

BARRIERS TO DISTANCE LEARNING AND SOLUTIONS: THE CASE OF TURKISH NATIONAL POLICE

Uzaktan Eğitimin Önündeki Engeller ve Bunlar İçin Çözümler: Türk Polis Teşkilatı Örneği

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Özet

Teknolojideki, özellikle bilgi teknolojilerindeki gelişmeler eğitime bakış açılarını değiştirdi. Bu değişimler, uzaktan eğitim uygulamalarını eğitim faaliyetlerinin önemli bir parçası haline getirdi. Uzaktan eğitimin öğrencilere sağladığı esneklik ile artık öğrenciler arzu ettikleri eğitimleri zaman ve mekana bağlı kalmadan elde edebilmektedirler. Okullar ve üniversitelerle beraber özel ve kamu kuruluşları da yaygın olarak uzaktan eğitimi kullanmaktadır. Benzer olarak, Türk Polis Teşkilatı da mensuplarını uzaktan eğitim kullanarak eğitmektedir. Türk Polis Teşkilatı 2006 yılından bu yana yıllık olarak yaklaşık 5.000 personeline uzaktan eğitim uygulamalarını kullanarak eğitim vermektedir. Uzaktan eğitim, organizasyonlar için bir çok fırsatlar sunmasına rağmen geleneksel eğitim ile karşılaştırıldığında uzaktan eğitimin dizayn, eğitimi, iç disiplin, geri bildirim, tecrübe, teknoloji ve farklı çevre koşulları kaynaklı engelleri vardır. Bu engeller öğrencilerin başarı, performans ve memnuniyetlerini etkilemektedir. Türk Polis Teşkilatı önemli derecede kaynaklarını uzaktan eğitim için harcamaktadır. Bu kaynakların kazanca dönüştürülmesi için Türk Polis Teşkilatının uzaktan eğitimin bu engellerini elimine etmesi gerekmektedir. Bu engelleri elimine etmek ve uzaktan eğitimin etkilerini artırmak için çözümler vardır. Bu makale, Türk Polis Teşkilatının dikkatini çekmek amacı ile uzaktan eğitimi ve uzaktan eğitime engel unsurları analiz etmektedir. Ayrıca, bu makale uzaktan eğitimin engellerini elimine edecek ve uzaktan eğitimin etkinliğini artıracak çözümler de sunmaktadır.

Anahtar Kelimeler: Uzaktan Eğitim, Engeller, Türk Polis Teşkilatı, Aktif Öğrenme, Teknoloji.

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Abstract

New developments in technology, particularly the information technology, have changed the perception of learning. These changes have made distance learning (DL) an important part of education. DL has become an alternative to traditional face-to-face learning. DL provides flexibility for students; thus, they can obtain desired education without being dependent to time and locations. In addition to schools and universities, public and private organizations widely use DL. Similarly, the Turkish National Police (TNP) trains its members via DL. Since 2006, the TNP annually trains 5.000 members using DL applications. Although DL provides many opportunities for organizations, when it is compared with the traditional classroom learning, different environment of DL contains some barriers including environment of DL, self-direction, design, instructor, communication, feedback, experience, and technology. These barriers can influence performance, success, and satisfaction of students. The TNP has invested a great amount of resources in DL. To make these investments worthy, the TNP should deal with these barriers. To eliminate the barriers to DL and to improve DL effectiveness, solutions are available. This article analyzes DL and its barriers to take attention of the TNP. In addition, this article provides some solutions to eliminate the barriers and to obtain more effective and efficient learning from DL.

Key Words: Distance Learning, Barriers, Turkish National Police (TNP), Active Learning, Technology.

Introduction

New developments in technology, particularly the Information Technology (IT), have changed the perception of learning. These changes have made distance learning an important part of education (Tham and Werner, 2005:16). Almost every university has a distance learning system in the United States (Dennen, 2005:128). Besides higher education institutions, schools make online courses available to K-12 students in the United States (Hiltz et al., 2005:160). In order to attend a master or a PhD program, it is not necessary to be in a university facility anymore. Moreover, it is possible to take courses from any university even if it is located out of the country (Hiltz and Turoff, 2005). The number of distance courses provided by universities is increasing continuously. The National Center for Education Statistics (NCES) (2002) reported that almost 56% of educational institutions offer distance learning options in the United States, and 12% of them will provide distance learning in the near future.

According to NCES (2002), 3,077,000 students took 127,400 online courses in 2001. Following their American counterparts, universities in Turkey have been serving distance learning opportunities for both graduate and undergraduate students for the last three decades. The pioneer of them was Anadolu University, which have embarked on serving the distance learning opportunity in 1982 (Can, 2004:5).

Distance learning (DL) is extremely valuable for the people who are not generally able to attend classes on campus (Mayzer and Dejong, 2003:38). Online learning gives these people, who are restricted by their full time or part time jobs, family responsibilities, and time or location hindrances, the opportunity to obtain and complete their desired education (Zirkle, 2001:39). A married woman working full time, for instance, can acquire and complete a PhD program in her house through the flexibility offered by DL. According to Zengin (2007), United Nations (UN) benefits these great opportunities provided by DL to train their thousands of members from different UN missions in various foreign countries. Police organizations in the United States including Federal Bureau of Investigation (FBI) commonly utilize DL to improve police officers work knowledge and skills.

Similar to other public and private organizations in Turkey, Turkish National Police (TNP) is aware of the importance of DL. The Department of Training of the TNP has provided DL for the members since 2006. Annually the department trains approximately 5,000 personnel through DL, and it has trained more than 20,000 personnel in total by the current day. In addition to the Department of Training, other departments use DL for their particular trainings. Members of the TNP have positive perceptions and experience with DL. Zengin (2007) found that both trainers and trainees in the TNP supported DL applications.

Although DL facilitates learning and alleviates difficulties of learning, DL requires some particular cares to obtain effective learning. DL is qualitatively different from face-to-face traditional learning (Dennen, 2005). Mayzer and Dejong (2003:38) emphasized that DL has a completely different environment than a traditional classroom. This different environment of DL creates various barriers to learning. For an effective and efficient learning these barriers should be eliminated. When we take into account the widespread usage of DL in educational organizations, the elimination of these barriers is vital.

Students taking DL courses can suffer from several problems. Studies found that students of DL experience several barriers, such as technological difficulties, insufficient communication, and feedback (Moore, 1991:3; Berge and Muilenberg, 2005). Because of these barriers students can feel discouraged, uncomfortable, and isolated (Dennen, 2005). Also previous research studies reported that these barriers affect the quality of learning, learners' satisfaction and learners' performance (Berge and Muilenberg, 2005:42).

TNP invested its great amount of resources in DL. To make these investments worthy, the TNP should deal with the barriers to DL. Zengin's (2007) findings showed that trainers teaching online in the TNP were affected by the barriers of DL and they needed assistance to improve their skills and knowledge on DL.

This article analyzes DL and its barriers to take attention of the TNP. In addition, this article provides some solutions to eliminate the barriers and to obtain more effective and efficient learning from DL. In this regards, this article, first, describes DL and compares DL with the traditional learning. Second, the article explains the major barriers to DL, which have been reported in the recent research studies. Finally, the article provides several solutions for DL instructors in the TNP against barriers to DL.

1. Definition of Distance Learning

DL also is named as Online Learning or e-learning. As different from traditional face-to-face learning, DL does not require presence of a teacher. In common version of DL, students connect a computerized DL system using their computers to reach sources, such as text, audio, or video resources, of learning from anywhere available. Thus, students of DL are free from the boundaries of face-to-face learning. They do not have to be in an exact place at an exact time in an exact form.

The first DL application started in 1995 (Van Dam, 2004). After 2002, DL has become widespread. New development in IT and the decreases of the costs computer hardware and software accelerate usage of DL. Today, most of the educational institutions use some types of DL.

In accordance with their characteristics, the types of DL are classified under three groups as synchronous, self-directed, and asynchronous DL. In the type of synchronous DL, which is very similar to traditional learn-

ing, students gather on an exact time and interact with their instructor and other students (Henderson, 2003). In the type of self-directed DL, students are provided all required learning materials, which students use for learning without communication to instructor and other students. Asynchronous DL carries the characteristics of both synchronous and self-directed DL. In this third DL type, students can interact with both instructors and other students, but not synchronously. They can e-mail, text messaging, or other tools for communication (Waggoner and Christenberry, 1997:3).

1.1. Comparison of Distance and Traditional Learning

Because DL has become an important education phenomenon, researchers have compared DL with traditional face-to-face learning in hundreds of studies. Although findings from these studies differ, the majority of the results articulated that there is no significant difference between them in learning (Bernard et al., 2004:381). One of the most known studies comparing the effectiveness of online and traditional learning was conducted by T. L. Russell (1999). He examined 355 different studies and concluded that there is no significant difference between the effectiveness of online and traditional learning. Recent studies have supported the findings that there is no difference between DL and classroom learning, too (Mayzer and Dejong, 2003:37; Peterson and Bond, 2004). Thirunarayanan and Perez-Prado (2002) found that although there was not a statistically significant difference between the achievements of online and face-to-face groups, performance of the students in the online group was better than other students in the traditional class.

The other scholars evaluated studies on this topic. In the words of Bernard et al (2004:416), the abovementioned studies did not have adequate “quality and internal validity”. Moreover, they lacked the information to lead policy makers and practitioners. Although the earlier studies resulted in that “no significant difference”, it was not easy to compare the effectiveness of DL and traditional learning. The outcomes of both styles of learning are affected by different pedagogical and technological elements. Additionally, they articulated that researchers were prone to publish only the positive findings of the studies, because DL is seen as an alternative educational method. Briefly, studies say that there is no significant difference between the effectiveness of online and traditional

learning; however, DL and traditional learning do not have the same characteristics (Mayzer and Dejong, 2003).

1.2. Distance Learning and Traditional Learning are Different

DL has the same principles of teaching and learning as traditional learning (Dennen, 2005), and a great number of the studies point out that there is not a difference between the effectiveness of DL and traditional learning (Bernard et al, 2004:415). Nevertheless, DL is qualitatively different from face-to-face learning (Dennen, 2005). Mayzer and Dejong (2003) emphasized that DL has a completely different environment than a traditional classroom. Technological tools mostly constitute this different environment, and it has not been clear yet whether these tools respond to the student needs. Moreover, there is not sufficient empirical evidence showing that new technologies increase the students' gains. When it comes to students' preferences, some students are not willing to take DL courses. According to Hiltz, and Turoff (2005:61), almost 15% of the students want to participate in a traditional classroom because they believe they gain most in that environment. Since some factors affect students in the online learning environment, they feel less comfortable. These factors are the barriers to online learning.

2. Barriers to Online Learning

Scholars have argued different factors regarding the barriers to online learning. Moore (1991) proposed that several factors such as interaction, course structure, and learner autonomy affect the learning in DL. Interaction can be evident in three types: interaction with content, interaction with instructors, and interaction with classmates (Moore 1989). Interaction with content is related to the technological barriers; interaction with instructors is related to the barrier of design, communication, and feedback; and interaction with classmates is related to communication and discussion barriers. Similar to Moore (1991), Tham and Werner (2005) found that the success of DL depends on three elements: technology, the institution, and students. Bernard et al (2004) named these factors in detail. According to them, students' performance and satisfaction are affected by instructional design, student motivation, feedback and encouragement, direct and timely communication, and perception of isolation. Berge and Muilenberg (2005:29-39) added some other barriers to this list:

administrative issues, social interaction, academic skills, technical skills, cost and access to the Internet, and technical problems.

If these factors affecting students' performance and satisfaction are examined and understood well, it can be possible to improve the environment and design of DL (Howland and Moore, 2002:183-188). It can also be possible to increase the student and instructor satisfaction and performance (Berge and Muilenberg, 2005). A great number of studies deeply examined these factors influencing performance and satisfaction of learners. Each barrier is presented in detail below.

2.1. Environment of Distance Learning

DL has a different environment from a traditional classroom. Generally, learners attending DL courses are in their home alone in front of their personal computer. Because learners do not see others and their non-verbal communication, learners can feel comfortable explaining their opinions without feeling shy or afraid. However, DL learners are very vulnerable to any kind of interruption in their homes (Stine, 2004:50). In a home environment, kids, pets, parents, and other personal responsibilities can keep the learners from concentrating on their DL courses. Stine (2004) argued that DL learners need more self-direction and motivation than face-to-face learners.

2.2. Self-Direction

According to Candy (1991), personal differences become more important for DL. He argued that because learners vary in their self-direction, they have different experiences in DL courses when they compare to the face-to-face courses. In accordance those who are more self-directed are more successful, and vice-versa. Findings of Howland and Moore (2002) showed that the success of DL learners depends on their self-management, self-reliance, and accurate expectations of learner responsibilities. Because of this reason, Garrison (1997:33-37) emphasized that instructors must be closer to the DL learners to improve their motivation. Otherwise, the barrier of self-direction causes failure for some learners.

2.3. Design

Because learners experience the unusual environment of DL courses, the design of the courses can affect the performance of the learners. The success of DL depends on its design (Peterson and Bond, 2004). Swan (2001:307) reported that the satisfaction and learning of students are affected by clarity of design, interaction with instructors, and active discussion among course participants. Similarly, Dennen (2005) articulated that since first impressions are important, in order to encourage DL learners, courses must have a facilitative and appropriate design. Additionally, he pointed out that learners could reach instructors easily and without delay. In order to provide punctual communication, chat rooms and discussion boards should be utilized. The quality of design is also influenced by the institutional factor. Institutions should spend more money to obtain sophisticated online environments and provide training for teachers to improve themselves regarding distance teaching (Zirkle, 2001).

2.4. Instructor

Because learners and instructors are physically separated from each other in the DL environment (Huang and Liaw, 2004:125), instructors directly influence the quality of DL and the satisfaction of learners (Mayzer and Dejong, 2003). According to Coppola, Hiltz and Rotter (2001), instructors have three roles in their teaching: cognitive, affective, and managerial. The cognitive role is the most important role for DL. The presence of the instructor in any DL course discussion improves the quality of dialogue (Dennen, 2005). The reason for a student's selection of face-to-face learning is such an instructor who provides an atmosphere in which students and the instructor interactively communicate (Mayzer and Dejong, 2003). The lack of an immediate response from an instructor in DL can discourage DL learners. The instructor has three characteristics in a DL course: Technological, pedagogical, and social. The instructor, in his/her technological role must be familiar with the software and hardware of DL technology. Additionally, in his or her pedagogical role, the instructor must be an innovator to attract learners to DL. Finally, the social role of the instructor requires a friendly relationship with learners to improve the satisfaction of learners in the environment of DL. Regarding the quality of DL, Stine (2004) emphasized that instructors should be zealous in establishing, teaching, and improving his or her knowledge about DL. Additionally, despite the fact that DL makes it harder to know learners,

instructor must be knowledgeable about student characteristics and vulnerabilities (Hillesheim, 1998:34).

2.5. Communication and Feedback

In traditional learning, instructors and learners see each other, their faces and their eyes, and hear each others' voices. There is a direct communication in this environment. Feedback from the instructor and learners is immediate. Unlike traditional learning, DL learners generally cannot see others, and do not hear each other's voice. To communicate with others and the instructor, technological tools such as chat rooms and discussion boards are used. When a student, for instance, sends an e-mail to the instructor, or sends a message to the discussion board, she or he has to wait for the response. Bates (1991:10-14) pointed out that all type of learning need students-teachers communication. According to him, because DL does not have adequate communication between learners and instructors, learners who need instructor's guidance might fail. In the DL environment, which does not have conditions for face-to-face interaction and physical socialization, learners feel isolated (Dennen, 2005). Because of this feeling, learners might not perceive themselves as learners (Galusha, 1998). Dennen (2005) articulated that immediate and substantive feedback of instructors can make learners more comfortable. Appropriate levels of feedback from the instructor and other learners can increase motivation of learners.

On the other hand, the unnatural face of communication tools of DL brings some advantages. Tham and Werner (2005) reported that online communication tools provide opportunities for learners to express themselves without any negative feelings such as shyness, fear, and feeling discriminated against because of their gender, race, or nationality. Additionally, Levin et al., (1990) argued that dialogues are more democratic and academic in DL environment because every learner participates, and they think when they are writing and they check their writing before sending. Also the findings of Swan (2001) and Conaway, Easton, and Schmidt, (2005) showed that interactions between instructors and learners in asynchronous DL are equal to or more than a traditional learning environment.

2.6. Technology

Because the content of DL contains technological tools, technology is one of the main barriers for students who do not have the proper skills (Swan, 2001). The most crucial problem for students is difficulty with DL technology (Thomerson and Smith, 1996). These kinds of problems keep the learner away from DL courses, and decrease their participation (Comeaux, 1995:354).

When a student attends a DL course, she or he has to learn using technology as far as the content of the courses (Stine, 2004). That is why she or he needs to spend more time for this course. Tham and Werner (2005:37-43) reported that DL learners consume more time than traditional students to read and research in order to fulfill the necessary requirement of the courses. A 10-minute face-to-face discussion in the classroom can become a 4-5 day online discussion in such courses because of its asynchronous characteristics (Howland and Moore, 2002). Another time-consuming process is the nature of computers. Any problem related to computer causes time lost, such as the Internet disconnection, power outage, and loss of data. Besides time, learners have to spend more money for DL courses (Zirkle, 2001). At the least, they have to spend money to obtain personal computers and the Internet connection.

Huang and Liaw (2004:130) pointed out that success rate in DL is proportionate to the comfort level of DL learners with technology of distance education. For this reason, they offered, institutions must provide simple technical support systems. Additionally, instructors must be aware of personal differences of students regarding technological difficulties, so that they can help such learners (Huang and Liaw, 2004).

2.7. Distance Learning Experience

DL experience is another factor that can change the effect size of the barriers. In their study, Berge and Muilenberg (2005) found that students who did not have any DL course earlier are more influenced by the barriers to DL. For the students who took even a single DL course, the effect size declines sharply.

In sum, because DL has become an alternative to traditional face-to-face learning, many research studies have been conducted to measure its effectiveness. The majority of these studies reported that there is no sig-

nificant difference between effectiveness of DL and traditional learning. However, these two types of learning are naturally different. When it is compared with the traditional classroom learning, different environment of DL contains some barriers, which can influence the performance and the satisfaction of online learners. In the literature, barriers to OL are generally articulated as environment of DL, self-direction, design, instructor, communication, feedback, experience, and technology (Bernard et al, 2004; Moore, 1991; Tham and Werner, 2005). Studies have consistently shown that these barriers have effects on the performance and the satisfaction of DL (Berge and Muilenberg, 2005).

3. Recommendations for Improvement of Distance Learning Effectiveness

To eliminate the barriers to DL and to improve DL effectiveness, solutions are available. In order to teach students effectively in DL environment, techniques of active learning and experiential theory should be used as they are used in traditional classroom learning. Techniques such as classroom discussion, case study, simulation, game, and participation are necessary to make a DL course effective. TNP should use similar solutions or generate its own solution to increase its DL courses' effectiveness and to make their investments in DL worthy. These solutions can be separated into two groups: recommendations for before distance courses begin and recommendations for while distance courses are being taken place.

3.1. Recommendations For Before Distance Courses Begin

Instructors are key factors of DL. Adequate level of knowledge and experience of instructors on DL are more likely to make DL more effective (Stine, 2004). Therefore, before distance courses begin, instructors should acquire sufficient knowledge and skill to design a distance course and to teach online (Zirkle, 2001). Additionally, instructors should obtain adequate information about students' characteristics and their DL experiences (Hillesheim, 1998:33). Also, instructors should generate solutions to build relationships with students. Instructors should follow the recommendation below before a distance course begin.

Ten days before a distance course starts, instructors should send a course pack to the learners via e-mail. This pack should contain four parts: introductory information, the course syllabus, a survey, and a help file. In the introductory information, instructors should introduce themselves to the learners. They should tell about their background, particularly regarding the course. Also, they should provide a video file in which they should casually describe themselves in a natural setting. This video file should be used as an icebreaker. In the introductory information, they should ask the learners to visit the course's website, introduce themselves, write their background information and experiences regarding the course subject, and put a voice file in which every student tells about themselves. They should encourage the learners to put their picture in the course's website. The learners can then see the others and their information and can hear others' voices. Thus, they will not feel as disconnected. Also, they will be ready for the course.

In the course syllabus, instructors should give detailed information about the course. Everything about the course should be clear. Nothing should be left ambiguous. Instructors should tell about the goal and objectives of the course. Additionally, the contents of the course should be given to the learners with the time schedule. All of this makes the learners prepared for the course. The information about required readings, assignments, how instructors grade, and the scale for grading should be provided in the syllabus. Instructors should give other resources related to the course such as books, journals, and website links. Finally, they should provide e-mail addresses and telephone numbers for communication and they should be punctual to respond to e-mails.

The third part in the course pack should be a survey, which measures the technological skills of the students. Because DL requires an exact level of technological skill, knowing the learners' level of skill is important for instructors. If the students possess insufficient technological skill, this can affect their performance and satisfaction with the course. According to the results of this survey, instructors should redesign the distance course. Also, instructors should provide additional assistance to the students who have limited technological skill and who are novices to DL. They should individually talk with the students who have difficulties.

The final part of the course preparation pack is a help file, which explains how to use the website effectively. The students who are older are more likely to be less familiar using DL technology. This help file im-

proves their skills to use the website and they do not feel as alienated. The language of the help file should be simple, and colorful graphics support this simple language.

3.2. Recommendations for While Distance Courses are Being Taken Place

Development of policies for DL itself is as important as policies before the DL begin. Policies for this stage should deal with the design of DL. Peterson and Bond (2004) emphasized that the design of a DL course has a key role in its success. Also, learners' satisfaction mostly depends on the design of a DL course (Swan, 2001). Beside the design, policies taking care of communication tools for DL should be developed. Immediate and substantive feedback of instructors makes DL students more comfortable and motivated. Thus, students are less likely to feel isolated or alienated. Instructors should follow the recommendation below during a distance course to make it more effective and successful.

Because the design of a course affects the quality of learning and the learners' performance, instructors should design an appropriate DL website. The colors, fonts, and font sizes of the website should be appropriate for the course and they should show up clearly on computer screen. If the learners are satisfied with the web site, they want to visit it again. Thus, they learn well.

In addition to the required books, instructors should provide some power point presentations and video files about the course which supports the course materials. To take attention of students, these additional course resources should be real life examples about the course subject. Also, they should be funny and interesting. Instructors should provide some useful links for the learners about the course. All of these efforts engage students with the course's website.

The main activity for the DL course should be class discussion. Instructors should be one of the students, not a lecturer. Several kinds of discussion types can be used: First, regarding the scheduled readings, instructors can provide two discussion topics for each week. The students can explain their own opinions related to the topic. Instructors should encourage them to tell their experiences during the discussion. As a reflection activity, instructors should ask them what they feel about the

topic and whether they agree with the readings or not. Instructors should explain their opinions regarding the topics, too. All of these occur asynchronously in the discussion boards. The second discussion type can be a synchronized discussion once a week. In a live chat room every student discusses the topic over the course of one hour. Instructors should use a microphone and a webcam for this synchronized discussion, and invite everyone to do the same. The final discussion type can be a team discussion. Instructors should divide the students to two equal groups, and give them a case study, which might be a problem-solving story about the course subject. Instructors should want each group to produce solutions for the problem and defend their solutions. These discussions are more likely to make the course more effective. Instructors should follow the discussions and participate into them. These discussions should be use as a part of grading system.

Another course activity can be role playing. For this, instructors should produce scenarios. In accordance with these scenarios about the course subject, every student has a role. Each student evaluates and discusses the subjects in his or her role's point of view. Students' performance in the role playing can be another criterion for student assessment.

The final activity for the learners can be a class assignment, which is another source of students' feedback. For this assignment, instructors should ask the students to write a 10-15 page paper in which they explain how they would transfer their learning into their work place. For instance, the students can detect some problems in their departments and they can explain how their learning from the course helps to solve these problems. This paper can be turned in at the end of the course, so it is a kind of review of the course.

At the end of the course every learner should get a grade. Then, two questions should be discussed with the students to enhance retention and transfer: "How did the information taught in the course change your knowledge regarding the subjected area?" And "how are you going to use this information in your own work place?"

Conclusion

The TNP is a grandiose organization with it's around 200,000 members. In order to improve police services quality and the members' performance, the TNP strives for presenting plenteous educational and training

opportunities, one of which is DL. As abovementioned, the TNP annually trains approximately 5,000 members using DL since 2006, and in excess of 20,000 personnel have been trained by the current day. The number of organizations providing DL and students obtaining DL increase continuously (Dennen, 2005; Tham and Werner, 2005). In addition, contemporary modalities in the educational realm indicates that DL applications will be pervasive in the near future. In other word, the TNP is more likely to use DL applications for its members' trainings. On this account, the TNP should follow some careful steps. In light of the information given in this article, following recommendations shall be presented.

First, the TNP should generate a DL policy, which encompasses all aspects of DL in terms of police officers' characteristics and training needs. This policy should cover all the requirements and necessities to have a capable DL system.

Second, a particular department in the TNP, mostly likely The Police Academy, should establish and manage the DL system. Prior to the establishment, this department can study prominent universities regarding DL to investigate and emulate their DL applications in Turkey and even in foreign countries.

Third, the TNP should build a comprehensive DL system, which can reflect every needs of DL in the TNP effectively and efficiently. The case studies expressed in the second recommendation can be conducive to establish this DL system.

Fourth, the TNP should design DL courses in accordance with the information given in this article. The information can also be helpful to employ and train apposite DL instructors. It should not be forgotten that DL is qualitatively different from face-to-face traditional learning (Dennen, 2005). Cautions emphasized in this article can help to eliminate barriers to DL. Therefore, successful and efective training obtained from DL for police officers would be more probable.

To sum up, in the last two dacades, appeal for education have inreased enourmously and under the auspices of fast technological improvements DL have emerged as an valuable educational apparatus to cover individuals' needs. Thus, DL has become an alternative of traditional face-to-face learning. However, these two types of learning are naturally different. When it is compared with the traditional one, the different environment of online learning contains some barriers which influence the perform-

ance and the satisfaction of online learners. As an organization commonly using DL to train their employees, the TNP should deal with these barriers. To cope with these limitations, instructors in the TNP need to improve the quality and effectiveness of DL. Meticulous planning and design of DL can enhance the benefit from DL in the TNP.

References

- Bates, Tony, (1991), "Third generation distance education: The challenge of new technology", *Research in Distance Education*, 3, pp.10-15.
- Berge, L. Zane and Muilenberg, Y. Lin, (2005), "Student Barriers to Online Learning: A factor analytic study", *Distance Education*, 26, pp. 29-48.
- Bernard, Robert; Abrami, C. Philip; Lou, Yiping; Borokhovski, Eugene; Wade, A.; Wozney, L.; Wallet, P. A. and Fiset, M., (2004), "How Does Distance Education Compare With Classroom Instruction? A Meta-Analysis of the Empirical Literatures", *Review of Educational Research*, 74 (3), pp.379-439.
- Can, Ertuğ, (2004), "Uzaktan Eğitim Öğrencilerinin Eğitimlerini Değerlendirmeleri", XIII. Ulusal Eğitim Bilimleri Kurultayı.
- Candy, Philip, (1991), *Self-Direction for Lifelong Learning*, San Francisco: Jossey-Bass.
- Comeaux, Patricia, (1995), "The Impact of an Interactive Distance Learning Network on Classroom Communication", *Communication Education*, 44, pp.353-361.
- Coppola, W. Nancy; Hiltz, Roxanne S. and Rotter, Naomi, (2001), Building trust in virtual teams, Proceedings of IEEE International Professional Communication Conference, IPCC 2001. Piscataway, NJ., pp.353-366.
- Dennen, Vanessa P., (2005), "From Message Posting to Learning Dialogues: Factors Affecting Learner Participation in Asynchronous Discussion", *Distance Education*, 26, pp.127-148.
- Galusha, Jill, (1998), *Barriers to learning in distance education*, Hattiesburg, MS: The University of Southern Mississippi (ERIC Document Reproduction No. ED 416, 377).

- Garrison, Randy D., (1997), "Self-Directed Learning: Toward A Comprehensive Model", *Adult Education Quarterly*, 48, pp.18-33.
- Henderson, Allan J., (2003), *The e-learning question and answer book: A survival guide for trainers and business managers*, New York: AMACOM Books.
- Hillesheim, Gwen, (1998), "Barriers and Strategies for Students and Faculty", *Internet and Higher Education*, 1, pp.31-44.
- Hiltz, Starr R. and Turoff, Murray, (2005), "Education Goes Digital: The Evolution of Online Learning and The Revolution In Higher Education", *Communications of the ACM*, 48, pp.59-64.
- Howland, Jane L. and Moore, Joi L., (2002), "Student Perceptions as Distance Learners in Internet-Based Courses", *Distance Education*, 23, pp.183-195.
- Huang, Hsiu-Mei and Liaw, Shu-Sheng, (2004), "Guiding Distance Educators in Building Web-Based Instructions", *International Journal of Instructional Media*, 31, pp.125-138.
- Levin, James; Kim, Haesun; and Riel, Margaret, (1990), "Analyzing instructional interactions on electronic messaging Networks", in L. Harasim (Ed.), *Online education: Perspectives on a new environment* New York: Praeger.(pp.185-213).
- Mayzer, Roni and Dejong, Christina, (2003), "Student satisfaction with distance education in a criminal justice graduate course", *Journal of Criminal Justice Education*, 14, pp.37-52.
- Moore, Michael G., (1991), "Editorial: Distance education theory", *The American Journal of Distance Education*, 5, pp.1-6.
- National Center for Education Statistics, (2002), *Distance Education at Degree-granting Post Secondary Education Institutions: 2000-2001*, U.S. Department of Education, Office.
- Peterson, Cynthia L. and Bond, Nathan, (2004), "Online Compared to Face-to-Face Teacher Preparation for Learning Standards-Based Planning Skills", *Journal of Research on Technology in Education*, 36, pp.345- 360.

- Russell, Thomas L., (1999), (*The no significant difference phenomenon as reported in 355 research reports, summaries and papers: a comparative research annotated bibliography on technology for distance education,*) Raleigh, NC: Office of instructional Telecommunications, North Carolina State University.
- Stine, Linda, (2004), "The Best of Both Worlds: Teaching Basic Writers in Class and Online", *Journal of Basic Writing*, 23, pp.49-69.
- Swan, Karen, (2001), "Virtual interaction: Design factors affecting student satisfaction and perceived learning in asynchronous online courses", *Distance Education*, 22, pp.306-331.
- Tham, Chee M. and Werner, Jon M., (2005), "Designing and Evaluating E-Learning in Higher Education: A Review and Recommendations", *Journal of Leadership and Organizational Studies*, 11, pp.15-25.
- Thomerson, Jim D. and Smith, Clifton L., (1996), "Student Perceptions of the Affective Experiences Encountered in Distance Learning Courses", *The American Journal of Distance Education*, 10, pp.37-48.
- Van Dam, Nick, (2004), *The e-learning fieldbook*, New York: McGraw-Hill Co.
- Waggoner, Kim and Christenberry, Tom, (1997), "Virtual learning: Distance education for law enforcement", *FBI Law Enforcement Bulletin*, 66, pp.1-8.
- Zengin, Selçuk, (2007), *E-learning and in-service training: an exploration of the beliefs and practices of trainers and trainees in the Turkish national police*, Retrieved November 18, 2008, from <http://digital.library.unt.edu/permalink/meta-dc-3895:1>.
- Zirkle, Chris, (2001), "Access Barriers in Distance Education", *Contemporary Education*, 72, pp.39-42.