BILKENT UNIVERSITY

White Paper on Teaching and Learning

December 2012

White Paper

prepared by
Teaching and Learning Committee:

Dilek Önkal
Faculty of Economics, Administrative and Social Sciences
Faculty of Business Administration

Ahmet Nalbur
Board of Trustees
Alumni Representative

Selin Sayek Böke
Economics Department

Sinan Sertöz
Mathematics Department

Özgur Özdamar
International Relations Department

İbrahim Körpeoğlu
Computer Engineering Department

K. Zeynep Sayım
Faculty of Business Administration

Çağlar Manavgat
Faculty of Law

Can Kültür
Bilkent Educational Technology Support
Computer Technology and Programming

Berk Mertel
Student Representative

Leyla Yiğit
Quality and Accreditation Coordinator
Vice Rector's Office

Burcu Uslu Özdemir
Student Coordination Unit
Industrial Engineering

2

Table of Contents

<u>**Appendices**</u>

Section 1: Introduction

Bilkent is a young university. We admitted our first students in 1986. University administrators believed that the best education was best delivered by the best researchers. With the impetus of our students and the enthusiasm and diligence of our faculty members, Bilkent immediately took the lead among national universities and established a respectable reputation on the international platform. Today, Bilkent is consistently ranked among the best universities in Turkey and the world. The inaugural *Times Higher Education 100 Under 50* league table of the world's best young universities shows Bilkent University as ranking 32nd in this prestigious list of universities that are under 50 years old.

Starting with its early years, Bilkent has been attracting highly talented and strikingly intelligent students. They inarguably represent the best and brightest of the national student body. Bilkent's motto that 'the best education can be delivered only by those who create the knowledge' was proven repeatedly in the past years. There was no reason to suspect that all might not be well until national and international competition toughened, the incoming student body and their expectations as well as perceptions about university education changed, and the quality of secondary education declined worldwide. In an effort to deal with these global trends and challenges, Bilkent administration has been very active in introducing new policies, supporting new methods of teaching, and encouraging faculty members to improve their teaching portfolios; in addition to its original policies on student evaluations of faculty members at the end of each term and the prestigious Distinguished Teaching Award given yearly. Yet, the challenges in the educational landscape faced today prove to be greater than initially anticipated; it is now generally accepted by the Bilkent community that being a great teacher requires more than being a great researcher.

University's attention to excellence in teaching has not wavered since its inception. The first sentence of Bilkent's mission statement shows how teaching and learning has been important from the beginning: "*Bilkent University was founded to provide an environment for learning and intellectual growth… Education at Bilkent is not simply a means to obtain a vocation… it endeavors to nurture students in the way of thinking and of learning to learn.*" The main goal stays the same; the recommendations in this white paper are proposed to effectively accomplish the university's mission.

To provide students the best learning environment with exceptional standards of teaching is perhaps Bilkent's most important challenge today. Success will not only enhance our students' and the university's reputation, it will help the broader society, assisting Turkey in reaching its ambitious aim to become one of the top science and education countries in the world. Further, providing excellence in teaching in addition to maintaining our current status as a first-rate research university will allow us to contribute to the success of the countries that send their brightest students and researchers to us.

With its more than 35 departments in faculties, applied and vocational schools, enthusiastic and capable faculty members and sound financial resources, Bilkent offers an oasis to quench any student's thirst of knowledge. However, these resources must be tapped to a greater extent by new and innovative educational arrangements. Emphasis on collaborative and problem-focused learning, flexible curricula, and wider selection of project-based courses cutting across disciplines will help achieve the creativity and skills that we strive for. Bilkent has the resources and students have the desire to use them to achieve their dreams and ambitions. New perspectives in creating a rewarding teaching and learning experience for

both the students and the faculty members will ensure that Bilkent consistently ranks as the top choice of prospective students and faculty, and that it continues in its pathway of excellence.

With these challenges and ambitious plans in mind, the Bilkent University administration set up a Teaching and Learning Committee in February 2012 as a subcommittee of the Bilkent University Strategic Planning Steering Committee. Appointed by Rector Abdullah Atalar and led by FEASS Dean Dilek Önkal, this committee consulted all stakeholders, reaching out to students, faculty members, administrators, alumni and prospective employers via questionnaires, interviews and focus groups. This extensive research effort resulted in the strategy recommendations given in this White Paper. We believe that these recommendations will play an instrumental role in creating a distinctive **Bilkent learning experience** to educate "*competent, creative, broad-minded, ethical and socially responsible leaders of tomorrow who will contribute to the advancement of humanity*", as stated in our mission.

Section 2: Needs Assessment and Data Collection Process

The Teaching and Learning (T&L) Committee was appointed by Rector Abdullah Atalar to assess the current situation and make recommendations to improve teaching and learning processes at Bilkent University. Towards this aim, the committee convened via regular meetings starting immediately after its appointment.

After the initial meetings, two subcommittees were created to work on (i) stakeholder surveys, and (ii) best practices on teaching and learning, respectively. These subcommittees worked in parallel to collect the data from stakeholders and to establish the best practices for T&L benchmarking. The groups also worked jointly to share their findings, shape the content of the report, and to produce recommendations and suggested practices for Bilkent administration.

The assessment process began with determining what Bilkent has done since its establishment to improve teaching and learning. To that aim, all relevant documentation previously produced by Bilkent faculty and administration was reviewed; the documents prepared by the Provost Office over the last decade proved especially useful for understanding the development of teaching, curriculum and learning activities at Bilkent.

The committee continued its work by surveying state-of-the-art research and administrative reports (White Papers, strategy documents) on creative and innovative teaching and learning methods by the world's most prestigious universities, national institutions (such as the U.K. Department for Business, Innovation and Skills), and transnational institutions (such as the European Commission's Report on Education). This part of the research focused on best practices in curriculum development and evaluation, global education trends, physical facilities and facilitators, technology use in teaching, and interactions between professors and students. Global best practices on teaching and learning were synthesized with Bilkent's specific needs and incorporated into this report .

The committee collected stakeholder views and feedback through online surveys aimed at four groups, sent to more than 1,100 faculty members at Bilkent; more than 12,000 students currently enrolled at Bilkent; more than 20,000 Bilkent alumni; and more than 1,100 employers of Bilkent alumni. Of those contacted, 145 faculty members, 515 currently enrolled students, 665 alumni, and 26 employers completed the surveys. The surveys were conducted via QuestionPro online survey (www.questionpro.com). Each stakeholder received an individualized web-link to his/her survey through an e-mail sent by the committee. Respondent profiles of each stakeholder group are summarized below (with detailed results provided in Appendices 1-4).

Respondent Profiles
a. Faculty
- A representative distribution of faculty across disciplines and schools completed the survey.
- 67% of respondents were instructors and assistant professors.
- Respondents have been working as Bilkent faculty for 12 years on average.

b. Students

- 86% of students completing the survey are not currently Bilkent University School of English Language (BUSEL) students (69% have been a BUSEL student, however). The remaining 14% are currently BUSEL students.
- About 90% began studying at Bilkent in 2007 or later, with a representative distribution across the years.
- 36% of respondents were in the Faculty of Engineering; 23% in the Faculty of Economics and Administrative Social Sciences; 7% in the Faculty of Humanities and Letters; 7% in the Faculty of Science, and 6% in the Faculty of Business Administration. The remainder are equally distributed across Bilkent's other faculties and schools.
- 92% of the student respondents' CGPAs were above 2.00; 53% of respondents had CGPAs of 3.00 or more.

c. Alumni

- 87% of alumni respondents are currently working, with a significant majority (81%) working full-time.
- More than half have completed further academic studies since graduating from Bilkent.
- Approximately 45% are working in private for-profit companies/corporations/groups; 20% are employed in higher education institutions; 11% are self-employed; 9% work for the government; 6% work in international organizations; and the remainder in other types of institutions.
- More than 80% think their work is moderately/highly related to their major field of education.

d. Employers

- 62% of employers who completed the survey are private company representatives; 24% are public company representatives.
- 48% are from Ankara; 30% are from Istanbul.
- 52% are from institutions with more than 500 employees; 24% are from institutions with between 1-20 employees.
- Over the past five years, 40% have hired between 1-5 new graduates per year on average; 12% have hired between 6-10 fresh graduates; 14% have hired between 11-20 university graduates; 26% have hired more than 40 graduates.
- Above 86% have hired at least one Bilkent graduate in past five years, while 35% have hired more than 10 Bilkent graduates over the past five years.

In addition to the surveys, the committee conducted interviews with 19 administrators at Bilkent to incorporate their views on teaching and learning-related issues. These interviews were deemed essential as they reflect years of dedicated work by highly involved people who strive to make Bilkent a better place. The interviews were semi-structured, with a limited number of questions covering a broad range of issues related to teaching and learning. The protocol was shared with the interviewees before the meeting, and it was explained that the questions were more of a guide than a strict list. Interviewees were encouraged to present further ideas and/or thoughts they believed contributed to T&L issues. The committee members conducting the interviews took extensive notes, which were later subject to content analysis techniques (see Appendix 5 for the interview protocol and detailed information about the interviews).

Furthermore, three focus groups were conducted to reveal students' perceptions of teaching and research at Bilkent in depth (Appendix 6 summarizes these findings). Finally, 24 employers were interviewed to learn about their expectations from university graduates (as depicted in Appendix 7). The committee also received numerous e-mails sent by faculty members and students to its e-mail address (t_and_l@bilkent.edu.tr), which gave detailed feedback regarding T&L practices at Bilkent.

Section 3: Where Are We Now?
A Descriptive Look at Stakeholder Perceptions

This section reflects a synopsis of the current T&L situation with reference to stakeholder perceptions and experiences at Bilkent. Results from the surveys are summarized first, as complemented with findings from student focus groups and employer interviews. This is followed by the main findings from the interviews with administrators.

Learning Experience at BUSEL

A majority of students are satisfied with their learning experience at BUSEL (Bilkent University School of English Language). 63% of survey respondents rate their overall learning experience at BUSEL as good, while 14% rate is as excellent. Only 5% of students evaluate their BUSEL experience as being very poor.

Overall Teaching and Learning Experience at Bilkent University

Around 78% of current students rate their learning experience as good or excellent. Students state that they feel challenged to perform their best. Similarly, 71% of alumni state they are very satisfied with the quality of core education, while 57% are very satisfied with the quality of education they received in their specialized departments. Although all faculty members prioritize creating a challenging learning environment for their students to perform their best, only 53% of these faculty members feel that their students intellectually challenge *them* during their teaching activities. This response also resounds in faculty members' perceptions that students do not expect a challenging learning experience or opportunities to further pursue the subject matter.

Course Requirements and Assessment Techniques
Teaching and learning activities are mainly based on lectures supported by homework, exams, and 1500-word (or fewer) written assignments. Projects, longer essays and in-class presentations comprise a much smaller share of course requirements.

Faculty report that they assess students' academic performances based on their analytical skills and on how well they apply their knowledge to new cases, while being broadminded in this assessment. Students report that they get frequent feedback on coursework from their instructors.

Faculty members strongly state the need for course and assessment requirements to be streamlined across sections of the same course, with much less emphasis on the same need across sections of different courses. 92% consider creating challenging learning environments as important/very important; while 96% attach strong importance to engaging students in active learning processes.

Positive Feedback on T&L

Students report that their *learning experience* at Bilkent has contributed significantly to their ability to learn on their own and to communicate in English. They indicate that these abilities have been achieved mainly through a strong core university education, supported by a strong field-specific education. This positive perception is mirrored in the strongly positive perception of students and alumni about the overall teaching quality and intellectual atmosphere at Bilkent.

Students' perceptions of the contribution of their learning experience to their field-specific *knowledge*, ability for *critical and analytical thinking,* their *code of ethics,* their *understanding* of others and stimulation of their *curiosity* are positive, though not as positive as their feelings about their education in general.

All stakeholders report that the *library holdings,* services and facilities match their expected level of services; all stakeholder groups appear fully satisfied in this regard.

Students perceive that the *learning process* at Bilkent sufficiently emphasizes time spent on academic work and studying, as well as encouraging attending learning-supportive activities and using state-of-the-art technologies in the process. However, an equal share of students would prefer to see the latter two points being emphasized more.

Employers unanimously report their impression of *teaching and learning* at Bilkent to be progressive and of high quality. Above 85% report that they perceive teaching and learning at Bilkent to be academically theoretical and rigorous yet practical and student focused. Although "workplace focused" is the phrase employers least associate teaching and learning at Bilkent with, 77% of employers still associate the two.

Although all stakeholder responses point to the need for improvements in the campus *physical facilities* and use of *technology,* overall perceptions with regards to the infrastructure are positive.

Employers reported that Bilkent graduates demonstrate abilities on par with expectations in the areas of *independent thinking, creative approaches and critical thinking, and in written communication of ideas in English.* This feedback is evidence that faculty members' goals of stimulating curiosity, encouraging analytical thinking, developing independent learning and communicating clearly and effectively in English are having a significant effect.

Around 70% of students feel that they belong to their department, their faculty and the university in general. A similar positive belonging feeling is also reported by alumni. 75% of alumni reported they felt they belonged to their department/faculty/university during their education years, and continue to feel so as alumni.

Areas Needing Improvement

Despite their overall positive assessments on Bilkent education, students and alumni alike report their dissatisfaction with the *advising services* provided at Bilkent. Only 47% of students rate the quality of academic advising as good or excellent. This goes hand-in-hand with their lack of visits to their academic advisors, as observed from the survey findings.

Students also report that there is no major emphasis on facilitating their *job-search* process. This becomes a recurring theme in student comments where they repeatedly refer to needed improvements in the Career Center. This perception is somewhat echoed in alumni response, which points to poor career advising provided during their time at Bilkent. Relatedly, students refer to the need for internships, as they feel it will facilitate their career decisions, and also, as they can only have access to certain companies and institutions if internship is a formal requirement.

While alumni responses suggest that communication skills (written and verbal) in Turkish are much less important than many other academic criteria and/or communication skills in English, the discrepancy between their importance and their satisfaction with how it was provided during their Bilkent learning experience is high. Students also report that their learning experience is contributing very little to their Turkish communication skills. Students are mostly satisfied with their overall English proficiency. However, they report that their reading and comprehension skills are superior to their *writing skills,* which in turn are much better than their *speaking skills.*

According to employers, Bilkent graduates successfully demonstrate their learning and skills along the following dimensions: *analytical thinking, critical thinking, creative approaches, adaptability, acquiring new skills and knowledge*, *commitment to ethical practice,* and *effective use of IT.* On the other hand, Bilkent students would benefit from improvement along the following dimensions to match the importance of each in defining their success in professional life: *self-assessment, leadership, strategic thinking, problem formulation, problem solving,* and *analyzing field-related issues.*

Students and faculty alike report the need for improvements in facilities in general and *laboratories, technology* (hardware and software), and *wireless access* in particular. They also emphasize the need for improvement in *field-specific equipment, classrooms* and *study areas.* Faculty members voice the urgent need for a new *Teaching Hall* (classroom-only building with large lecture theatres and small flexible-layout rooms for effective collaborative learning) and an effective *Center for Teaching and Learning*.

Administrator Perspective

Interviews with Bilkent administrators also revealed strengths and weaknesses about teaching and learning at Bilkent. These discussions were followed by debates on opportunities and threats for Bilkent, which completed the SWOT (Strengths + Weaknesses and Opportunities + Threats) analysis. The four components are summarized below (details are given in Appendix 5):

STRENGTHS:
+ Accomplished, top-notch and motivated academic staff;
+ Combination of teaching and active research by academic staff;
+ An established culture of creativity;
+ Good teaching and learning conditions;
+ Accessibility of academic staff;
+ Good working conditions with a reasonable teaching load for academic staff;
+ Well-prepared, visionary graduates;
+ Extensive and up-to-date library resources and laboratory facilities;
+ Valuable summer traineeship opportunities for some departments;
+ Education in English;
+ Continuously updated curriculum;
+ Traineeship programmes;
+ Reputable name -- "Bilkent" as a major brand name;
+ Modern teaching and learning approaches applied and updated regularly; applies a modern and innovative education system;
+ A research university;
+ "Good incoming students + good education = good graduates";
+ Rector places a strong emphasis on teaching and learning issues;
+ Adequate financial resources to implement changes suggested by the committee.
+ Uses and follows news technologies such as social media.

WEAKNESSES
- Aging and deteriorating physical facilities (buildings, classrooms, offices, etc.).
- Deficient technological infrastructure and support.
- Rigid curricula; thick "walls" between departments.
- Little flexibility given to students in terms of determining what to learn and research; not a "university without walls".
- Few interdisciplinary courses.
- Lack of a shared "Bilkent" identity among students and staff.
- Adapting teaching methods and education system to the declining quality and backgrounds of incoming students instead of aiming at bringing students to the level of teaching applied by academic staff.
- Not developing a systematic teaching and learning programme to satisfy the changing profile of incoming students.
- Large class sizes.
- Underdeveloped, "old" set of teaching methods still largely applied by academic staff.
- Demanding too much from academic staff for teaching and learning, which can result in a loss of research focus.
- Deficient assessment of faculty's teaching methods.
- Observation and measurement issues around teaching in general.
- Poor student advising system and methods.
- No regular communication (through surveys, etc.) with employers and industry.
- Limited number of academic staff in some departments.

- Lack of Faculty Development Programs
- Lack of Staff Development Programs
- Lack of mentoring for young incoming faculty
- Turkish academic staff making extensive use of Turkish in teaching.
- Part-time instructors can be much less effective than full-time instructors.
- Weak relationships and cooperation with employers and industry; insufficient for understanding domestic needs, languages used, trends, expectations.
- Lack of efficient and constructive communication and information flow between different administrative and academic units.

OPPORTUNITIES

+ Recruiting, attracting and retaining top-quality academic staff from the US, UK and Europe due to increases in supply from the global economic crisis.
+ Attracting international students (especially engineering) from the US (also as a result of the economic crisis) as well as Arab countries, the Middle East and Africa.
+ Improving exchange opportunities for students and academic staff, for instance through better cooperation with *Ulusal Ajans*, ERASMUS, opening a center in the university for building and improving such international relationships.
+ Providing more (or partial) scholarships to incoming students to attract highly successful students.
+ Using more technology and using it better.
+ Preparing highly qualified graduates for the state and government sector, particularly through interdisciplinary degree programmes such as law and economics; the government's significance as the largest employer is still high in Turkey.

THREATS

- Changing function of university and university education in the world in general.
- Universities being perceived as vocational schools and university education as a road to find jobs by students and parents.
- Continuous and dramatic changes in the student profile in general, in Turkey, and for certain fields.
- Changes in the quality of secondary education provided in Turkey.
- Increased competition in the higher education field, with more state and private universities, new and refurbished campuses that incorporate architecture and technology for better and more attractive teaching and social environments.
- Certain government organizations (e.g. TRT) not accepting trainees from private universities.
- Certain government organizations (e.g. Treasury, Central Bank) not accepting employees from vocational schools.
- Incoming students with no knowledge of what plagiarism is, poor researching and writing skills and who are accustomed to memorizing content for standardized tests.
- Students lacking critical thinking, entrepreneurial, communication and broad-ranging skills and knowledge.
- Inadequate motivation and curiosity among students towards learning; most students work only to get high or passing grades.
- Deteriorating levels of student quality in terms of intellectual and social backgrounds.
- Becoming "Ankara's university"; i.e., declining pool of potential students outside Ankara.
- Changes in Turkey's demographics.

Section 4: Key Themes and Strategy Recommendations

Using extensive input from administrators, faculty members, students, alumni and employers, and supplementing with research on global best practices in T&L, the Committee proposes the following teaching and learning objective along with a set of strategy recommendations that are organized around key themes.

OBJECTIVE

Provide an exemplary education where both undergraduate and graduate students are encouraged to be active, lifelong, independent and interdependent learners.

As is noted in its mission statement, "*Bilkent University was founded to provide an environment for learning and intellectual growth…it endeavors to nurture students in the way of thinking and of learning to learn.*" These ingredients of the main goal shall remain intact, and further empowered with the implementation of new teaching and learning initiatives, given as strategy recommendations next.

STRATEGY RECOMMENDATIONS

> **I.** **Establish a 'Bilkent learning niche' that captures the unique nature of the T&L experience complementing Bilkent's strength in research, thus ensuring a two-way feedback between teaching/learning activities and research activities.**

As stated in our mission statement, Bilkent's primary aim is to provide an environment that fosters "*…intellectual growth encompassing the sciences, technology, humanities and the arts, to serve human welfare and foster peace on earth*". In so doing, the university places a very strong emphasis on research. This research strength could be combined with the T&L priorities to create a '*Bilkent learning niche*' that focuses on effective ways of transferring forefront research to successful teaching. Employer and alumni comments point to the importance of such transference of research to application, which agrees with global trends in research towards emphasizing "research for the market".

> *I-a. Initiate scholarly centers that allow for synergy across their research and teaching/learning activities.*

The survey results point to the demand from all stakeholders to ensure students are able to synthesize theoretical and technical knowledge and apply their skills to practical problems. To this end, scholarly centers (oriented towards both research and T&L) should be initiated. Establishing 'policy centers' for social sciences, 'incubation centers' for business/engineering, 'design, art and performance centers' for arts and music faculties could be expected to be highly effective in contributing to such goals.

I-b. Initiate new transdisciplinary and professional programs targeted to attracting students from diverse backgrounds.

Given the multi-faceted graduates that are demanded by today's globalized environment, courses/programs that synthesize multiple perspectives and cut across disciplines are especially valuable. Such transdisciplinary and professional programs would also contribute to increased effectiveness of the dialogue between the public and private sector institutions with Bilkent, enhancing Bilkent's engagement in national and international development, as well as feeding back to research conducted by faculty members.

I-c. Design for the 'Bilkent learning niche' to be flexible enough to adapt to innovations in T&L, while generating a tradition of 'Bilkent learning experience'.

There is a rich and vastly evolving reserve of global information on how teaching and learning can be improved. Making use of this growing information set will allow for the teaching and learning at Bilkent to achieve and maintain stellar status at world standards. While allowing for flexibility and adapting to recent developments continues to underline the main strengths of Bilkent, it is critical to create and maintain a Bilkent tradition of excellence in teaching and learning to reinforce the Bilkent trademark of educating future leaders, entrepreneurs, and researchers.

II. *Develop a teaching and learning framework that promotes acquisition of field-related vertical skills alongside overarching horizontal skills towards significant contribution to local, regional and global goals.*

The following recommendations regarding curriculum development aim to:
  i.   emphasize and reinforce the positive feedback from students regarding their learning experience, while matching the employers' expectations regarding independent thinking, creative approaches, critical thinking, and effective communication skills;
  ii. improve the perceived lack of student motivation;
  iii. reevaluate the composition of course requirements and assessment techniques to include a larger share of projects, in-class presentations and longer essays;
  iv. enhance the following dimensions indicated by employer and alumni comments: students' communication skills, self-assessment, strategic thinking and problem-solving, leadership, teamwork, and analysis of field-related issues.

Ensuring that all stakeholders of Bilkent internalize these recommendations in their teaching and learning activities will contribute to the reinforcement of the 'Bilkent learning niche'.

II-a. Define overarching learning targets to promote ethical and socially responsible leadership, appreciation of cultural diversity, sustainable development, and environmental stewardship.

These targets could provide the guiding principles of what values and skill sets the university aims to equip its students with.

II-b. Develop a "Bilkent Core Curricula" to offer a well-rounded university learning experience to all undergraduate students.

A foundation set of core courses offered at the beginning of their undergraduate education may be influential in the elective courses students may consider to take in later years. Such core courses may focus on providing an active learning experience in and appreciation of a variety of domains such as art, music, drama, science, mathematics, social inquiry, humanities, and moral reasoning.

II-c. Develop flexible curricula that focuses on problem solving, reflection and deep learning, creativity, entrepreneurship, interdisciplinary and intercultural teamwork and collaborative learning, and critical/novel/adaptive thinking.

II-d. Encourage students to construct their own 'learning experience' by providing a diverse set of electives and the flexibility to choose among them to the extent possible.

These two recommendations would allow overcome the existence of rigid curricula (a major weakness identified by many stakeholders), thick "walls" between departments and little flexibility given to students in terms of determining what to learn and research; thus resulting in the targeted 'university without walls'. Such flexibility and student-tailored (or mass-customized) curricula design is expected to contribute positively to student motivation by enabling them to become the leaders/architects of their own learning experience.

II-e. Increase transdisciplinary courses.

The survey data show that students and faculty would strongly appreciate more transdisciplinary courses. 77% of students expressed a desire for more such courses. More than 70% of faculty members indicated they would be willing to team-teach interdisciplinary courses and/or teach courses for different departments.

II-f. Extend minor program opportunities and encourage students to benefit from the opportunities offered by different faculties and departments.

Exploring different fields both within their major curriculum and in minor program opportunities will positively contribute to the comprehensive learning experience of students and to their motivation. There exists a high demand for other programs that do not currently offer minor programs (e.g., Law, Management).

II-g. Foster policies to help students' communication skills, developing faculty-specific English courses to promote presentation, speaking and domain-specific writing skills.

Communication skills provide a significant competitive edge in job applications and interviews, academic writing, conference presentations, as well as being important for employers in all domains. Giving communications courses in English tailored to the needs of specific faculties/schools will enable meeting individualized language needs of different fields while contributing to the overall performance of our students.

II-h. Strengthen and extend exchange programs and dual degree programs with universities around the world.

Higher education is rapidly turning into highly interconnected networks of universities throughout the world. Demand for dual degrees and exchange opportunities is rising fast and such programs remain very influential in prospective students' choices among the university alternatives. Such interfaces are also critical to creating an interconnected learning experience and educating global world leaders.

II-i. Foster collaborative learning initiatives with universities around the world.

Simultaneous team-teaching to two or more sets of students in two or more different countries via facilitating technologies can be expected to provide a highly rewarding collaborative learning/teaching experience to students/faculty. Such systems are efficiently used in prestigious institutions around the world (e.g., Center for Collaborative Online International Learning at SUNY) and provide cross-national teams of students to work on projects to produce a multifaceted learning experience for students, while giving a versatile teaching experience for faculty members.

III. Lay the foundations for an educational environment that emphasizes learning inside and outside the classroom, and a campus life conducive to individual development.

The wide spectrum of scholarly activities Bilkent provides is one of the strong points of our university. Building on this strength, it is of utmost importance that students get access to this wide spectrum of research and its outcomes. An environment that is amenable to learning and intellectual growth encompasses activities not only in the classroom but also outside the classroom, both within and outside campus.

III-a. Incorporate online learning experiences and the use of open educational resources into teaching and learning at both undergraduate and graduate levels.

World trends show that individuals expect to be able to work, learn and study outside the 'traditional' classroom and at times of their own choosing. Learning opportunities outside of institutions and mechanisms to support flexible learning pathways appear to be important. Alternative ways of participating in learning-teaching processes, especially through online learning experiences (open courseware, open educational resources and massive open online courses (MOOCs)), will be critical. As a result of the personalization trend, learning management systems (LMSs) like Moodle, STARS and AIRS will allow for personal learning environments (PLEs).

Survey results confirm that the students use online learning services more frequently than they participate in in-class discussions. Faculty members almost unanimously report that such technology is very important and that Bilkent is effectively providing LMSs. Faculty also report the importance of teaching-related hardware and software, and point to the need of

efficient provision of such technology for their courses. Thus, it appears vital for Bilkent to invest in strategies to further integrate technology into teaching.

> *III-b. Integrate internships into all undergraduate programs, and provide strong administrative support towards this aim.*

As a response to the demand observed in the survey data, internships need to constitute an integral part of all programs and curricula. In this context, Bilkent must develop strategies to reinforce the relationship between the university and companies/institutions in private and government sectors (e.g.,encouraging effective dialogue between students and the companies in CyberPark). Goal-directed practice and practice-based learning are important guidelines that help prepare our students for their future careers. Faculty-based internship offices will be vital in supporting students before and during their internship experiences.

IV. Attract and provide support for undergraduate and graduate students with highest academic achievements regionally and globally.

> *IV-a. Actively recruit both within and outside Turkey to increase diversity in programs*

A well-rounded teaching and learning experience is only possible with all stakeholders sharing similar motivation levels and achievement aspirations. To this end, a systematic and targeted effort is needed to recruit top-calibre students at the undergraduate and graduate levels, both at the national and international levels. *Increased opportunities for scholarships* (e.g., partial tuition waivers, graduate fellowships) will be highly effective for this purpose. Also, active international student recruitment is essential; Bilkent must have a strong presence in international networks, fairs and organizations.

Getting access to high-school students early on is highly important. *Summer schools* are used towards such goals quite effectively in UK and US, and similar effort has started in Bilkent. This is a very promising direction. Additionally, p*roject competitions* could be hosted by Bilkent (for sciences, social sciences, humanities, etc) to increase visibility among high-school and younger students, attracting them to campus and engaging them in a pre-university experience.

Such concerted effort needs to be also targeted at families, since families remain the most influential source in university decisions of high-school students. Open-days for prospective parents, including parents in orientation week of incoming students, organizing Parents Days will all be effective in giving parents information about the university and its programs. This information may be expected to disperse rapidly by word-of-mouth to other prospective parents, hence leading to a successful *Parent Relations Campaign*.

> *IV-b. Provide students with extended learning services and administrative support.*

Support systems need to be organized around centers and units such as maintaining a proactive information office for prospective students, university orientation and career-orientation programs, extended advising offices, internship placements units, an active alumni

center and a successful career support center. The effectiveness of these centers will be ensured by appropriate staffing of such centers with staff that are sufficient (in meeting the student needs) both in qualifications and in numbers.

A *new advising framework* should be adopted where faculty members, peers, alumni and the Career Center play complementary and active roles in advising the students. The survey data show that there exist several points that need improvement around advising and student-faculty interaction. Student communication with faculty mostly revolves around coursework; half of all students never see their academic advisors during a semester and about 32% see their advisors only once during a semester. This problem is echoed in the allocation of faculty members' times across different educational activities.

In a new multi-agent advising framework, junior and senior students would mentor freshmen and sophomore students, which would evolve into a chain of mentoring from alumni to junior and senior students, followed throughout their lifetime. The benefits of complementing the academic advising to be provided by the faculty advisors and the career advice actively managed by the Career Center would reflect not only on improvements in the teaching and learning experience during the students' studies at Bilkent, but also throughout post-graduation, hence supporting lifelong and life-wide education goals.

Such an advising framework would require providing seminars and training sessions to sophomores by professionals and staff from the Career Center on the basics of mentoring and advising. This training will not only allow students to become part of an advising network but will also enhance their own skill-set that will be relevant during their careers. Each faculty/school may have a designated 'Advising Office' staffed by junior and senior students to help 1st and 2nd year students with practical questions throughout the term, deferring to 'academic' advisors/faculty members for more advanced questions. This would ensure that students get immediate help when they need, while freeing the faculty member for further work on their teaching/research.

Similarly, internship decisions will be very important for extended learning and career choices, and students may be supported with Faculty-based *internship placement units*.

Students are satisfied with the orientation programs, but adding a *career orientation* (to 3rd year activities) appears highly desirable.

> ***V.   Expand continuous effort to attract first-class faculty members with excellent records, and invest in their development in both research and teaching-related areas.***

As the report emphasizes, excellent scholarly activities undertaken by teams of highly motivated faculty members have contributed to the existing success of Bilkent. Strategies towards attracting and maintaining such faculty members should be a priority.

> *V-a. Make successful teaching a highly rewarded activity for faculty members and define clear incentive structures towards this aim.*

In establishing and reinforcing the institutional culture, it is important that the faculty members are provided clear and appropriate incentives to strongly include teaching among their scholarly priorities.

V-b. Recruit teaching-track faculty with a record of excellence in teaching; design reward systems to suit the differential faculty tracks.

Faculty members who choose to prioritize teaching and experts/practitioners from companies/institutions are all extremely important for teaching and learning at Bilkent. Recruiting such 'teaching track' faculty members (in addition to 'research track' faculty) and designing appropriate reward systems will be essential to give our students the best possible Bilkent learning experience.

VI. *Emphasize and invest in teaching and learning support*

VI-a. Develop and streamline assessment techniques for new informal learning methods that aim to enhance generic, transversal, and cross-cutting skills.

With the major global changes in education, instructors are shifting from information owners to learning facilitators. The teacher-student relationship is changing as each learns from the other via a two-way feedback loop. Class time is being used differently and different approaches to teaching are being used in the same class. Institutions need to pay more attention to generic, transversal and cross-cutting skills: entrepreneurship, problem solving, learning to learn, reflection, risk-taking, creativity and critical thinking, interdisciplinary and intercultural teamwork, collaboration, and communication skills will be the key competencies that we need to aim for. Developing new ways to assess these lifelong learning methods may be a challenge that we need to plan for.

VI-b. Invest in facilities that support teaching and learning.

Students and faculty members have commented extensively on teaching and learning facilities, revealing the urgent need to renovate the existing physical facilities and to construct new facilities equipped with latest technology geared towards effective groupwork and class discussion. Appendix 8 provides suggested T&L facilities under the headings of *Classrooms and Lecture Theatres; Labs and Workspaces; Computing, Information and Communication Infrastructure; Center for Teaching and Learning; Academic Achievement Unit* and *Special Needs Facility.* These detailed recommendations will help Bilkent construct effective learning spaces for its students and allow for increased and more efficient interactions among faculty and students.

Among these recommendations, the most important role is delegated to the urgently emphasized *Center for Teaching and Learning*, which is proposed to consist of three units:
1. Academic Achievement Unit targeting increased retention rates, increased academic performance and enhanced effectiveness in student learning. This unit will:
    o Provide a centralized peer-to-peer tutoring and supplementary instructions system that also houses students in the Student Working Programme.

- o Provide a series of student success workshops that will help students research, learn independently, write well and speak English well, as well as include discussions on class-management programs, internet-based learning, podcasts, media and social media.
- o Provides a student tracking service for poorly performing students, develops tools to preemptively assist these students and enhance their learning experience.

2. Learning Technologies Unit to allow technology-enabled learning by supporting effective use of ICT, both hardware and software, by all stakeholders and provide timely and efficient support for this to realize.
3. Teaching Support Unit to offer instructors, graduate students and teaching fellows workshops on teaching and new technologies, consultations, course and curriculum design, events, certificate programs, public speaking and any other area of assistance related to teaching.

The student tracking system will work to avoid students falling into deep traps of poor academic performance pre-emptively while providing assistance on ways to get out of these traps. As such, the Center will contribute to increased academic achievement among students and graduates, which would indirectly influence the quality of students Bilkent will attract in the coming years.

Information and communications technology (ICT) seems to be playing an important role in the future of education. It will therefore be important to have centers to support students, faculty and other stakeholders to effectively use ICT, focusing on changing from hardware to services, content and, especially, moving to the cloud. Mobile devices and wireless, friendly virtual learning environments, 3D virtual worlds, augmented reality, electronic tutors, social networks, game-based learning, using and generating interactive digital content (supporting different devices) and digital publishing mechanisms appear to be the critical components of learning in the next decade(s).

The activities organized by the Teaching and Learning center will also encourage critical thinking, problem-solving and teamwork among students. It may be expected to significantly contribute to increased effectiveness of the teaching and learning by assisting all stakeholders in improving their own tasks.

VI-c. Provide administrative support for assistance in the organization and implementation of the increasing number of non-conventional and innovative courses.

Given the nature of the innovative courses (typically cutting across departments and co-taught via instructors in different countries), a high level of organizational support will be crucial. Thus, additional administrative assistance is essential for the different activities planned and the overall learning experience in such courses.

VII. Institutionalize the evaluation and monitoring of the Bilkent learning framework

VII-a. Structure a unified system for all departments to produce program outcomes and to employ valid, reliable and measurable key indicators to monitor, evaluate, plan and review curricula.

To this end, all teaching and learning outcomes at Bilkent should be measurable and all teaching/learning and assessment criteria should be streamlined.

VII-b. Collect periodic feedback from all stakeholders to enable a comprehensive evaluation of the teaching and learning framework.

This will allow keeping up-to-date with necessary adjustments as well as implementation of novel teaching and learning techniques.

Section 5: Implementation and Performance Measures

This section provides suggested criteria and indicators to assess the effects and success of the proposed strategies on teaching and learning. When implemented via the action points suggested in Section 4, the recommendations for teaching and learning proposed in this report are expected to improve the following aspects regarding education at Bilkent:

- Student (incoming and outgoing) quality and success
- Teaching and curriculum quality and success
- Teaching and learning facilities of the university
- Learning experience provided at Bilkent

We next propose metrics and methods to monitor T&L performance along these four dimensions.

Student Quality and Success

1. Improving the quality of students in Bilkent's undergraduate and graduate programs is essential. *Scores and exam results (scores/ranking) of incoming students* are good indicators of student quality, thus we must track the qualifications of high schools and post-secondary institutions of our incoming students, as well as the results of the pertinent exams (LYS and COPE for incoming undergraduate students; ALES, GRE, GMAT and TOEFL for incoming graduate students). Our ability to recruit students from good schools is related to the quality and reputation of our own education programs. The count and quality of students applying to our graduate programs can also give an idea about the popularity, relevance, and quality of those programs.

2. *Student performance tracking* throughout the term would yield real-time information on how the students are doing in their studies. The proposed Academic Achievement Unit could establish clear benchmarks to identify different dimensions of students' learning achievements, indicating areas where support would be needed. Statistics collected on student performances would provide important indices of teaching and learning experience provided.

3. Post-graduation performance tracking is critical. *Standard exam results (score/rankings) of Bilkent's outgoing/graduating students* provide a direct index of the university's performance in undergraduate and graduate education. Results achieved by Bilkent undergraduates in standard national and international exams over the years will be a good indication about how well we are educating our students and how effective our strategic plans are. Thus, collecting and analyzing our students' standardized scores (GRE, TOEFL, ALES and GMAT) and rankings should be a priority. Additionally, the targets achieved by our graduating students, such as their job placements, the universities they are accepted to, the awards they receive and the achievements they make are qualitative indicators about the success of Bilkent's educational standards. Job placement rate upon graduation and career advancements need to be monitored and updated annually.

4. *Average number of years to graduation, yearly graduation counts, departmental/school retention rates and information on students transferring to other departments* are other good metrics to monitor, indicating how well and quickly students move through Bilkent's programs. For all departments/schools, the number of students graduating each year and the programs' activity levels are measures of success and popularity. The number of Masters and Doctoral students a program has is another measure of its success. These metrics need to be collected across Bilkent and compared with those of benchmark universities.

5. The number of incoming *international full-time and exchange students* and their countries of origin need to be analyzed over the years. This data would provide a measure of Bilkent's diversity and cultural richness, as well as a measure of its desirability.

6. Because Bilkent aims to place more emphasis on innovation, entrepreneurship and creativity in its teaching and education, the *number (and domain) of companies that our students establish* and their progression should be monitored over time.

Teaching and Curriculum Quality and Success

The following criteria and methods can be used to assess the impact of the strategy recommendations on Bilkent's teaching and learning experiences:

1. The average *number of students per section, number of students per faculty member* and *average course load per instructor* are important metrics that affect the time instructors spend on students. Additionally, the numbers of faculty members, instructors, teaching assistants and tutors as well as their qualifications are important metrics to judge the quality, richness and impact of Bilkent education. In addition to student diversity, *faculty, staff and teaching assistant diversity* can also positively affect teaching quality. Measures for all these factors should be tracked closely.

2. The number, popularity and relevance of *elective courses* are measures of learning experience; a wide variety of such courses provides a better learning experience and a customized education.

3. The interest in Minor Programs could be tracked via the number of applications and the number of admissions to each minor program through the years.

4. Monitoring the number of *internships* Bilkent students are doing will indicate how well its students are relating their education to real-world problems. Internships in Turkey and abroad can be tracked separately. Moreover, the number of students with undergraduate *research experience* will indicate how many Bilkent students become involved in research and innovative thinking early on.

5. *Mid-semester instructor/course evaluations* could be administered and the results could be discussed with the class. These would give immediate feedback to the faculty members about positive and negative experiences in class, and would be

effective in suggesting directions for improvement. Similarly, instructors would be able to give feedback to the students that would provide more substantive performance information than mere exam grades.

6. *The download rate of educational podcasts, lecture videos and online course material* Bilkent produces can be monitored, which will indicate how useful they are perceived to be in the wider community. Additionally, usage statistics of web-based course management tools like Moodle can be recorded and compared over the years. Furthermore, usage of and participation rates in teaching and learning centers and teaching- and learning-related events and workshops can be monitored.

Teaching and Learning Facilities

To improve the quality of teaching and learning at Bilkent, the committee suggests physical capacity and facility improvements (as given in detail in Appendix 8). Some criteria and methods to assess such improvements are set out below:

1. *Library capacity* in terms of the number of books, size of study areas, audio and visual materials, e-books and online subscriptions should be monitored. Another important metric for library quality is how up-to-date, relevant (to education at Bilkent) and complete its resources (books, eBooks, etc.) are. Most importantly, the number of learning-engagement activities organized by the Library provides a critical measure of the new learning directions initiated in this regard.

2. Capacity of various types of *laboratories, cloud/server/storage capacity, network infrastructure speed and performance*, number and capacity of *wireless* hotspots are important factors for monitoring changes in Bilkent's technical infrastructure.

3. Usage statistics of the proposed Academic Achievement Unit, Learning Technologies Unit, and Teaching Support Unit will prove essential in gauging the effectiveness of the activities of the proposed Center for Teaching and Learning. Feedback from their users and keeping track of changes in students' assessment scores and faculty members' instructor evaluation scores will also give important performance indicators.

'Bilkent Learning Experience'

Further measures of assessing improvements resulting from Bilkent's strategic plan are suggested as follows:

1. *Periodic surveys* of students, alumni, employers and faculty members regarding Bilkent's teaching and learning quality and experience could be conducted. The results of these surveys will indicate how Bilkent's teaching, learning and education efforts are progressing. These surveys may also provide suggestions for improvement from open-ended questions. Shorter versions could be used annually, while more detailed surveys (such as the ones given in Appendices 1-4 for this report) could be repeated every 4 years.

2. Bilkent's placement and score in all *national and international university rankings* should be continually monitored. These rankings are usually performed over various dimensions, and teaching and education dimensions will be especially important for providing clues on how to enrich the Bilkent learning experience.

3. *Exit surveys administered to all graduating students* and *exit interviews /focus groups* with representative samples may yield extensive information about the Bilkent learning experience and give rich feedback on the effectiveness of strategy recommendations.

4. Bilkent's *budget* for teaching and learning and its changes over the years will provide an important indicator of the priority given to T&L at the university level and could be used by Bilkent administration as a motivational toolbox.

5. *Activities of learning-focused student clubs* (e.g., MEC-Management and Economics Club, Operational Research Club) could be monitored as these clubs constitute an important dimension of the outside-class Bilkent learning experience. Increases in the number and diversity of activities, guest speaker invitations, student retreats will provide performance metrics of the extended learning experience supported by Bilkent.

The proposed Center for Teaching and Learning could collect, analyze and report the required data on a yearly basis.

Section 6: References

Altınsoy, S. (2011). "A Review of University Facilities in Turkey", *CELE Exchange, Centre for Effective Learning Environments*, 2011/06, OECD Publishing. http://dx.doi.org/10.1787/5kg5c8cch88p-en

Boston University (2007). *Choosing to be Great: A Vision of Boston University, Past, Present and Future. The University's Strategic Plan.* http://www.bu.edu/president/documents/Strategic-Plan.pdf

Carnegie Melon University. (2008). *Carnegie Mellon 2008 Strategic Plan.* http://www.cmu.edu/strategic-plan/2008-strategic-plan/2008-strategic-plan.pdf

Department of Business, Innovation and Skills (2011). *Higher Education: Students at the Heart of the System.* London: Government of the United Kingdom, The Stationary Office Limited.

Duke University (2006). *Making a Difference: The Strategic Plan for Duke University.* http://stratplan.duke.edu/pdf/plan.pdf

Katsikas, S., B. Kristensen, I. Ostrovsky, B. Carapinha, S. Reichert.(2010). *Bilkent University Evaluation Report.* IEP, EUA-Institutional Evaluation Programme.

La Trobe University, Office of the Deputy Vice-Chancellor (2009). *Curriculum Review and Renewal at La Trobe University: White Paper.* http://www.latrobe.edu.au/about/downloads/DFL-booklet.pdf

Lehigh University (2009). *Strategic Plan for Lehigh University: Advancing our Intellectual Footprint.* http://www.lehigh.edu/2009plan/LU_strategicplan.pdf

Probert, B. (2009). *Improving Teaching and Learning: a Systemic Approach to Institutional Change.* Paper submitted to the 'What Works Conference' on Quality of Teaching in Higher Education. OECD Programme on Institutional Management in Higher Education (IMHE). 12-13 October 2009, Istanbul Technical University (ITU), Istanbul, Turkey. http://www.oecd.org/edu/imhe/43977624.pdf

Purdue University (2008). *Purdue University's Strategic Plan:2008-2014. New Synergies.* http://www.purdue.edu/strategic_plan/

The European Commission Joint Research Center (2010). *Mapping Major Changes to Education and Training in 2025.* http://ftp.jrc.es/EURdoc/JRC59079_TN.pdf

The European Commission Joint Research Center (2010). *The Future of Learning: New Ways to Learn New Skills for Future Jobs Results from an Online Expert Consultation.* http://ftp.jrc.es/EURdoc/JRC60869_TN.pdf

The European Commission Joint Research Center (2011). *The Future of Learning; Preparing for Change*. http://ftp.jrc.es/EURdoc/JRC66836.pdf

The European Commission (1995). *White Paper on Education and Training: Teaching and Learning; Towards the Learning Society.* http://ec.europa.eu/white-papers/index_en.htm

The Partnership for 21st Century Skills (2009). *21ˢᵗ Century Learning Environments.* http://www.k12hsn.org/files/research/Technology/le_white_paper-1.pdf

The University of Illinois (2006). *Creating a Brilliant Future for the University of Illinois: Strategic Planning Framework.* http://www.uillinois.edu/strategicplan/pdfs/University_Strategic_Planning_Framework_2-16-06.pdf

The University of Oxford (2008). *Strategic Plan: 2008-9 to 2012-13.* http://www.admin.ox.ac.uk/media/global/wwwadminoxacuk/localsites/planningandresourceallocation/documents/planningcycle/strategicplan.pdf

The University of Windsor (2001). *The White Paper on Teaching and Learning.* http://web4.uwindsor.ca/units/president/teachingandlearning.nsf/53f22eb5eea460ce052568b10070bc9f/1eff7d697fc39ded85256b0a006428ea/$FILE/white.latest.PDF