PRE-SERVICE ENGLISH TEACHERS IN BLENDED LEARNING ENVIRONMENT IN RESPECT TO THEIR LEARNING APPROACHES

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ABSTRACT
Blended learning environment (BLE) is increasingly used in the world, especially in university degrees and it is based on integrating web-based learning and face-to-face (FTF) learning environments. Besides integrating different learning environments, BLE also addresses to students with different learning approaches. The '*learning approach'* categorizes individuals as '*surface learners'* and '*deep learners'*. This study investigated whether the academic performance and the satisfaction levels of the pre-service English teachers varied in respect to their learning approaches in a blended learning environment.

At the end of the study it was found that a) academic performance scores of the students in the BLE did not show statistically significant difference between deep and surface learners, b) the average satisfaction level with the BLE of deep learner students was statistically significantly higher than the average of surface learner students. Based on these findings, it can be concluded that pre-service English Language teachers were in general highly satisfied with the BLE. In addition, it can be stated that the courses which are designed for the BLE contribute to the achievement of the students with surface learning approach. Based on these conclusions, BLE is advised for training of pre-service English Language teachers with different learning approaches.
Keywords: Blended learning, Learning approach, Teacher training

1. INTRODUCTION

In recent years, with their continuously developing technologies, computers have been one of the most dominant devices in the development and delivery of audio-visual products, multimedia presentations, visual materials and end-user software. Opportunities such as internet access, distance learning capabilities, and applications software are tools of the new millennium and they are often used to make the educational environment more relevant, rich, and rewarding (Ennis-Cole & Lawhon, 2004). Thanks to this, it is possible to prepare a varied learning environment which will address to the individual differences of the students. Riley (2000) stressed that teaching and learning that use technology effectively can lead to greater academic achievement and make a real difference in the lives of the students.

In the literature there are many terms describing the environments where computers have a role in the learning process. These terms include computer assisted learning, computer assisted instruction, computer based instruction, etc. Each of these concepts differs according to computers' role in the education environment. Additionally, various terms are used to describe situations where the teacher and the students are not physically together in terms of time, place and where they communicate through technology. In this context, the concepts of distance learning, web-based learning, e-learning are widely used.

A common and important point in the concepts of distance learning, web-based learning and e-learning is that the teacher and the students are located in different spaces for a significant part of the learning process. Keegan (1986, as cited in Guri-Rosenblit, 2005) defines the quasi-permanent separation of the teacher and the learner throughout the learning process, as well as the quasi-permanent absence of a learning group throughout the learning process, as two of the major characteristics of distance education. So, learning is predominantly based on the design of the instructional material rather than the interaction in the usual face to face environment (European Commission, 1991).

On the other hand, Laurillard (1996) reports that a mixed used of teaching and learning methods will always be the most efficient way to support student learning, because only then it is possible to embrace all the activities of discussion, interaction, adaptation, and reflection, which are essential for academic learning. The difficulties arise in the full realization of these activities, which are based on interaction in the distance learning environment; the most profound deficiency being reported as the lack of necessary interaction between the students and the teacher in the learning system (Haefner, 2000) The way to meet and overcome the deficiencies and difficulties has been to blend distance learning with the conventional learning environment.

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1.1 Blended Learning

Blended Learning (BL) is a method to organize the learning environment that is facilitated by the effective combination of different modes of delivery, models of teaching and styles of learning, and is founded on transparent communication amongst all parties involved in a course (Heinze and Procter, 2006). Garnham and Kaleta (2002) define BL as 'courses in which a significant portion of the learning activities have been moved online, and time traditionally spent in the classroom is reduced but not eliminated'. Young (2002) and Sands (2002) also use similar definitions. One of the most widely accepted definitions in the literature is that of Osguthorpe and Graham (2003, 227): "BL environment is used to try to maximize the benefits of both FTF and online methods- using the web for what it does best, and using class time for what it does best".

The integration or combination of different learning/teaching methods is of profound importance for the achievement of the BLE. Reay (2001) stresses that BL is not just adding online materials to a conventional training environment; BL must be relevant, and demand a holistic strategy leveraging the best characteristics of all learning interventions. The selected methods/techniques should be appropriate to the subject. The successful implementation and use of BL requires understanding of the strengths of different mediums; how learners engage in this type of learning process; how they use information from each different medium and how they can handle online and the traditional (face-to-face) teaching methods in a combined form (Mortera-Gutierrez, 2006). Three major components of BL that can be blended/mixed in FTF and online environments are learning activities, the students, and the teacher. As reported by Osguthorpe and Graham (2003, p.229), "If balance and harmony are the qualities that are sought for in blended environment, one must first identify precisely what is to be mixed together". This identification depends on the content of a course and characteristics of student mass as well as composition, needs, individual differences, etc.

1.2 Individual Differences in Learning

In the field of educational sciences, how learning takes place has been the subject of much research and debate and no consensus has yet been reached on this. The fact that learning has many cognitive and affective aspects, such as age, maturity, the environment, degree of interest in the course, expectations from the course, the quality of the education, the quality of the interaction between the teacher and other learners, and whether the student likes/dislikes the instructional methods/teacher/course makes it impossible to produce a teaching formula agreed by everyone and which can be used while planning instruction. Yet, the researchers continue to study on how each above-listed aspect of learning is effective on learning itself.

Studies on how an individual learns mainly concentrate on two aspects: "how the learners learn (how they are organized)?" and "why do they learn?" (Ramsden, 1991). The first aspect relates to how learners organize or configure new information during learning activities. The second aspect is whether or not the students exert effort to attain the meaning of the material they interact with or of the phenomenon/issue they study during learning process.

While the students who seek to find a meaning use a "deep" approach, the students who use a "surface" approach focus on the titles which they believe will explain the content of the subject (Ramsden, 1991). The concept of "*learning approach"* was first used by Marton and Säljö (1976). This concept divides the individuals into two categories: '*surface learners'* and '*deep learners'*. Surface learners mainly choose to rehearse and memorize the course material they work on and they acquire the information they need to learn in a disconnected way, by memorization. Marton and Säljö (1976) underlined that surface learning university students tended to memorize the material temporarily in such a way to transform it to performance later in examinations etc. On the other hand, deep learners want to grasp the meaning of the course material (Boekaerts, 1996). In the literature it is emphasized that deep learning students tend to dominate the material they work on and combine it with their existing knowledge (Marton and Säljö, 1976). A *deep approach* involves the use of study strategies that are directed towards understanding the concepts presented in the study material. When the students use a deep approach they relate concepts to each other and to their previous knowledge, and they evaluate the evidence and logic behind arguments (Prosser & Trigwell, 1999). A *surface approach*, on the other hand, directs attention to disconnected pieces of information. *(*Minbashian, Huon, Bird, 2004).

Trigwell, Prosser and Waterhouse (1999, 58) suggested that studies have consistently showed that deeper approaches to learning are related to higher quality learning outcomes. In parallel, surface approach was found to be negatively correlated with academic performance in various researches (Duff *et all.*, 2004; Mayya, Rao & Ramnarayan, 2004; Burton & Nelson, 2006). On the other hand, Dart *et all.* (2000) give notice to teachers that it is possible to promote deep approaches to learning through the creation of learning environments that students perceive as safe, supportive, and that offer helpful relationships. Diseth (2007a) stresses that, it seems important to focus on how the students evaluate and perceive their learning environment, because it affects students

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approach to learning, which ultimately affect examination performance. More specifically, if the goal is to increase deep approaches and to decrease surface approaches to learning, it seems important to alter the student-perceived effect of teaching (in terms of challenge, value, and stimulation) (Diseth, 2007a). In other words; various learning approaches emphasize that there are differences between the learning approaches of individuals and that knowing these differences will help the teachers find more effective and creative ways (Entwistle, 1997; Biggs, 1999) for the learners with different learning approaches. From this point of view, BLE can be a good solution by offering different learning environments to the students who have individual differences as well as approaches to learning.

BLE offers the advantage of both distance learning, such as studying the course material in any place, at any time and for any duration, and studying as an opportunity for immediate feedback/correction/reinforcement of the material, as well as the advantages of FTF learning, such as discussion in the classroom environment, direct interaction with the teacher and students, and allowing the teachers to see and analyze the individual differences. In literature review, although there are many studies on BLE across the world, among these studies, the researchers found only one study that examined learning approaches of the students in the BLE. The results of this study (Ellis, Goodyear, Prosser, O'Hara, 2006) suggested that there is no significant difference between students' academic performance in terms of their learning approaches.

In the present study, an answer has been sought for the question whether the pre-service English teachers with different learning approaches vary in their achievement and in their satisfaction of the course which is given in blended learning environment.

Within this framework, this study tried to answer the below questions:

1. Is there a significant difference between the pre-service English teachers' achievement in respect to their learning approach?
2. Is there a significant difference between the pre-service English teachers' satisfaction with the BLE in respect to their learning approach?

2. METHOD

A descriptive model was used in this study.

2.1 Subjects

The participants in this study were the students from the Department of Foreign Language Education at the Yıldız Technical University, Faculty of Education who took the "Instructional Technologies and Material Development" course in the 2006-2007 academic year. A total of 53 students were included in the study, 87% (n=46) of whom were female and 13% (n=7) of whom were male. None of the students had previously participated in a BLE or in a web-based learning environment.

2.2 The Course

The "Instructional Technology and Material Development" is a 4-hour core course for the undergraduate students of the Educational Faculty. The pre-service English teachers are enrolled in this course in their 4th semester each year.

The course has two main objectives. The first is that the student should be able to understand the basic instructional principles of material development and the second is that the student should be able to apply these principles while developing the materials. The course was designed in accordance with these objectives. The course content was developed by the instructor of the course and consisted of 9 modules.

The web material was designed and developed by a team comprised of the course instructor, an instructional design specialist, a program development specialist and graphic artists, and was supported by the Yıldız Technical University e-learning support unit. Web material included the course content, course texts, a library, a dictionary and follow-up quizzes. In online materials, animations, graphics, pictures and tables were used as visual stimulants. The web site consisted of four sections, namely, course information, course content, follow-up quizzes, and the learning management system. In the BLE, the students advised to spend at least two hours in the online learning environment before every FTF class hours. Web material was opened to access from any computer connected to Internet. This means that the students had the opportunity to access online material any where and any time they wanted. For this application, a computer lab was also scheduled for the students who are not available to connect Internet from their houses.

The FTF class hours consisted of a 2 hours lecture and discussion session each week. The students were informed that they should do the appropriate preparatory online work for the module, with any required

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homework, prior to the weekly sessions. The lectures were used to answer the questions about the online material, to explain the difficult concepts and principles, to give examples from the materials. In addition, during the FTF course hours, the students presented the materials they had developed on their own for peer-group evaluation.

2.3 Data Collection Tools

Revised-Two Factor-Study Process Questionnaire (2F-SPQ: The Revised Two Factor-Study Process Questionnaire was developed by Biggs, Kember and Leung (2001) based on the theory of learning approaches for higher education students. This is a two-factor scale which includes "surface" and "deep" approach dimensions. A five-item Likert form was used for the answers on a scale ("never or rarely true for me:1"; "always and almost always true for me:5"). The score interval which can be received for each deep approach and surface approach ranged from 10 to 50. The learning approach of the student was defined as deep or surface according to the dimension and received score interval.

The localization of the scale was carried out by the researchers in a separate study. Within the framework of these studies, the factor analysis (KMO value=0,86; Bartlett sphericity test is significant (p=.000)) which was conducted on 400 university students indicated that the scale consisted of two factors as in the original scale. The two factors explained a total of 36% of the variance and factor loads of the items varied between .40 and .71. The Cronbach alpha internal consistency coefficient of the scale which measured the deep approach was .79; while the Cronbach alpha internal consistency coefficient which measured the surface approach was .73. Two items of deep learning dimension in the scale were "I come to most classes with questions in mind that I want answering" and "I find most new topics interesting and often spend extra time trying to obtain more information about them". The two items for the measurement of surface learning approach were "I learn some things by rote, going over and over them until I know them by heart even if I do not understand them." and "I find I can get by in most assessments by memorizing key sections rather than trying to understand them."
This scale was administered to the students in the second week of the academic year.

Academic Performance: With the purpose of measuring the material development performance of the students in English teaching, the students were asked to develop four materials including a work sheet, a transparency, a concept map and a computer presentation. The aforementioned materials were evaluated by two specialists. The students were awarded 40% of their final mark for the quality of these materials. This mark was added to the students' results from the achievement test (60%) which was given to students at the end of the course. These two assessment results were added together to provide the students' academic performance.

Achievement test developed by the researchers was used for determining the achievements of the students in the course. The test was first applied as a pilot study to a group of 22 people who had taken the course previously. Based on the data obtained, the final form of the test, which contained 30 questions, was prepared. For the content validity of the test, the expert opinion of four academicians at the Yıldız Technical University and the Hacettepe University Faculty of Education who gave the related courses, was sought and taken. The examination consisted of a total of 30 multiple answer questions, 12 of which were on the knowledge level and 18 of which were on the comprehension level for material development principles. The reliability of the test was found to be α=0,78 (KR_{21}) as a result of the application on a total of 95 third grade students in the faculty of education.

Student Satisfaction with the Blended Learning Environment Scale (SSS): The "Student Satisfaction with the Blended Learning Environment Scale" (SSS) which was developed by the researchers for determining the satisfaction of the students with the BLE consists of 12 items. A five-item Likert-type grading scale was used for determining the satisfaction of the students with the different dimensions of the environment: ('I completely agree(5); 'I totally disagree(1). All the items of the scale except the 5th and 6th items were positively configured. For this reason, the responses given to 5 and 6 were reversed in the data entry. The high average score which will be obtained from the scale indicates the level of satisfaction with the BLE.

For the preparation of the SSS trial form, the studies carried out on the expected benefits of the BLE and the advantages of FTF and web environments were firstly reviewed and a theoretical framework was drafted. In addition, the advice of two of the aforementioned specialists in the field was taken. At the second stage, the researchers assessed the literature and expert opinion together and prepared a 23-item draft form on satisfaction levels with FTF teaching in the BLE and satisfaction levels with the web-based environment within a BLE.

At the third stage, the draft form of the scale was applied to 95 third grade students in the faculty of education. At this stage, the structure validity and factor structure of SSS was analyzed with exploratory factor analysis (EFA). It was found that the data of the scale was consistent with the factor analysis (KMO value=0.80; Bartlett

sphericity test is significant (p=.000)). Factor analysis results indicated that 12 of the 23 items in the scale gave high load values. As a result of the repeated factor analysis with 12 items, a three-factor structure was obtained. The variance amount that the three factors explain was 63%, 38% of this was in the first factor (satisfaction with blending FTF and web based learning environments), 15% was in the second factor (satisfaction with the web-based teaching environment) and 9% was in the third factor (satisfaction with the FTF teaching environment). The Cronbach alpha internal consistency coefficient of the obtained 12-item scale was found to be .83. Some of the items of the scale were: "I would like to take all my courses in the blended (classroom and web instruction) learning environment (the first factor)", "It is advantageous to decide when, where and how to study the web material (the second factor)" and "It is advantageous to take the complicated subjects in the FTF environment with the instructor of the course (the third factor)".

2.4 Data Analysis

In data analysis, t-test, multivariate variance analysis (MANOVA) and one-way variance analysis (ANOVA) were used. The significance level was taken as 0.05 in the study.

3. FINDINGS AND COMMENTS

2F-SPQ was applied to 53 students who participated in the study and it was concluded that 60% (n=32) of the students had a "*deep learning approach"* while 40% (n=21) had a "*surface learning approach"*.
The data obtained at the end of the study were studied and interpreted according to the order of problems.

3.1 Findings for the First Sub-Problem

The first sub-problem of the study was "*Is there a significant difference between the pre-service English teachers' achievement in respect to their learning approach?"* Independent samples t-test results for this problem are given in Table 1.

Table 1: Independent Samples T-test results of Academic Performance Scores in Respect to Learning Approaches

Learning Approach	N	$\overline{X}$	Sd	df	t	p
Deep	32	51.28	12.32	51	-.256	.799
Surface	21	52.12	10.51			

It is clear from Table 1 that there was no statistically significant difference between the academic performance scores of the students' in respect to their learning approaches [$t_{(51)}$= -.256]. In other words, the students who had deep and surface learning approaches had similar achievement level in the BLE. This result seems to contradict with some research findings such as "surface approach is negatively correlated with academic performance (Duff et all, 2004; Mayya, Rao & Ramnarayan, 2004, Burton & Nelson, 2006) Finding no significant difference between the academic performance scores of the students' in respect to learning approaches clearly showed that BLE had a positive effect on the students achievement with surface learning approach. Thus it can be suggested that BLE gives a chance to students with surface learning approach to increase their academic achievement. In another words; it can be stated that BLE addressed to the needs of both student groups who had different learning approaches.

2.2. Findings for the Second Sub-Problem

The second sub-problem of the study was determined to be "Is there a significant difference between the pre-service English teachers' satisfaction with the BLE in respect to their learning approach*?"*.

The general average satisfaction level with the BLE of the students was found to be $\overline{X}$= 3.81. This $\overline{X}$= 3.81 value corresponds to the "I agree" alternative in the 5-item Likert scale. In other words, the students reported that they were generally satisfied with the BLE. The fact that the students had high levels of satisfaction from the BLE in which technology is intensively used indicates that pre-service English teachers can make use of this and similar learning methods in education. The relationship between the satisfaction levels with the learning environment of the students with different learning approaches are given in Table 2.

Table 2: Independent Samples T-test Results of Average Satisfaction Levels with the BLE in Respect to the Learning Approach

Learning Approach	N	$\overline{X}$	Sd	df	t	p
Deep	32	3.93	.48	51	2.198	.033
Surface	21	3.62	.52			

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When Table 2 is analyzed, it is understood that the average satisfaction level with the BLE of deep learning students ($\overline{X}$=3.93) is statistically significantly higher than the average of surface learning students ($\overline{X}$=3.62) [$t_{(51)}$=2.198, p<.05]. The fact that deep learning students have a higher satisfaction level with the BLE in which it is compulsory to study from web material, and where the responsibility belongs to the students, is a result to be predictable. As Ramsden pointed out while surface learners considered the activities necessary for learning such as homework etc. as an external load; deep learner students create a questioning interaction between the material content and tend to understand the learning material for themselves (Ramsden, 1991; Beattie, Collins and McInnes, 1997).

As previously mentioned, the SSS scale has three sub-dimensions. For understanding whether the averages that the students received from these factors showed a significant difference according to learning approaches, multivariate ANOVA (MANOVA) was applied. MANOVA results which were applied on factor averages of SSS indicated that deep and surface learning students showed a significant difference in terms of SSS factors [Wilks Lambda(Λ)=.788, $F_{(3, 49)}$=4.392, p<.01]. This finding indicates that the scores which would be obtained from the linear component consisting of the scores of these three factors varied according to the learning approach.

The averages and standard deviation values of three factors and One-way ANOVA results applied on a factorial basis for measuring the satisfaction scale are given in Table 3.

Table 3: Averages and Standard Deviation Values of SSS factors and One-way ANOVA Results

	Learning Approach	N	$\overline{X}$	Sd	df	F	p
Factor 1 *Satisfaction of blending web based and FTF learning environment*	Deep	32	3.81	.69	1-51	9.66	.003
	Surface	21	3.10	.98			
Factor 2 *Satisfaction of web-based learning environment*	Deep	32	3.90	.73	1-51	.044	.835
	Surface	21	3.86	.67			
Factor 3 *Satisfaction of FTF learning environment*	Deep	32	4.17	.52	1-51	.003	.958
	Surface	21	4.18	.55			

According to Table 3, the satisfaction level with the BLE showed a significant difference for deep learners [$F_{(1,51)}$= 9.66, p<.01]. In other words, deep learners reported higher satisfaction level with the BLE which integrated web-based learning and FTF learning environments, when compared to the satisfaction level of surface learners. The students were asked to study the web based material before coming to FTF learning classes. If the student did not study the necessary web material she/he was not able to follow the FTF courses. This can be the reason for surface students not to be satisfied with blended environment. However, when the satisfaction with the web-based learning environment and satisfaction with the FTF teaching environment of deep learners were compared and analyzed, it was understood that for them the satisfaction with the FTF learning environment was higher. The same was also valid for surface learners. These findings can be interpreted as follows: the students having both deep and surface learning approaches were generally satisfied with the blended learning environment, they reported satisfaction with the web environment they used; however they stressed that that FTF learning environment was highly important for them.

3. DISCUSSION AND CONCLUSION

The classroom environment in which FTF teaching takes place, no matter how intensively technology is used, has some restrictions. Some of these restrictions are the limited one-to-one teacher-student interaction, the delay in the feedback given to the students and the limited visual aids and materials that are on-hand during a class session (Wong, 2006). In addition, the benefits of the learning process in the FTF learning environment can be lost once the student has left the classroom. Distance learning can be offered as a solution to those people who are unable to receive conventional education due to time and location restrictions; education can be continued outside of the school. The use of BLEs, combining the advantages of the web-based teaching environment and the FTF teaching environment, so as to increase the utilization of both environments, is increasingly widespread in the learning/teaching process. In this study, the following results were obtained on the satisfaction levels concerning the teaching environment in relation to the achievement of pre-service English teachers who took courses in a BLE and who had two different learning approaches, either deep or surface learning.

At the end of the study, the academic performance average of the students in the BLE was found to be $\overline{X}$= 51.61. This finding indicates that pre-service English teachers had a moderate level of achievement in the BLE. The

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fact that the achievement average was moderate could result from the fact that the aforementioned students were taking courses based in the BLE for the first time. Yet their satisfaction level with the BLE ($\overline{X}$= 3.81) indicates a quite high level of satisfaction. Considering that although the web-based learning environment which made up of almost 50% of the course was experienced by the students for the first time, this would appear to be a highly realistic result. If the number of courses in which this, and similar internet-based applications are widely used are increased; it is undeniable that the perspectives of the students who will be the English teachers of the future will be changed for the positive. For this reason, based on the results obtained, it is suggested that the number of the environments in which computer technologies are used in English teaching departments should be increased.

The fact that the academic performance scores of deep and surface learner students in terms of learning approach did not show a statistically significant difference can mean that the BLE addresses the needs of both student groups in spite of their different learning approaches. However, this finding differs from the findings of Marton and Säljö (1976) in which they measured the reading comprehension skills of university students. Marton and Säljö (1976) found that the marks of surface learners were lower than those of deep learners in the learning process. In one respect, the fact that the BLE eliminated this achievement difference between the deep learners and surface learners resulted in a positive situation for the surface learners. The fact that the academic performance scores in the BLE did not show statistically significant differences between deep and surface learners could mean that the aforementioned environment positively effected the achievement of the surface learners as well as deep learners. As Diseth (2007b) reported, learning approaches may in turn be affected by course experience, and this is a positive message to lecturers who are concerned about monitoring how (…) course design may have an effect on the quality of learning and student performance. As a result, it can be stated that the courses which are designed for BLE contribute to the achievement of the students with surface learning approach.

REFERENCES

Beattie, V., Collins, B., & McInnes, B. (1997, March). Deep and surface learning: a simple or simplistic dichotomy? *Accounting Education , 6* (1), pp. 1-12.

Biggs, J. (1999). What the student does: teaching for enhanced learning. *Higher Education, 18* (1), pp.57-75.

Biggs, J., Kember, D., & Leung, D. Y. (2001, March). The revised two-factor study process questionnaire:R-SPQ-2F. *British Journal of Educational Psycology , 71* (1), pp. 133-149.

Boekaerts, M. (1996). Personality and the psychology of learning. *European Journal of Personality, 10* (5), pp. 377-404.

Burton, L. J. and Nelson, L. (2006). The relationships between personality, approaches to learning, and academic success in first-year psychology distance education students. In: 2006 Higher Education Research and Development Society of Australasia Annual Conference, Perth, Australia. Online: http://eprints.usq.edu.au/3210/1/Burton_Nelson.pdf

Dart, B. C., Burnett, P. C., Purdie, N., Boulton-Lewis, G., Campbell, J. & Smith, D. (2000). Students' conceptions of learning, the classroom environment, and approaches to learning. J*ournal of Educational Research*, 93 (4), pp. 262-270.

Diseth, Å. (2007a). Students' evaluation of teaching, approaches to learning, and academic achievement. *Scandinavian Journal of Educational Research,* 51 (2), pp. 185-204.

Diseth, Å. (2007b). Approaches to learning, course experience and examination grade among undergraduate psychology students: testing of mediator effects and construct validity. *Studies in Higher Education,* 32 (3), pp. 373-388.

Duff, A., Boyle, E., Dunleavy, K., & Ferguson, J. (2004). The relationship between personality, approach to learning and academic performance. *Personality and Individual Differences,* 36, pp. 1907–1920

Ellis, R. A., Goodyear, P., Prosser, M., & O'Hara. (2006). How and what university students learn through online and face-to-face discussion: conceptions, intentions and approaches. *Journal of Computer Assisted Learning , 22* (4), pp. 244-256.

Ennis-Cole, D. L., & Lawhon, T. (2004). Teaching, Technology and Support in the New Millennium: A Guide for New Community College Teachers. *Community College Journal of Research and Practice, 28* (7), pp. 583-592.

Entwistle, N. (1997). Reconstituting approaches to learning: A response to Webb. *Higher Education, 33* (2), pp. 213-218.

European Commission. (1991). *Memorandum on open distance learning in the European Community.* Memorandum.

Garnham, C., & Kaleta, R. (2002). Introduction to Hybrid Courses. *Teaching with Technology Today, 8*(6).

Guri-Rosenblit, S. (2005). 'Distance education' and 'e-learning': Not the same thing. *Higher Education, 49* (4), pp. 467-493.

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Haefner, J. (2000). Opinion: the importance of being synchronous. *Academic Writing*. Available at: http://wac.colostate.edu/aw/teaching/haefner2000.htm. Accessed October 12, 2006.
Heinze, A., & Procter, C. (2006). Online communication and information technology education. *Journal of Information Technology Education, 5*, pp. 235-249.
Laurillard, D. (1996). The changing university. *A Forum for the Instructional Technology Community* http://itech1.coe.uga.edu/itforum/paper13/paper13.html Accessed October 12, 2006.
Marton, F., & Säljö, R. (1976). On qualitative differences in learning: I – Outcome and process. *British Journal of Educational Psychology, 46*, pp. 4-11.
Mayya,S.S., Rao, A.K.,& Ramnarayan, K. (2004). Learning approaches, learning difficulties and academic performance of undergraduate students of physiotherapy. *The Internet Journal of Allied Health Science and Practice.* 2 (4). http://ijahsp.nova.edu
Minbashian, A., Huon, G. F., & Bird, D. K. (2004). Approaches to studying and academic performance in short-essay exams. *Higher Education, 47,* pp. 161-176.
Mortera-Gutiérrez, F. (2006). Faculty Best Practices Using Blended Learning in E-Learning and Face-to-Face Instruction. *International Journal on E-Learning, 5* (3), pp. 313-337.
Osguthorpe, R. T., & Graham, C. R. (2003). Blended learning environments. *Quarterly Review of Distance Education , 4* (3), pp. 227-233.
Prosser, M., & Trigwell, K. (1999). Relational perspectives on higher education teaching and learning in the science. *Studies in Science Education*, 33 (1), pp. 31-60.
Prosser, M., & Trigwell, K., & Waterhouse, F. (1999). Relations between teachers‘ approaches to teaching and students‘ approaches to learning. *Higher Education, 37,* pp. 57-70.
Ramsden, P. (1991). *Learning to Teach in Higher Education.* London: RoutledgeFalmer.
Reay, J. (2001). Blended Learning-a fusion for the future. *Knowledge Management Review, 4* (3), p.6.
Riley, R. (2000). *Intel® Teach to the Future Brings Together Microsoft and Other Industry Leaders in Half-Billion Dollar Commitment to Improve Student Learning*. Available at: http://www.csrwire.com/News/58.html Accessed October 12, 2006
Sands, P. (2002). Inside outside, upside downside strategies for connecting online and face-to-face instruction in hybrid courses. *Teaching with Technology Today, 8* (6).
Wong, J. J. (2006). Traditional versus hybrid courses. *International Journal of Learning 13* (8), pp. 163-170.
Young, J. R. (2002). 'Hybrid' teaching seeks to end the divide between traditional and online instruction. *The Chronicle of Higher Education, 48* (28), p. 33.

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