Eurasian Journal of Educational Research, Issue 42 Winter 2011 259-272

Student Conference as a Student Centred Environment for Integrating Technical Writings into Computer Engineering Curriculum

Tatyana Yakhno *

Emine Ekin **

Suggested Citation:

Yakhno, T., & Ekin, E. (2011) Student conference as a student centred environment for integrating technical writings into computer engineering curriculum. *Egitim Arastirmalari - Eurasian Journal of Educational Research,* 42, 259-272.

Abstract

Problem Statement: In today's world there are pressures on universities to ensure that graduates have the capacity to meet the needs of employers. One aspect of this is to ensure that students, along with professional skills, possess personal skills such as communication, teamwork, and presentation skills. At the same time, many faculty members note that at the beginning of education freshmen students have a low level of self-confidence, lack of communication skills, and teamwork experience. The introductory part of the Computer Engineering curriculum contains one or two courses which can improve students' communication skills. These courses are Technical Writings or Technical English. Usually these courses are given by English language instructors in a traditional way and communication skills are not in practical use on an introductory level.

Purpose: The main purpose of the study is to develop a new approach for integrating Technical English courses into computer engineering curriculum. Such integration has to increase students' involvement into project design (team work) from the very beginning of education, increase motivation to study technical English, improve language knowledge, and increase students' self-confidence and communication skills.

Method: As a research method we have applied the Project-Based Learning approach for the Technical English course. The project we suggested to

* Prof. Dr., Izmir University, Computer Engineering Department, Izmir-Turkey tatyana.yakhno@izmir.edu.tr

** Asst.Prof., Işık University, Computer Engineering Department, Izmir-Turkey emine.ekin@isikun.edu.tr

freshman students is a Student Conference, which they have to organize and host by themselves.
During the project, every student has to play three different roles: to participate in organizing and hosting the conference, to write and present a research paper, and to review submitted research papers. These roles support the students to improve team working, project management, research, and written and oral communication skills. Dealing with topics from the popular subjects of computer engineering area, the Student Conference bridges the gap between engineering courses and technical writing.
Six different committees were formed by the students: Advisory Board, Program Committee, Conference Chairs, Organization Committee, Publishing Group, and the Technical Support Group. During the semester, the members of the Advisory Board gave lectures on project/conference management, research methods, plagiarism, and presentation techniques as well as on advanced English grammar.
At the end of the project, a one day conference was hosted by students where they presented their posters and released conference proceedings.
Findings and Results: As a project, the Student Conference has allowed Computer Engineering students to be involved in a real life project. The students engaged in activities that develop and foster the use of learning strategies such as goal setting, planning, self-evaluation, confidence, and risk-taking. The language knowledge of students has been increased, and they were introduced to technical writing methods. However, by this project, technical writings became a tool for knowledge of a topic of choice rather than the focus of study.
Conclusions and Recommendations: Because this project was by nature multi-dimensional, it lends itself well to evaluate multiple outcomes. Within our framework we have included three sources of assessment: instructors, peers, and students. All of them have shown the increasing level of satisfaction among students and instructors. This approach can be used for integrating social elective courses into engineering curricula on all levels of university education.
Keywords: Project Based Learning, Student Centered Environment, Technical English, Conference Management

Computer engineering is one of the fastest growing occupations in Turkey and is projected to remain so over the next ten years. Students entering Computer Engineering programs have some of the highest grades among all other students. The graduates of Computer Engineering programs are taking jobs in software companies all around Turkey and abroad. In today's world there are pressures on universities to ensure that graduates have the capacity to meet the needs of employers. Analytical thinking, ability to design new algorithms and software, and project management experience in the development of research and industrial projects are the main requirements to this profession. Except professional skills companies are seeking graduates with high quality personal skills, such as communication skills, team working skills, and presentational skills.

Taking all these requirements into consideration, the Computer Engineering Department of Dokuz Eylul University in Turkey underwent a complete revision of its curriculum in 2007. The general revision of the introductory part of the curriculum was motivated by several factors:

1. general faculty dissatisfaction with students' skills and abilities related to the project design and development when they are entering the upper divisions;
2. general students' dissatisfactions with content of introductory courses and absence of clear understanding of how this knowledge will be used later on;
3. low level of students' self-confidence, lack of communication skills, and absence of teamwork experience.

An introductory part of almost all computer engineering curricula contains basic algorithmic courses and introductory courses to the computer engineering discipline. According to ACM Computer Curriculum Guidelines ("Computer Engineering Curriculum Guidelines", 2004, p.24) "the Computer Engineering curriculum should require course work that emphasizes the mechanism and process of writing and speaking, opportunities to critique written reports and oral presentations." Following these recommendations, the majority of Computer Engineering Curricula include one or two courses related to Technical Writings or Technical English. Traditionally these courses are given by English language instructors, and have quite traditional structure. When analyzing students' feedback, most instructors agree that students have quite low motivation for these courses considering them as a repetition or extension of a preparatory class. Besides that, English language and technical writing skills are not in practical use on the introductory level. Thus, there is a gap between the periods when students study technical writings and when they use them.

A lot of efforts have been spent to increase students' interest in these courses. Thus traditional lessons are blended with new pedagogical approaches using the framework of the electronic media, which are used as a complementary component of a traditional English course. This trend makes Technical Writings courses more attractive but still keeps them separate from engineering courses inside the curriculum.

To bridge this gap and increase students' involvement and motivation, several authors have offered different approaches for integrating technical writings into engineering courses. The main idea of such integration consists in including a number of writing assignments during the first year in engineering courses. This approach becomes very productive in different disciplines. Thus Kirkland (1997) successfully used creative writings to teach biology. He has developed writing assignments that require each student to provide the story context for his/her learning. Simple and creative methods of conveying information reduce the abstractness of the material and effectively facilitate learning. For students who feel that they are not particularly creative he provided content scenarios as a starting point for each scenario. The similar writing assignments have been used by Miller & England (1989) to learn mathematics; Hein (1999) to learn physics. All these authors believe that the terminology and scientific concepts offered within the context of a story with characters and places enable students to understand these concepts more easily.

Nowadays this approach is successfully used for the majority of research disciplines (Larkin & Budny, 2001), (Larkin & Budny, 2005).

An interesting integration has been suggested by Budny, Larkin, Callison & Thomes (2002). Among the writing activities they proposed a simulated professional conference as a focus of a freshmen year. This project was not isolated from the rest of the curriculum but became its integrating component. During the first semester students research various fields of engineering and have to answer the questions of what do engineers do and what is engineering. In the process of completing this research, they collect data for their conference papers. During this project students have learned library skills and resources, how to conduct research, and how to write technical papers and make oral presentations. This simulated professional conference has been organized and hosted by department staff and librarians.

In our approach we offer a new development and extension of a student conference project. Unlike the previous experience, we ask students to create a student centered environment (a conference as an environment). In this environment students develop their technical writing skills, communication skills, and team working skills using information from the computer engineering discipline. We would like to give an opportunity to the students to gain experience in teamwork by participating in a real project from the beginning of their education.

In this development we were inspired by a contemporary active learning approach which essentially uses Project- Based Learning (PBL). PBL was suggested a decade ago as a promising pedagogical approach for teaching (Albanese & Mitchell 1993), (Perrenet, Bouhuijs & Smits, 2000). The main pedagogical construct for implementing PBL in the classroom is the project, which may appear in various forms, from a singular activity with several weeks duration, to an evolving activity to be completed along the academic year (Frank, Lavy & Elata, 2003). PBL may be applied in individual courses or throughout a curriculum; as well it can be combined with traditional teaching. The project work is by nature a collaborative work. It incorporates both team work and independent work. Therefore, it is important that a trusting, cooperative relation has been established in the class before embarking on a full-fledged project.

Generally speaking the project we suggest to freshmen students is a student conference, which students have to organize and host by themselves. In this environment every student has to write and present a scientific paper to an audience of peers. During this project students are exposed to all aspects of preparing a professional paper for publication. This process includes: the submission of an abstract, the preparation of a draft paper for a formal peer review, and the preparation of a revised camera-ready copy for publication in the conference proceedings. Finally, students present their final papers at a conference held at the end of the semester.

Our confidence in the success of such an approach was based on our experience in organizing the Biennial International Conferences "Advances in Information Systems (ADVIS) by Computer Engineering Department for the last 8 years" (Yakhno & Neuhold, 2006). During this period we have accumulated great experience in conference management. Every time students were involved in the conference organization. They were volunteers in different activities and there were no differences between senior students and freshmen. According to the students' feedback such conferences were considered as one of the most exciting activities

during their study. As a result we propose to include a student conference on the introductory level and give students opportunity to test the joy of this activity from the beginning of their education.

This paper has the following structure. Section 2 gives the details of project specification. Section 3 describes the details of a student research paper preparation. Section 4 describes how the social environment was created. Section 5 contains different forms of assessments and students feedback.

Project Specification: Students Conference

The main integrating idea of the project consists of the following. During the first year students are required to take four core courses, which are Computer Literacy, Algorithms and Programming, Algorithms and Data Structures, and Digital Logic. The information and knowledge from these courses is supposed to be used during the student conference. We have used here the integrated curriculum approach for freshman courses when student papers should relate to topics covered in core courses from the fall or spring semester. Instead of teaching Technical Writings (3 credit hours), we have announced the Students Project at the very beginning of the second semester which was specified as follows. Students have to organize and hold the student conference on the topics related to the computer engineering domain. This project is multidimensional by its nature and every student should be involved in different activities, such as:

- participate in organization and hosting the conference;
- submit and present a research paper;
- be a peer reviewer of conference papers.

When students are involved in this project they benefit from different aspects which are a strong predictor for students' professional success:

- traditional linguistic aspect: they improve their reading, writing, speaking and listening comprehension, enlarge professional vocabulary from Computer Engineering area, understand the requirements for writing high quality abstracts, research papers and different formal letters;
- cognitive aspect: students identify their learning goals and strategies, such as planning and evaluating skills. They get a good example of project management, and experience in scientific conferences;
- affective aspect: project has allowed students to increase their confidence as computer engineers, motivations for continuous learning and appreciation of team work;
- ethical aspects: students are acquainted from the very beginning about plagiarism and copyrights. They learn to be independent and objective while evaluating other people's work.

The main goal of this project was to shift the emphasis from a teacher-centred to a student-centred learning environment. The concept of a student-centred learning environment has been suggested for higher education in the middle of nineties (Barr & Yagg, 1995). According to their report (Doherty, Riordan & Roth, 2002), the general framework of characteristics of learning centred institution includes "achieving clarity about leaning outcomes; coordinating teaching and assessment to promote students learning; aligning structures and resources to serve student

learning; working continuously to improve the environment". The student conference was planned on the base of all these characteristics.

Building a Student-centered Environment

At the beginning of the second semester the Project was announced to all students. We have worked with a class of 32 students. They were given one week of investigation to understand what a scientific conference means, how conferences are usually organized, what structure they have and so on. After one week of discussion students came out with the proposal for the conference name. From now on the conference has got a proper name "Fight of 1's & 0's".

Conference structure and organization. According to students investigation, six different committees were required for the conference management. They are: Advisory Board, Conference Chairs, Program Committee, Organizing Committee, Publishing Committee, Technical Support Group.

Instructors involved in this project were members of Advisory Board. The instructor's task according to this approach is to tutor students and to navigate them through the project in this learning environment. Such an approach allows students to construct their own knowledge by experiencing and interacting with the environment. Job requirements have been specified for every committee, such as:

Conference Chairs: The main duty of the chairs is to create the structure, coordinate and manage the whole activities of the conference, and approve all the documents and letters issued by the other committees.

Program Committee: has to prepare Call for Submissions of the conference, manage the process of papers submission, organise the review process, write letters to authors and Program Committee members, edit the final conference proceedings, and manage sessions during the conference.

Organizing Committee: has to prepare conference budget, facilities, equipment of the conference, badges, tea, etc., write letters to the Dean's office and sponsors.

Publishing Committee: has to design conference proceedings, posters, leaflets, invitations for the conference.

Technical Support Group has to manage the paper submission process (conference managing systems), automate different activities of the conference, and design the webpage of the conference.

Students have formed committees based on their area of interests. Every committee consists of 5 or 6 members. By the second week each committee has gathered all the data they needed for their segment of the conference. They searched the Internet, had gone to library, and attended existing conferences. Students synthesized their data, classified all available information and list of duties of their committee, and wrote the timetable of their activities.

As managers of the conference students have to learn how to write several different types of letters and documentations such as:

- Call for papers (Chairs)
- Invitation Letters (Organizing Committee)
- Template for reviews (Program Committee)
- Formatting Guidelines (Publishing Committee)
- Webpage content (Technical Support Group)

As a member of management every student was considered as a peer reviewer and should write reviews on conference papers. The total time for conference organization took one semester (14 weeks).

Research Paper Preparation

Students formed groups up to two and have chosen 20 different topics on which they have to write conference papers. These topics were discussed with the Advisory Board to be sure that the topics were consistent with the conference Call for Papers. First of all they wrote a one page abstract. After approval by the Advisory Board they start to write a full paper. The size of the conference paper was limited to up to 5 pages.

During the preparation of the first draft version of the paper students have taken several presentations made by instructors. These presentations have contained practical recommendations about writing good quality research papers. Students were motivated to read websites with related information (see, for example (A Research Guide for Students [RGS], 2009), (Technical Writing Tips for Technical Writers and Managers of Writers [TWT], 2009) and (The Plagiarism Resources Site [PRS], 2009). At the same time English instructors gave them presentations related to English grammar and general mistakes made by students when they prepare the research papers.

The Advisory Board has provided assistance to the students during the preparation of their papers: they were required to submit outline of the papers, short summaries of the papers they have read and so on. The first drafts of research papers were submitted to the conference Program Committee two months (eight weeks) after announcement of the conference.

Peer Reviewing

All submissions were distributed by the Program Committee among all students for their review. It means all students have participated in the conference organization as peer reviewers. Every submission was given to 3 students and as a result every submission was reviewed by three reviewers. The Advisory Board members specified the requirements for the paper review:

1. The submission must be easy to follow and be interesting for a reader,
2. It must satisfy the requirements specified in presentations about the quality of research paper writing.
3. It must avoid typical mistakes listed in instructor's presentations.

The reviewing time took approximately one month (four weeks). After that all submissions were collected by the Program Committee and finally revised and evaluated by the Advisory Board. After all this work has been finished, the Publishing Group has prepared the draft of the conference proceedings. The conference proceedings have included abstracts of 20 papers. The booklet of the conference proceedings was also designed by the Publishing Group. The final camera ready conference proceedings were published one week before the conference as a high quality colored booklet. (see Fig.1). At the same time for every presentation students have designed A0 format colored posters which have been presented during the conference (see Fig.2).

The conference was organized one day after all final exams and took place together with exhibition of the final senior projects of graduating students. All 20 conference submissions were presented in the form of posters and all students from

the Computer Engineering Department and other Departments of Engineering Faculty were able to read posters and discuss research topics. During the poster session visitors of the conference have chosen the best three posters by anonymous voting and their authors have got honorary certificates from the Department Chair.

Figure 1.The cover page of the conference booklet designed by students.

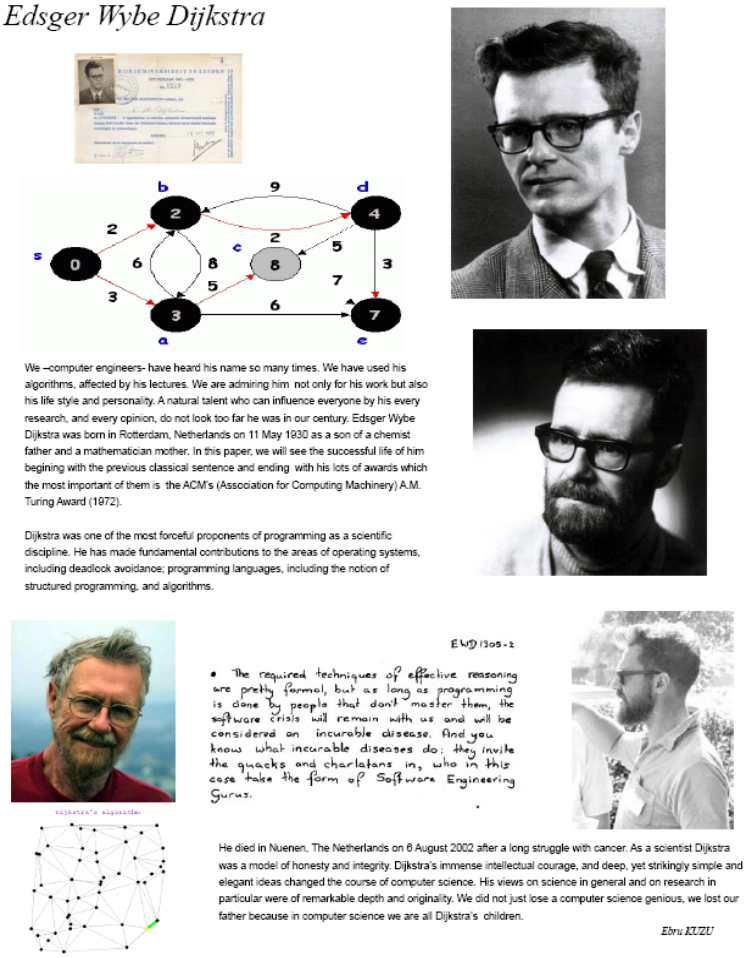

Figure 3. An example poster, prepared by Ebru Kuzu

Assessment

Since this project was by nature multi-dimensional, it lends itself well to evaluate multiple outcomes. Within our framework we have included three sources of assessment: instructors, peers, and students.

Instructor Assessment

It is well known from the literature that setting up the measurable evaluation criteria is important and students should know what they will be evaluated on before the project begins. (Olds, Moskal, & Miller, 2005), (Doppelt, 2003).

During this project instructors have specified the following evaluation criteria for students:

- the quality of an abstract and research paper,
- student involvement in project management,
- quality of peer review,
- the quality of presentation during the conference.

Peer Assessment

The team work provides students with a chance to communicate with peers, by sharing, criticizing, and supporting each other's abstract and research paper. Students were involved in the evaluation of the work of their friends in their Committees (project management) and they were involved in evaluating the research papers of other students in the class as well as oral presentations. As reviewers of other students they have offered suggestions for revised versions of the papers and help for improvement and words of encouragement. Students have evaluated the level of participation and communication effectiveness of all members of the group.

Student feedback largely agreed that receiving comments from peers was helpful and helped them to reflect on areas of their work that needed improvement. Students also largely agreed that giving feedback about their peers had helped them to learn about the debating process and reflect on their own performance. The peer assessment was considered in calculating the final grades, but the tutors were ultimately responsible for the final grades.

Self-Assessment

According to engineering accreditations every semester we ask students to evaluate their own performance. The average evaluation level of students' satisfaction for Technical English course was of around 2.5 over 5 in traditional lecturing. In addition to grading, the students were also asked their opinion about the course, how the course can be improved, and why they are successful/unsuccessful in a free text form. Although these kinds of free text questions are usually treated as subjective and not very much informative, it was not the case for our traditional Technical English class. For the course related questions, we have collected three main types of suggestions:

- make the course more interactive,
- decrease the number of hours,
- change the instructor.

When we start our project, we have applied a very similar questionnaire in every 5 weeks, trying to evaluate the dynamic of students' satisfaction, and one end-of

semester survey for overall evaluation. The general answers can be represented by the following examples:

- "Student conference was an exciting activity which helps me to improve my confidence in Technical English";
- "This environment has stimulated me to improve my performance";
- "Sessions were organized in a very interactive way to facilitate my learning".

You can see (Fig. 3) the positive dynamics of the students' response during the semester. According to final grades 95% of students were successful.

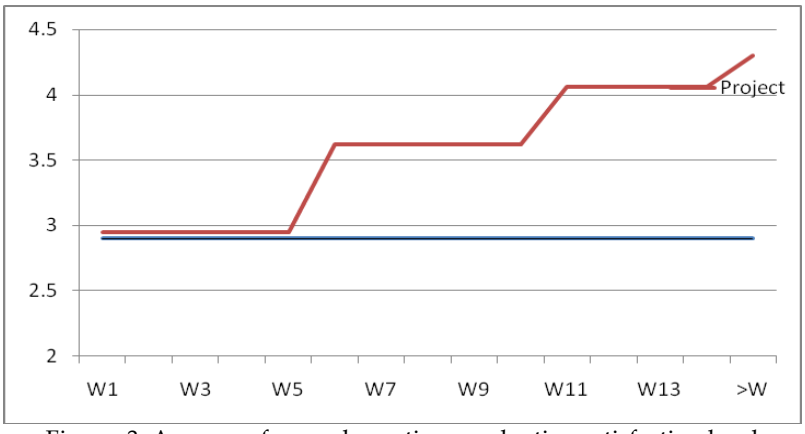

Figure. 3. Average of several questions evaluating satisfaction level

Conclusion

In this paper we have described our experience with the Student Conference management on a freshmen level in the Computer Engineering Department of DEU, Turkey. Our approach to the conference was based on the project-based approach implemented in a student-centered environment. We were impressed with the amount of work that students have performed during this conference. Most of the work has been done in their groups and was based on plans they have fixed, which gave them a sense of independence and responsibility for the conference. In this project technical writings became a tool for knowledge of a topic of their choice rather than the focus of their study. At the end of the project we were impressed by the progress students made in their writings over one term period. The Student Conference has allowed Computer Engineering students to be involved in a real life project from the beginning of education and gave a positive change in attitude towards technology and technological studies.

The conference was multi-dimensional; therefore, other skills besides language skills were developed and assessed. Through the project work students engaged in activities that develop and foster the use of learning strategies such as goal setting, planning, and self-evaluation, and affective behaviors, such as confidence and risk-taking. During the conference students also demonstrated greater self-confidence and improved learning ability. The student conference increased motivation and

gave the students a sense of satisfaction. As a final benefit, this approach actively engages students in various types of tasks, thereby meeting the learning needs of many different students.

This project has advantages for instructors as well. Classroom management was simple without any disciplinary problems, because students were interested and involved. All instructors have found the work enjoyable, interesting, and motivating. The topics of the next year's conferences will vary according to student preferences and new trends in computer engineering.

Acknowledgements: This research has been partially supported by the research grant 2007.KB.FEN.19.

References

Albanese, M. A.& Mitchell, S. (1993). Problem-based learning: A review of literature on its outcomes and implementing issues. *Academic Medicine*, 68 (1), 52-81.

A Research Guide for Students. ([RGS],2009) *How to write an A+ research paper. Retrieved* January 30 2009 from http://www.aresearchguide.com/

Bar, R.B., Yagg, J. (1995). From teaching to learning: a new paradigm for undergraduate education. *Change*, November/December, 12-25.

Budny, D., Larkin, T., Callison, R. & Thomes, K. (2002). Using writings to meet the needs of freshmen. *International Conference on Engineering and Technology Education.* (INTERTECH 2002), Santos, Brazil, Invited talk.

Computer Engineering Curriculum Guidelines for Undergraduate Degree Programs in Computer Engineering. (2004). *IEEE Computer Society, Association for Computing Machinery*.

Doherty, A., Riordan, T., Roth, J. (2002). (Eds). Student learning: A central focus for institutions of higher education. *A Report and Collection of Institutional Practices of Student learning Initiative*, Alverno College Institute.

Doppelt, Y. (2003). Implementation and assessment of project-based learning in a flexible environment. *International Journal of Technology and Design Education.* 13. 255-272.

Frank, M., Lavy, I.& Elata, D. (2003). Implementing the project-based learning approach in an academic engineering course. *International Journal of Technology and Design Education*. 13, 273-288.

Hein, T. L. (1999). Using writings to confront student misconceptions in physics. *European Journal of Physics.* 20, 37-141.

Kirkland, W.L. (1997). Teaching biology through creative writing. *Journal of College Science Teaching*, 26(4), 277-279.

Larkin, H.T. & Budny, D.D. (2001). Research on learning style: Applications in science and engineering. *IEEE Transactions on Education Journal,* Vol. 44, No. 3, 276 - 281.

Larkin, H.T. & Budny, D.D. (2005). Writing as an active learning tool. *6th International Conference on Information Technology-based Higher Education and Training* (ITHET 2005), Santo Domingo, Dominican Republic, Session S2A. IEEE Catalog Number: 05EX1075.

Miller, L. D. & England, D. A. (1989). Writing to learn algebra. School science and mathematics, 89, 299-312.

Olds, B.M., Moskal, B.M. & Miller, R.L. (2005). Assessment in engineering education: evolution, approaches and future collaborations. *Journal of Engineering Education*. Vol. 94., N.1, 13-25.

Perrenet, J. C., Bouhuijs, P. A. J. & Smits, J.G.M. (2000). The suitability of problem-based learning for engineering education: Theory and practice. *Teaching in Higher Education*, 5(3), 345-358.

Technical Writing Tips for Technical Writers and Managers of Writers ([TWT], 2009) *Become a great technical writer even if you are not a great writer. Retrieved* January 30 2009 from http://www.docsymmetry.com/

The Plagiarism Resources Site ([PRS], 2009) Retrieved January 30 2009 from http://www.plagiarism.phys.virginia.edu/

Yakhno, T.& Neuhold, E. J. (2006). (Eds.) Advances in Information Systems. *Lecture Notes in Computer Science.* Springer, Vol.4243

Bilgisayar Mühendisliği Müfredatı ile Yazma Tekniklerini Tümleşik Hale Getirmek için Öğrenci Merkezli Bir Ortam Olarak Öğrenci Konferansı (Özet)

Problem Durumu: Günümüzde, üniversiteler üzerinde işverenlerin ihtiyaçlarını karşılayabilecek kapasitede mezun vermeleri yönünde bir baskı bulunmaktadır. Bu baskıyı oluşturan unsurlardan biri öğrencilerin mesleki bilgi ve becerilerinin yanı sıra başta iletişim, takım çalışması ve sunum becerileri olmak üzere bazı kişisel yeteneklerinin de geliştirilmesidir. Aynı zamanda bölümdeki bir çok akademisyen de üniversite birinci sınıf öğrencilerinin okula başladıklarında özgüvenlerinin eksik olduğundan, iletişim ve takım çalışması becerilerinin yetersiz olduğundan bahsetmiştir.

Bilgisayar Mühendisliği Bölümü müfredatının giriş bölümünde öğrencilerin anılan becerilerini geliştirebilecekleri nitelikte Teknik Yazım ve/veya Teknik İngilizce olarak bir ya da iki ders bulunmaktadır. Bu dersler genellikle İngilizce okutmanları tarafından, geleneksel yöntemlerle verilmekte ve birinci sınıf öğrencilerinin iletişim becerilerini geliştirmeleri için fazlaca olanak yaratmamaktadır.

Araştırmanın Amacı

Bu çalışmanın amacı Teknik İngilizce dersini Bilgisayar Mühendisliği bölümü müfredatı ile tümleşik hale getirmek için yeni bir yöntem geliştirmektir. Tümleştirme işlemi esnasında öğrencinin İngilizce bilgisinin ilerletilmesi; Teknik İngilizce çalışma hevesinin arttırılması;bir takım çalışması olan proje tasarımına eğitiminin en başından itibaren katılımının sağlanması; iletişim becerilerinin geliştirilmesi ve aynı zamanda öğrenciye özgüven kazandırılması hedeflenmiştir.

Araştırmanın Yöntemi: Teknik İngilizce dersi için Projeye Dayalı Öğrenim araştırma yöntemi olarak uygulandı. Bu kapsamda birinci sınıf öğrencilerine önerilen proje, öğrencilerin düzenledikleri ve gerçekleştirdikleri bir Öğrenci Konferansı' dır.

Bahar yarıyılı boyunca süren proje süresince her öğrenci üç farklı rolde çalışmıştır: Konferansın düzenlenmesi ve gerçekleştirilmesi, araştırma makalesi yazılması ve konferansta sunulması, diğer makalelerin değerlendirilmesinde hakemlik. Bu roller farklı açılardan takım çalışması, proje yönetimi, araştırma, yazılı ve sözlü iletişim becerilerini desteklemektedir. Ana hedef olan Teknik İngilizce ve mühendislik dersleri arasında boşluğun giderilmesine yönelik olarak da konferans konuları

Bilgisayar Mühendisliğinin güncel konuları olarak seçilmiştir. Bu sayede ilerleyen yıllarda bölümde alacakları olası derslerle ilgili bilgi sahibi olmaları da gizli hedeflerden biri olarak sayılabilir.
Konferansın yürütülmesi ve gerçekleştirilmesi kapsamında Danışma Kurulu, Konferans Başkanları, Program Komitesi, Organizasyon Komitesi, Yayın Grubu ve Teknik Destek Grubu olmak üzere altı çalışma grubu oluşturulmuştur. Danışma Kurulu bölümün tüm öğretim elemanlarında oluşmakta, diğer çalışma grupları ise yine öğrencilerin kendi aralarında yaptıkları ilgi alanı ve gönüllülük bazlı seçimlere dayanmaktadır.
Danışma kurulu üyeleri tarafından öğrencilere proje/konferans yönetimi, araştırma yöntemleri, makale yazma, intihal, sunum teknikleri gibi konuların yanısıra ileri seviyede İngilizce grameri konusunda da dersler verilmiştir. Anılan dersler ve projenin notlandırılması dışındaki tüm süreçleri ve işleri çalışma grupları yönetmiştir.
Konferans, bahar yarıyılı final sınavlarının tamamlanmasından hemen sonraki gün, son sınıf öğrencilerinin Bitirme Projeleri Sergisi ile aynı salonda, poster sunumu şeklinde yapılmıştır. Gün boyunca Mühendislik Fakültesi'nin tüm öğrenci ve öğretim elemanlarının yanı sıra özel şirket temsilcileri de posterleri incelemiş, öğrencilere araştırma konuları hakkında sorular sormuşlardır. Ayrıca tüm katılımcılara sponsor desteği ile bastırılan bildiri kitapçıkları dağıtılmıştır. Günün sonunda ise katılımcıların gizli oylama usulü seçtikleri "En Güzel Poster" ödülü verilmiştir.
Araştırmanın Bulguları: Öğrenci Konferansı projesi ile Bilgisayar Mühendisliği birinci sınıf öğrencileri gerçek bir proje yapma şansı bulmuş, İngilizce bilgilerini ilerletmiş, teknik yazılar yazma konusunda bilgi sahibi olmuş. Teknik İngilizce ve mühendislik derslerini ilişkilendirmiş, daha da ötesi Teknik İngilizce' yi çalışmanın merkezi olarak değil kendi seçtikleri bir konudaki bilgilerini aktarabilmek adına bir araç olarak kullanmayı öğrenmişlerdir. Proje süresince hedef koyma, zaman yönetimi ve planlama, özdeğerlendirme, sorumluluk taşıdıklarının bilincinde olarak bağımsız karar alabilme, gerektiğinde risk alabilme becerilerini geliştirmişlerdir. Konferans gününde gerek poster sunumlarında gerekse katılımcılara araştırmaları hakkında bilgi verirken özgüvenlerindeki artış değerlendiriciler tarafından teyit edilmiştir.
Araştırmanın Sonuçları ve Öneriler: Düzenli olarak her yarıyılın sonunda yapılan değerlendirme anketleri, Öğrenci Konferansı Projesi şeklinde uygulanan Teknik İngilizce dersi için de yapılmış ve önceki yılların klasik Teknik İngilizce dersi geri bildirimleri ile karşılaştırılmıştır. Klasik yöntemde 5 üzerinden 3 seviyesinde yaklaşık olarak sabit olan ortalama memnuniyet eğrisi, projeye dayalı öğrenimde başlangıçta aynı olmakla birlikte haftalar bazında kademeli ve düzenli bir artış göstermiştir.
Konferans konularının her yıl yenilenmesi gerek sunumların gerekse araştırmaların tekrar etmesini ve öğrencilerin ilgisinin azalmasını engelleyecektir.
Anahtar Sözcükler: Projeye Dayalı Öğrenme, Öğrenci Merkezli Ortam, Teknik İngilizce, Konferans Yönetimi