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A Blended Learning Experience

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Abstract

Blended (hybrid) learning is one of the approaches that is utilized to help students for meaningful learning via information and communication technologies in educational settings. In this study, Computer II Course which is taught in faculties of education was planned and implemented in the form of a blended learning environment. The data were collected from freshman students of departments of mathematics and primary school education via a semi-structured survey which included open and closed-ended questions at the end of the implementation. The students were taking the course for the first time, and they were introduced with a blended learning environment for the first time with this course. The survey was conducted online and 67 students completed the survey voluntarily, and the data were subjected to content analysis. According to the results, implementing the course especially with electronic activities had positive effects on students from a learning and evaluation perspective. Students stated that the blended learning environment supported their active participation to the course activities and indicated that following the content of the course, homework and projects online was interesting and useful.

Key Words

Blended Learning, Hybrid Learning, Technology-supported Learning, Learning Management System.

Existing information and communication technologies have been affecting and changing almost all fields. Developing technology offers many alternatives related with educational environments, methods and tools. There have been many researches, especially, on the issues of information access in higher education institutes, e-mail communication systems, forming virtual learning environments, the use and the dissemination of educational technologies parallel to the needs of students and institutions (Deepwell & Malik, 2008). However, unifying technology with various learning/teaching environments effectively is a sophisticated problem which is hard to solve (Fitzer et al., 2007). In this framework, research on designing technologically equipped learning environments; with the aim of providing effective and fruitful learning have been concentrating on Blended Learning. Generally blended learning is the use of diverse information transfer methods together and in some occasions within a learning methodology (Sloman, 2003). Disability in removal of the deficiencies experienced in teaching environments designed completely in the form of e-learning and, especially, the fact that such environments restrict communication and interaction has increased demand for face to face learning thus caused blended learning to get considerable attention in the field (Fook, Kong,

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Lan, Atan, & Idrus, 2005). The notions of "blending" and mixing" of learning are interpreted differently by researchers according to aims of application (Mortera-Gutiérrez, 2006). The proportion of face to face and online learning technologies in the use of blended learning might be different (Osguthorpe & Graham, 2003; Singh, 2003). Blended learning is not restricted with the use of some strategies (discussion forums, mail, content presentation,.. etc.) only in online learning as a tool for supporting face to face learning (Usta, 2007). Therefore, blended learning, which should be considered as a teaching design approach, is a process that should be planned strategically to be applied in a teaching institution, a teaching program or in a course (Mortera-Gutierrez, 2006; Oblinger, 2006; Sharpe, Benfield, Roberts, & Francis, 2006). It is found that face to face and blended learning are not different in terms of attitude and success in a few research where the effect of various application formats of blended learning on student satisfaction, success, etc. are examined (Delialioğlu & Yıldırım, 2007; Pereira et al., 2007). Students who attended blended learning applications were reported to have positive attitudes towards e-learning rather than face to face learning and have higher grades in examinations (el-Deghaidy & Nouby, 2008). It is also indicated the interaction to help individual feedback and guidance in electronic environment (Voogt, Almekinders, Akker, & Moonen, 2005). In another study, Learning Management System (LMS) and face to face learning method were used in the application of teaching facilities in four higher education courses, and perceptions of students towards the method were examined (Karaman, Özen, Yıldırım, & Kaban, 2009). Uluyol and Karadeniz (2009) designed a course blended with project-based learning, face to face learning, online tools and performance evaluation methods in their study. The study revealed that students found learning course theory in classroom environment and the supportive accompaniment of course website in this learning process very helpful.

There have also been studies examining the effect of electronic communication and interaction technologies on learning environment and emphasizing the use of online tools and social communication tools that especially provide collaborative learning (Altun, Gülbahar, & Madran, 2008; Dağ, 2010; Finch, 2008; Lilje & Peat, 2007). There are different methods in planning and application stages of blended learning (Oliver & Trigwell, 2005). Valiathan (2002), who advises researchers with the aim of choosing the most appropriate method by evaluating diverse planning and application methods, remarked that planning of blended learning might be done with the aim development of skills, attitudes and decision-making skills in students. There is not one description for the application of blended learning (Oliver &Trigwell, 2005; Rossett, Douglis, & Frazee, 2003). Therefore, holistic comparative and systematic studies which suggest evidence with different methods from different perspectives about the value of blended learning are highly needed (Bliuc, Goodyear, & Ellis, 2007).

Purpose

This study aims to concentrate on determining the perceptions of students towards Computing II course which was planned with the blending of face to face learning and e-learning methods.

Method

The study was based on the Qualitative research model. As it was also expressed in Yıldırım and Şimşek (2006), data of such studies are given as in detail and with direct quotations as possible in order to enable the validity and reliability of the results.

Universe and Sampling

Participants of the study are 67 freshmen students, both from regular and evening classes, who are enrolled in Mathematics Teaching and Primary Teaching in Kocaeli University, Faculty of Education.

Instrument

For data collection, a form with 7 open-ended questions was prepared and then was sent to students via the internet. Qualitative analysis of the data obtained from the interviews with students was done with content analysis method.

Process

In content analysis, similar data were unified around specific terms and themes and were arranged and interpreted as the readers can understand (Ural & Kılıç, 2006; Yıldırım & Şimşek, 2006). Coding of research data was done through QSR Nvivo 8.0 qualitative data analysis program. There were 89 codes after the coding process. Another researcher was asked to determine the codes and

themes according to the perceptions of the students in the texts and was asked to control the appropriateness of the codes and themes. Reliability calculation of qualitative data was done with Miles and Huberman (1994) formula.

Interrater reliability of the study (80%) was found to be reliable (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2008). As a result of the study 87 of 89 codes were agreed, and a 0.97 consensus was achieved. As the perceptions of the students may be appropriate to more than one theme, total student numbers may differ in qualitative analysis.

Results

When the answers given to the question of "When compared with the other courses what are the different aspects that students find different in Computing II course?", the most frequent view of the students is the view of "Computing II course made us participate actively (27)." The most frequent view in terms of "Evaluation" is "computer-based evaluation is effective (7)." The most frequent view in terms of "Learning" is "Our learning becomes permanent with applications in Computer II course." 6 of the participants remarked that "There is no difference between Computing II course and the other courses." Under this theme, there are two more views as "the ones who are low in computer literacy had difficulty (3)" and "application is tiresome (3)."

The answers given to the question of "What are the views of the students towards the roles and responsibilities in blended learning environments?" were categorized as "positive" and "negative". "Assignment doing responsibility" and "participation to course" subthemes were generated under the theme of "Positive." The most frequent view under "assignment doing responsibility" theme is the view of "assignments and projects increased our learning responsibility (30)." "We grasped the need of coming class prepared (8)" and "Doing assignments made our active participation to the course (7)" views have high frequencies.

In the views of the students who express negative views on students roles and responsibilities, the views of "Project design took time (5)" and "Roles and responsibilities in the course were much and tiresome (6)" are outstanding.

As for the question of "What are the expectations of the students from Computing II course?", 41 students remarked that "It met my expectations." However, under "negative" theme, the views of "I had no expectations (6)" and "the content of the course seemed difficult and complex" are remarkable.

As for the question of "Did the blending of Computer II course with face to face and electronic learning materials contribute to the students?" 25 of the students remarked that they learned more effectively.

According to the factors that can affect students' motivation, and the level of favour related to Computing II course, "Easy access to learning materials in electronic environment (85.1%)" was found to be the most effective factor. According to the students' level of favour to the activities presented in electronic environment for Computing II course, the most popular activities are, in order, "Weekly presentation of learning materials (83.6%), "The possibility of following course activities with the mails coming from LMS (82.1%).

The views of the students towards the features of LMS were classified under the themes of positive and negative. The most frequent view in positive theme is "All features of LMS are very useful (34)." The views of "Weekly online presentation of the content is good (24)" and "Direct access to course related materials is very useful (24)" rank the second.

Under the negative theme on LMS "I didn't like the content (7)," "We can't use it when we don't have internet (4)," "Weekly presentations are hard to examine (4), "High expectation of teacher is boring (4)," "Forum is not effective (3)," "There is so much material on LMS, and I can't find what I need (3)" can be seen.

Students generally commented that they like the LMS and especially presenting the course content online weekly, producing something and learning by doing contributed them much. The view of accessing learning materials anytime is useful is in line with the views in Cooner's study (2010).

Discussion

This study aimed to concentrate on the views of the students towards Computing II course that was planned and applied with blending of face to face and e-learning methods. When it was compared with other courses, students remarked that the application and activities of the course in terms of evaluation and learning, especially LMS applications, have positive effects on them. Similar findings have also been encountered in Uluyol and Karadeniz (2009). Students who took Computing II course commented that they found computer-based evaluation and inclusion of the grades they had taken to average score was different than other courses.

They also added that the applications they did on computer made their learning more permanent. Most of the students expressed that blending of this course with face to face learning and the materials presented in electronic environment contributed them much. The findings in Usta and Mahiroğlu's (2008) study are in accordance with this study's. Motteram (2006) examined program design experiences of students in a teaching knowledge course based on blended learning which lasted three years. It was found that blended learning approach has positive effects on learning experiences of students.

LMS, which is used in Computer II, enables an important environment for students in terms of having necessary information about the situation of the course and friends regardless of time and place, following the course content online and exchanging ideas and opinions between teacher-student and student-student. It also helps students to express themselves better. These findings display similarity with the ones in Deperlioğlu and Köse (2010).

Students commented that assignments and project studies in blended learning environments increased their learning responsibilities. According to the views of the students on roles and responsibilities in this course, students commented that this situation raised their consciousness in taking more responsibility in their learning. Findings accord with the ones in Delialioğlu and Yıldırım`s (2007) study.

The results of the study revealed that the students could control their own learning and arrangement skills in blended learning environment. In another study by Chung and Davis (1995), it was found that blended learning environments helped learners in taking their own learning responsibilities such as time management, choosing material, etc. Similarly, it was remarked that designing blended learning environments with various learning activities has positive effects on the development of the students (Karaman et al., 2009).

The most popular activities rated by students in Computer II course are weekly presentation of learning materials, the possibility of following course facilities with the mails coming from LMS, learning the content of the assignment and submitting it online.

From a holistic perspective, students expressed that they found LMS as useful. Further research is needed to compare blended learning environments in diverse courses from the perspective of student success, and it is believed that carrying out studies which take individual differences and interaction types as the independent variable would be fruitful.

References/Kaynakça

Altun, A., Gülbahar, Y., & Madran, O. (2008). Use of a content management system for blended learning: Perceptions of pre-service teachers. *Turkish Online Journal of Distance Education-TOJDE*, *9* (4), 138-153.

Bliuc, A., Goodyear, P., & Ellis, R. A. (2007). Research focus and methodological choices in studies into students' experiences of blended learning in higher education. *Internet and Higher Education*, *10*, 231-244.

Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş. ve Demirel, F. (2008). *Bilimsel araştırma yöntemleri*. Ankara: Pegem Akademi.

Chung, J., & Davis, I. K. (1995). An instructional theory for learner control: Revisited. In M. R. Simonson (Ed.), *Proceedings of the 1995 Annual National Convention of the Association for Educational Communications and Technology* (pp. 72-86). Anaheim, CA: AACE.

Cooner, T. S. (2010). Creating opportunities for students in large cohorts to reflect in and on practice: Lesson learnt from a formative evaluation of student experiences' of technology-enhanced blended learning design. *British Journal of Educational Technology*, *41* (2), 271-286.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five traditions* (2nd ed.). London: Sage.

Dağ, F. (2010). Harmanlanmış öğrenme ortamlarına yönelik araştırmaların incelenmesi ve harmanlanmış öğrenme tasarımına ilişkin öneriler. *ICITS 2010- 4. Uluslararası Bilgisayar ve Öğretim Teknolojileri Sempozyumu Bildiri Kitabı* içinde. ICITS 2010 [ISBN: 978-605-61434-2-7, 369-375].

Deepwell, F., & Malik, S. (2008). On campus, but out of class: An investigation into students' experiences of learning technologies in their self-directed study. *ALT-J: Research in Learning Technology*, *16* (1), 5-14.

Delialioğlu, Ö., & Yıldırım, Z. (2007). Students' perceptions on effective dimensions of interactive learning in a blended learning environment. *Journal of Educational Technology and Society, 10*, 133-146.

Deperlioğlu, Ö. ve Köse, U. (2010). Web 2.0 teknolojilerinin eğitim üzerindeki etkileri ve örnek bir öğrenme yaşantısı. *2010 Akademik Bilisim Konferansı (AB 2010)* içinde (s. 166–172). Muğla.

El-Deghaidy, H., & Nouby, A. (2008). Effectiveness of a blended e-learning cooperative approach in an Egyptian teacher education programme. *Computers & Education, 51*, 988-1006.

Finch, A. E. (2008). Using course software (Moodle) to provide an effective blended learning curriculum. In *Media in Foreign Language Teaching and Learning, Proceedings of CLaSIC 2008* (pp.155-159). Singapore: Centre for Language Studies

Fitzer, K. M., Freidhoff, J. R., Fritzen, A., Heintz, A., Koehler, J., Mishra, P., et al. (2007). Guest editorial: More questions than answers: Responding to the reading and mathematics software effectiveness study. *Contemporary Issues in Technology and Teacher Education* [Online serial], *7* (2). Retrieved January 18, 2011, from http://www.citejournal.org/vol7/iss2/editorial/article1.cfm

Fook, F. S., Kong, N. W., Lan, O. S., Atan, H., & Idrus, R. (2005). Research in e-learning in a hybrid environment – a case for blended instruction. *Malaysian Online Journal of Instructional Technology, 2* (2), 124-136.

Karaman, S., Özen, Ü., Yıldırım, S. ve Kaban, A. (Şubat). *Açık kaynak kodlu öğretim yönetim sistemi üzerinden internet destekli (Harmanlanmış) öğrenim deneyimi*. Akademik Bilişim Konferansı 2009'da sunulan bildiri, Harran Üniversitesi, Şanlıurfa.

Lilje, O., & Peat, M. (2007). Use of traditional and elearning components in a blended learning environment. In *Proceedings of the Assessment in Science Teaching and Learning Symposium* (pp. 177-180). The University of Sydney.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. London: Sage.

Mortera-Gutiérrez, F. (2006). Faculty best practices using blended learning in e-learning and face-to-face instruction. *International Journal on Elearning, ProQuest Education Journals*, *5* (3), 313-337.

Motteram, G. (2006). Blended education and the transformation of teachers: A long-term case study in post graduate UK Higher Education. *British Journal of Educational Technology*, *37* (1), 17-30.

Oblinger, D. G. (2006). Space as a change agent. In D. G. Oblinger (Ed.), *Learning spaces* (pp. 1.3). Educause e-book.

Oliver, M., & Trigwell, K. (2005). Can 'blended learning' be redeemed? *E-learning*, *2* (1), 17-26.

Osguthorpe, R. T., & Graham, C. R. (2003). Blended learning environments definitions and directions. *The Quarterly Review of Distance Education*, *4* (3), 227-233.

Pereira, J. A., Pleguezuelos, E., Meri, A., Molina-Ros, A., Molina-Tomas, M. C., & Masdeu, C. (2007). Effectiveness of using blended learning strategies for teaching and learning human anatomy. *Medical Education*, *41*, 189–195.

Rossett, A., Douglis, F., & Frazee, R. V. (2003). *Strategies for building blended learning. Learning circuits*. Retrieved January 18, 2011 from http://www.learningcircuits.org/2003/jul2003/rossett.htm

Sharpe, R., Benfield, G., Roberts, G., & Francis, R. (2006). The undergraduate experience of blended e-learning: a review of UK literature and practice undertaken for the Higher Education Academy." Retrieved 3 October, 2009, from http://www.heacademy.ac.uk/research/Sharpe_Benfield_Roberts_Francis.pdf

Singh, H. (2003). Building effective blended learning programs. *Educational Technology, 43* (6), 51-54.

Sloman, M. (2003). Training in the age of the learner. London, UK : Chartered Institute of Personnel and Development.

Uluyol, Ç. ve Karadeniz, Ş. (2009). Bir harmanlanmış öğrenme ortamı örneği: Öğrenci başarısı ve görüşleri. *Yüzüncü Yıl Eğitim Fakültesi Dergisi*, *6* (1), 60-84.

Ural, A. ve Kılıç, İ. (2006). *Bilimsel araştırma süreci ve SPSS ile veri analizi*. Ankara: Detay Yayıncılık.

Usta, E. (2007). Harmanlanmış öğrenme ve çevrimiçi öğrenme ortamlarının akademik başarı ve doyuma etkisi. Yayımlanmamış doktora tezi, Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.

Usta, E. ve Mahiroğlu A. (2008). Harmanlanmış öğrenme ve çevrimiçi öğrenme ortamlarının akademik başarı ve doyuma etkisi. *Ahi Evran* Üniversitesi *Kırşehir Eğitim Fakültesi Dergisi (KEFAD), 9* (2), 1-15.

Valiathan, P. (2002). *Designing a blended learning solution. Learning circuits.* Retrieved March 18, 2011 from http://www.learningcircuits.com/2002/aug2002/valiathan.html.

Voogt, J., Almekinders, M., Akker, J., & Moonen, B., A. (2005). 'Blended' in-service arrangement for classroom technology Integration: Impacts on teachers and students. *Computers in Human Behaviour, 21*, 523–539.

Yıldırım, A. ve Şimşek H. (2006). *Sosyal bilimlerde nitel araştırma yöntemleri*. Ankara: Seçkin Yayıncılık.