0	1	9,1
Total	11	64,7	22	59,4	8	80,0	1	8,3	45	60,8	7	50,0	94	57,3	1	5,9	1	2,7	0	0,0	1	8,3	5	6,7	0	0,0	8	4,9
Male	8	66,7	14	63,6	4	66,7	0	0,0	32	56,1	2	66,7	60	56,6	0	0,0	0	0,0	0	0,0	0	0,0	4	7,0	0	0,0	4	3,8
Fem.	3	60,0	7	50,0	4	100,0	1	16,7	13	76,5	5	45,4	33	57,9	1	20,0	1	7,1	0	0,0	1	16,7	1	5,9	0	0,0	4	7,0

	Toplam ulusal ve uluslararası yayın etkinlikleri												
	EF		FEF		İİBF		MİF		MÜF		YDYO		TOPL.	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Prof	7	87,5	9	52,9	2	100,0	1	100,0	19	61,3	0	0,0	38	64,4
Doç	2	100,0	6	75,0	1	50,0	2	50,0	10	38,5	0	0,0	21	50,0
Y.Doç	1	33,3	4	50,0	3	75,0	3	75,0	4	50,0	0	0,0	15	55,5
ÖG/U	3	75,0	1	33,3	1	50,0	2	66,7	2	25,0	2	40,0	11	44,0
Okut	0	0,0	1	100,0	0	0,0	0	0,0	1	100,0	4	44,4	6	54,5
Total	13	76,5	21	56,7	7	70,0	8	66,7	36	48,6	6	42,8	91	55,5
Male	9	75	11	50,0	4	66,7	3	50,0	28	49,1	2	66,7	57	53,8
Fem.	4	80,0	10	71,4	3	75,0	5	83,3	6	35,3	4	36,4	34	59,6

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APPENDIX N

ADMINISTRATION'S APPROACH

	Özet ÜNVAN										Özet FAKÜLTE														Cinsiyet				İdari Görev			
	Prof		Doç		Y.Doç		ÖG/Uz		Okutm		EF		FEF		İİBF		MİF		MÜF		M.Diller		TOPL.		E		K		Var		Yok	
	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x
Farklı görüşlere açık olmak	65	3,5	49	3,5	31	3,0	37	3,0	8	3,2	22	3,2	38	3,2	12	3,2	20	3,2	87	3,4	12	3,2	191	3,3	125	3,4	65	3,2	37	3,6	152	3,2
Sorunlara çözüm getirmek	64	3,6	49	3,4	32	3,4	37	3,2	8	2,7	22	3,4	39	3,3	12	3,7	20	3,5	86	3,4	12	3,1	191	3,4	125	3,4	65	3,4	36	3,6	153	3,3
Katılımcı/paylaşımcı yönetim	63	3,4	49	3,2	32	3,0	36	2,8	8	2,6	21	3,5	39	3,0	12	3,1	20	2,9	85	3,2	12	3,0	189	3,1	125	3,2	63	3,0	36	3,4	151	3,1
Erişilebilirlik	66	4,1	49	3,9	31	3,6	38	3,2	8	3,2	21	3,8	39	3,6	12	3,5	20	3,9	89	3,9	12	3,2	193	3,7	127	3,8	65	3,6	37	4,0	154	3,7
Şeffaflık	64	3,6	49	3,3	32	3,3	38	3,1	8	3,2	22	3,4	38	3,1	12	3,6	20	3,5	88	3,3	12	3,2	192	3,3	127	3,3	64	3,3	37	3,5	153	3,3
Güven verme	64	3,7	50	3,6	32	3,3	38	3,2	8	3,4	22	3,4	40	3,3	12	3,6	20	3,6	87	3,6	12	3,4	193	3,5	127	3,5	65	3,4	36	3,7	155	3,4
Tutarlı olma	64	3,6	49	3,5	30	3,2	38	3,3	8	3,2	22	3,3	38	3,4	11	3,9	20	3,4	87	3,4	12	3,3	190	3,4	126	3,4	63	3,4	35	3,6	153	3,4

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APPENDIX O

BARRIERS IN ACADEMIC ENVIRONMENT

	Özet ÜNVAN										Özet FAKÜLTE													Cinsiyet				İdari Görev			
	Prof		Doç		Y.Doç		ÖG/Uz		Okutm		EF		FEF		İİBF		MİF		MÜF		M.Diller		TOPL.		E		K		Var		Yok	
	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x
Ders yükü fazlalığı	68	3,3	51	3,3	33	3,5	38	3,5	13	3,3	25	4,0	40	3,2	13	3,2	20	3,4	90	3,3	16	3,3	204	3,4	133	3,4	70	3,4	37	3,4	165	3,4
Ofisteki PC kapasitesi yetersizliği	69	1,9	51	1,7	33	2,1	38	2,5	13	2,8	25	1,6	40	1,9	13	2,7	20	2,6	91	2,0	16	2,7	205	2,1	133	2,1	71	2,0	38	1,6	165	2,1
Bilgisayar destek servis yetersizliği	69	2,5	51	2,1	33	2,4	38	2,5	13	2,5	25	2,4	40	2,3	13	2,7	20	2,6	91	2,4	16	2,4	205	2,4	133	2,4	71	2,4	38	2,3	165	2,4
Sekreterlik hizmetleri yetersizliği	69	2,6	51	2,2	33	2,2	37	2,4	13	1,9	25	2,8	41	2,2	13	2,5	20	2,2	89	2,5	16	2,0	204	2,4	132	2,5	71	2,2	38	2,1	164	2,5
Fotokopi olanakları yetersizliği	68	2,2	51	1,8	33	2,2	38	2,1	13	1,7	25	2,3	40	2,2	13	1,9	20	2,1	90	1,9	16	1,7	204	2,0	132	2,1	71	1,9	38	1,9	164	2,0
Bilgisayar çıktı alma olanağı yetesizliği	68	2,0	51	1,7	33	2,1	38	2,5	13	1,7	25	2,1	40	2,2	13	2,8	20	2,4	90	1,8	16	1,7	204	2,0	132	2,0	71	2,1	38	1,9	164	2,0
Toplantıların fazlalığı	68	2,9	51	2,9	33	2,5	38	2,6	13	2,6	25	2,9	40	2,5	13	2,5	20	2,8	90	2,9	16	2,6	204	2,8	132	2,8	71	2,7	38	3,5	164	2,6
Komisyon üyeliklerin fazlalığı	68	2,9	50	2,7	33	2,3	35	2,3	11	1,8	24	2,7	39	2,2	12	2,3	20	2,5	90	2,8	13	2,2	198	2,6	131	2,7	66	2,4	38	3,3	158	2,4
Yönetim yükü	64	2,8	46	2,5	30	2,3	32	1,6	10	1,7	23	2,7	35	2,1	11	2,2	20	2,4	83	2,4	11	1,5	183	2,3	121	2,4	62	2,3	39	3,7	143	2,0
maddi olanaklar/sosyo ekonomik sorunlar	3	4,3	6	4,0	0	0,0	4	4,2	0	0,0	1	4,0	2	4,0	0	0,0	3	4,7	7	4,0	0	0,0	13	4,1	7	4,4	6	3,8	2	3,5	11	4,3

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APPENDIX P

JOB SATISFACTION

	Özet ÜNVAN										Özet FAKÜLTE														Cinsiyet				İdari Görev			
	Prof		Doç		Y.Doç		ÖG/Uz		Okutm		EF		FEF		İİBF		MİF		MÜF		M.Diller		TOPL.		E		K		Var		Yok	
	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x	n	x
İşinizde kendinizi ...	71	3,8	51	3,8	33	3,7	37	3,5	13	3,5	25	3,6	42	3,6	13	4,0	20	3,6	89	3,8	16	3,5	205	3,7	132	3,7	72	3,7	39	3,8	164	3,7
Yapmakta olduğunuz işi...	71	2,0	51	2,3	31	2,1	38	2,4	13	1,9	24	2,5	42	2,2	13	2,2	20	2,2	89	2,1	16	1,9	204	2,2	132	2,3	71	2,0	39	2,3	163	2,1

İşinizde kendinizi genellikle tatmin olmuş hisseder misiniz?

Yapmakta olduğunuz işi bir bşka kurumda yapmayı ne derece istersiniz?

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VITA

Hosein Moeini was born in Tehran on February 5, 1968. He received his B.S. and M.Sc. degrees in Industrial Engineering from the Middle East Technical University in 1991 and 1996. He worked as a system programmer at computer center of Middle East Technical University from 1991 to 1998. He worked as an expert in TÜBİTAK-BİLTEN, Ankara from 1998 to 2001. His main areas of interest are instructional design, database systems and use of information technologies in education.