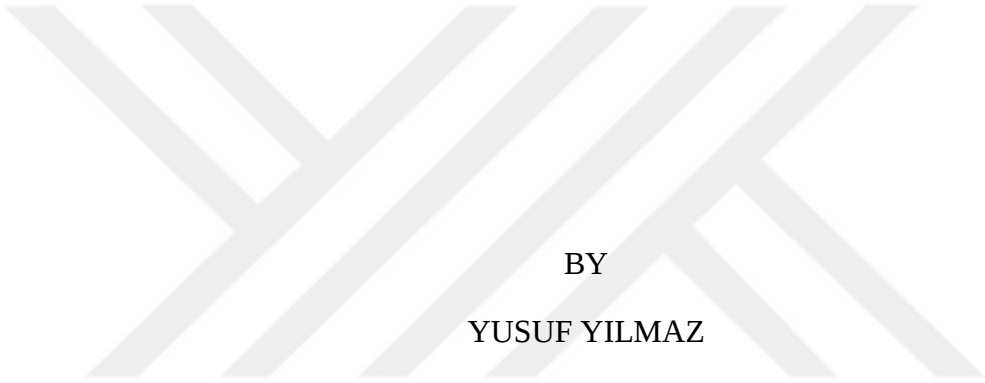


A BLENDED LEARNING APPROACH TO FACULTY DEVELOPMENT IN
MEDICINE: THE EGE UNIVERSITY CASE

A THESIS SUBMITTED TO
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BY
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Approval of the thesis:

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MEDICINE: THE EGE UNIVERSITY CASE**

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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ABSTRACT

A BLENDED LEARNING APPROACH TO FACULTY DEVELOPMENT IN MEDICINE: THE EGE UNIVERSITY CASE

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Faculty development programs play an important role in higher education. Within such programs, medical teachers can acquire competencies with regard to facilitating their students' learning processes. The purpose of this study was to develop, implement, and evaluate blended learning courses for teaching improvement through faculty development programs; and to examine and to describe the participation, satisfaction, and perception of medical teachers toward blended learning. With this aim in mind, four research questions were addressed in the study. Multiple-case study research design was utilized in order to grasp a holistic understanding toward a blended learning faculty development program. Using the blended learning approach, faculty development courses were designed, developed and implemented based on the Four-Component Instructional Design (4C/ID) model. Implementation was evaluated in terms of participation, satisfaction, and attainment. The study group consisted of 26 participants, with 14 medical teachers in Case 1 and 12 in Case 2 from different departments of the Faculty of Medicine at a Turkish university. Data were collected and analyzed using quantitative and qualitative methods, and discussed by merging. While face-to-face (f2f) sessions were almost fully attended, participation and the use of online

activities were partially attended. It was determined that participant workload was the most significant reason for this differential. According to the pre- and post-survey results, participants perceived that they improved in all learning outcomes. It was identified that lack of time was the most important barrier for medical teachers against their participation and usage, and that having goals for personal development and obtaining skills in teaching were essential motivators to their participation and usage. A consensus was found for supporting courses of faculty development programs through e-learning. Where online courses were not supported with f2f sessions; it was expressed by the participants that this could negatively affect their participation and learning tasks necessary to complete the course. The participants stated that the preferred modular course planning and heavily f2f-driven blended learning course designs.

Keywords: Blended Learning, Faculty Development, Program Evaluation, 4C/ID, Medicine

ÖZ

TIP FAKÜLTESİNDE EĞİTİCİ GELİŞİMİNE KARMA ÖĞRENMEYLE BİR YAKLAŞIM: EGE ÜNİVERSİTESİ ÖRNEĞİ

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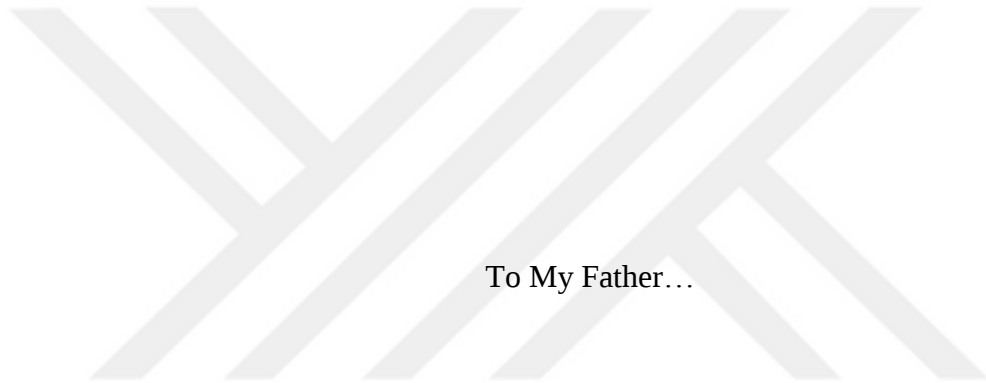
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Eğitici gelişimi programlarının, kaliteli yükseköğrenim için önemli bir yere sahip olduğu düşünülmektedir. Bu programlarda eğiticiler öğrencilerin öğrenme sürecini kolaylaştırıcı rollerle ilgili yeterlikleri kazanabilmektedirler. Bu çalışmanın amacı, tıp eğiticilerinin öğretim becerilerinin gelişimi için düzenlenen temel eğitici gelişimi programı kapsamında karma öğrenme yaklaşımıyla ders tasarlamak, uygulamak, değerlendirmek ve tıp eğiticilerinin yapılan uygulamaya yönelik algılarını, katılımlarını ve memnuniyetlerini incelemektir. Bu amaç doğrultusunda dört araştırma sorusu ile bu çalışma gerçekleştirilmiştir. Değerlendirmeyi daha kapsamlı yapabilmek için çoklu durum deseni kullanılmıştır. Dersler dört bileşenli öğretim tasarımı modeli zemininde karma öğrenme yaklaşımı kullanılarak tasarlanmış ve uygulanmıştır. Uygulama katılım, memnuniyet ve kazanımlar bağlamında değerlendirilmiştir. Grup 1’de 14, grup 2’de 12 olmak üzere toplam 26 tıp fakültesi öğretim elemanı araştırma grubunu oluşturmuştur. Veriler nicel ve nitel yöntemler kullanılarak toplanmış, analiz edilmiş ve birleştirilerek yorumlanmıştır. Yüz-yüze oturumlara tama yakın katılım sağlanırken, e-öğrenme uygulamalarına katılımın ve kullanımın sınırlı kaldığı, bunun en önemli nedeninin iş yükü olarak gerekçelendirildiği belirlenmiştir. Kurs öncesi ve sonrası anket sonuçlarına göre katılımcılar tüm öğrenme hedeflerinde gelişim gösterdiklerini düşünmektedirler. Tıp

fakóltesi öđretim elemanları için zaman kısıtlılıđının katılım ve kullanımın önünde en önemli engel olduđu, bireysel gelişim ve öđretim alanında belirli becerileri kazanma hedefine sahip olmanın katılım ve kullanım için temel motivasyon kaynakları olduđu belirlenmiştir. Eđitici gelişimi programlarındaki derslerin belirli bir oranda e-öđrenme etkinlikleriyle desteklenmesinin gerektiđi konusunda bir uzlaşma olduđu saptanmıştır. Çevrimiçi derslerin yüz-yüze oturumlarla desteklenmediđi durumlarda; derse katılım ve dersi tamamlamaya yönelik öđrenme görevlerinin olumsuz olarak etkilenebileceđi görüşü katılımcılar tarafından ifade edilmiştir. Modüler ders yapısı ve yüz-yüze eğitim uygulamaların ađırlıkta olduđu karma öđrenme modelinin katılımcılar tarafından tercih edildiđi belirlenmiştir.

Anahtar Kelimeler: Karma Öđrenme, Eđitici Gelişimi, Program Deđerlendirme, 4C/ID, Tıp



To My Father...

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LIST OF ABBREVIATIONS

ABBREVIATIONS

4C/ID:	Four-Component Instructional Design
BFDC:	Blended Faculty Development Courses
CoP:	Communities of Practice
e-Learning:	Electronic learning
f2f:	Face-to-face
FDP:	Faculty Development Program
ICT:	Information and Communication Technology
ID:	Instructional Design
LRC:	Learning Resource Center
MCQ:	Multiple-Choice Question
SCORM:	Sharable Content Object Reference Model

CHAPTER 1

INTRODUCTION

1.1. Background of the Problem

Becoming a faculty member is not only based on one's role as a researcher, but also the ability to convey information as a teacher to the next generation being trained. To be a lifelong learner means keeping your knowledge and skills updated in order to further develop skills as a teacher and as a researcher. Any activity that can help progress one's abilities should be welcomed from the point of development and change. In higher education, faculty members should be supported in their respective roles with formal workplace learning, namely through faculty development programs.

Faculty development programs are offered in many fields such as medicine, dentistry, and engineering (Amundsen & Wilson, 2012; Murray, 2002; Welch, 2011), and can be referred to as professional development, academic development, or staff development (Steinert, 2014b). The varieties in their names and of their academic field brings about different approaches too. The approaches are based on the characteristics of the learners in order to provide improved teaching and learning experiences. Since there are different applications that address the same or similar purposes, for clarity, this current study is concerned with faculty development programs within medical faculties aimed at medical teachers.

Faculty development has become increasingly popular for many fields in higher education, including medical schools, in order to provide better faculty roles. Faculty development has been used to address the various roles of faculty members such as teaching, leadership, scholarship, administration, and research (Steinert, 2014b). Some faculty development programs focus solely on particular faculty roles, while some longitudinal programs address improvement for several faculty roles. Recent decades has seen an emphasis for faculty development programs which has been favored by many faculty developers (Cook et al., 2008). These programs have been reported to have a better effect and improvement in faculty members' roles in higher education (Cook, Garside, Levinson, Dupras, & Montori, 2010). A dramatic example of this was reported by Pololi et al. (2001) in that, prior to taking a faculty development program, faculty members had been anxious and fearful of humiliation in terms of failing the course. After understanding the need to improve their teaching abilities, faculty members may feel more comfortable with faculty development programs and thereby reduce negativities towards such programs.

The results of faculty development programs are seemingly positive (Steinert, 2014b); however, implementation of some faculty development programs have been reported as having many challenges and frontiers (Cook & Steinert, 2013; Steinert, 2010; Steinert et al., 2009). Murray (2002) summarized some challenges for community colleges as a lack of goals and robust teaching methods, low faculty turn-out, and lack of evaluation. From the context of medical faculties, challenges are reportedly increased since the workload is not only based on daily teaching and research activities, but also on clinical duties (Wearne, Greenhill, Berryman, Sweet, & Tietz, 2011). In order to gain a deeper understanding, some of the most significant challenges are briefly presented as follows, based on research results from faculty development literature.

Time commitment (Dyrbye, Cumyn, Day, & Heflin, 2009) is one challenge considered in faculty development program implementations. This not only concerns the duration of the program, but also the time required from medical teachers in order to follow the program; which was raised as a challenge to a successful program. Longitudinal programs may take place from several weeks to a

number of years (Cole et al., 2004; Steinert, Cruess, Cruess, Boudreau, & Fuks, 2007). Therefore, duration could be seen as a crucial issue in order to be able to follow and complete such a program.

Learning styles can also pose a significant challenge to learning in general, as well as learning from a pedagogical or an andragogical perspective. Faculty development programs are as varied as the individuals who attend them from different fields (Zemliansky & Berry, 2017). Thus, programs require the adaptation of teaching methods to the participants in order to address their field of understanding (Behar-Horenstein, Schneider-Mitchell, & Graff, 2009; Dyrbye et al., 2009). Faculty development programs are offered in general for enrolment, meaning they are mostly open to all faculties. Thus, adjusting the teaching and learning methods for individuals can be a considerable and time consuming challenge.

Course-specific curricula and scheduling to meet participants' needs is another common issue for FD programs (Dyrbye et al., 2009). From the faculty developer's perspective, offering varied curricula within the same program can be problematic since the time for course development, and the timetables for both course developers and participants might perceive the design as overwhelming (McLean, Cilliers, & Van Wyk, 2008).

Learners' workload is another issue for FD programs. The programs are offered to participants who are generally actively working as medical teachers as well as having their own healthcare duties. Busy work schedules bring about increased pressures when considering participation in faculty development programs (Wearne et al., 2011). Consequently, the positive quality of a FD program may in fact have a negative effect on the involvement of a learner.

The current literature describes faculty development initiatives from different aspects. The current faculty development programs are not working on "why it worked" and "in what circumstances" (Spencer, 2014). The reviews toward faculty development revealed that the research on faculty development focuses on "what works" (Cook & Steinert, 2013; Steinert et al., 2006; Steinert, Naismith, & Mann, 2012). However, the research falls behind in answering the more complex intervention questions of, "Why did the intervention work here and not there?" and

“What is it about it that works for whom in what circumstances?” (Spencer, 2014). To answer such complex questions, qualitative research methodology can be employed in order to obtain a holistic understanding of faculty development programs.

Another problematic issue seen in the current literature on faculty development is lack of theoretical background (Spencer, 2014). Still, which theory, model, or framework will work on the programs is a question for further research. According to Steinert (2011), a combination of theory, model, and framework can be applied to faculty development as good practice. Andragogy, self-directed learning, self-efficacy, expectancy-value theory, constructivist theory, social-cultural theory, and reflective practice are some of the theories, models, and frameworks recommended for faculty development programs (Silver, 2014).

Although there are other challenges mentioned, those stated are the most commonly seen in the literature. In order to overcome these challenges, various instructional approaches in faculty development programs have been conducted such as workshops, seminars, short courses, and fellowship programs (Steinert et al., 2006). The approaches applied to faculty development programs have achieved some successful results, while there are still certain barriers and drawbacks to each approach.

Workshops, for instance, are employed for the active participation of learners. The learners experience active learning and comprehend the knowledge during the program. Leslie (2014) emphasized that workshops can be used especially for career development through intensive development. Likewise, short courses or short series seminars are also very commonly used in faculty development programs, and also used with workshops interchangeably. All of them focus on learners’ knowledge and skills, and changes in behavior and attitude (Steinert et al., 2006). All of these approaches employ face-to-face (f2f) methods in which learners and faculty developers meet on fixed dates. Thus, fixed time and place programs may bring about disadvantages in terms of ability to participate, and thereby a decrease in learning opportunity. Moreover, whilst such conventional methods are of value for faculty members to improve their teaching effectiveness, various drawbacks have

also been reported such as lack of time to attend by clinicians with busy clinical schedules, logistical issues, and having found to lack being rewarding (Steinert et al., 2009). The reported issues are similar to the overall challenges previously mentioned.

In addition to the conventional methods, faculty development programs in an online learning setting have been conducted for the same purposes (Cook & Steinert, 2013). Communities of Practice (CoP) is one example in which online learning has been used in faculty development programs (Sherer, Shea, & Kristensen, 2003). CoP can ease faculty involvement in the academic roles. Moreover, it may sustain long-term faculty involvement as well as active participation in their roles as academics.

Moreover, the broad concepts of online education have also been applied to faculty development initiatives. Chan, Thoma, and Lin (2015) provided MOOCs to faculty members as open resources, including monthly discussions in social networks. Although the content sharing and discussions engaged faculty members, the results of the study were based on descriptive statistics from page views and user interactions. It was seen that where knowledge was gained by users from the discussions, it was less clear that it was then applied in the faculty members' daily lives. Faculty development is considered an ongoing activity for faculty members and should be supported in the long term (Slavit, Sawyer, & Curley, 2003).

Blended learning is a mix of two different approaches, namely f2f and online, into one educational modality (Graham, 2006). Blended learning has the potential to overcome the issues associated with both approaches (Garrison & Kanuka, 2004). F2f education is required at a specific time and location in order to participate in the course. This can be seen as a drawback when workplace education is considered due to participants' schedules and workloads. On the other hand, online learning eliminates issues of lack of time and location logistics. Consequently, it is seen to reduce costs and improve the quality of student learning (Twigg, 2003). However, social interaction and f2f interaction can then be seen as an issue. Since blended learning offers positive aspects of both methods, this could be seen as a potential teaching modality for adult learning.

The results have also indicated that online learning is not an absolute solution since it constitutes lack of participation, technical challenges, isolation from social community, and peer learning (Cook, 2014). Both methods, conventional and online, represent certain barriers to successful and effective faculty development programs. As some research (Cook, 2014; Cook & Steinert, 2013) has pointed out, the blended learning approach has the potential to overcome the reported challenges and provide a better environment for both faculty members as learners and faculty developers.

Online learning in faculty development programs has been employed by many researchers. On the other hand, face-to-face education such as workshops, seminars, and long-term programs has also been implemented in faculty development programs. These initiatives have also been reviewed by researchers (Amundsen & Wilson, 2012; Cook et al., 2010; Cook & Steinert, 2013; Kim, Hwang, Lee, & Shin, 2017; Steinert et al., 2006); however, the results have varied for different aspects of faculty development. Both methods, f2f and online, are favored in different ways for faculty development. Recommendations seen in the literature have been to use blended learning approach in faculty development programs (Brooks, 2010; Cook & Steinert, 2013). Although blended learning is used frequently in other fields of education, blending face-to-face and online education in faculty development programs has only been investigated in a few research studies. Steinert (2010) listed many approaches for faculty development programs in her framework; however, blended learning was not one of those mentioned. Thus, it can be said that there is more work to be done in the faculty development field using blended learning. From this perspective, blended learning shows promise for the faculty development application. However, certain recommendations found in the literature are deemed vital in the development of blended faculty development programs.

Cook and Steinert (2013) recommend blending f2f and online faculty development programs in order to overcome the challenges seen with both approaches. However, how to blend the two approaches within a single faculty development program is unclear in the literature. This current study aims to provide clarity in this problem area, through developing a model for faculty development programs that effectively implements the blending of the two approaches.

To conclude, the variety of faculty development programs to train medical teachers is rich, and employs differing approaches. Evolving technologies has increased the demand for more reachable as well as more satisfactory educational approaches to faculty development programs. Applying blended learning in faculty development and reporting the results of blended faculty development is currently a gap in the literature for the afore mentioned reasons and issues.

1.2. Statement of the Problem

Faculty development is of vital importance for effective education settings in higher education. It is considered an add-on to regular teaching activities and as a means to updating faculty members with regards to their teaching activities. The results are beneficial for students, institutions, and more importantly, for faculty members themselves. From a broad or narrow context, faculty development programs are considered a necessity in medical faculties. The problems associated with successful implementations of faculty development programs can be summarized as follows.

Firstly, supporting online learning has been implemented to faculty development programs in many research studies (Cook & Steinert, 2013). The results have shown that online and f2f delivery means are almost equal in terms of the improvement of faculty members (Cook, 2014). However, the positive aspects of these two environments could also be blended into faculty development programs (Cook & Steinert, 2013). Although there have been some initiatives that support blended learning in faculty development programs, faculty development courses are not specifically designed for the blended learning approach, and therefore there is a need to design such courses using the appropriate learning theory and design model.

Secondly, the theoretical background of faculty development intervention has been studied based on very limited instructional design, delivery, and effect axes within the current published research. Pull and push content show two different angles of learner readiness toward faculty development. The former implies faculty members have a personal need to obtain information; whereas, the latter delivers scheduled learning contents. A balance between these two approaches should be achieved in any progressive model. Moreover, concerns about the lack of instructional design models in FD have been raised in the literature, along with several

recommendations for future research studies. The key questions are “When do faculty members want content?” and “When do faculty members need content?” The answer to these questions may be revealed through the blended learning model with a qualitative research methodological approach.

Thirdly, online and f2f delivery methods have traditionally been applied separately in the delivery of faculty development programs in medical education, while little attention has been paid to blended learning as an approach (Cook & Steinert, 2013). The use of blended learning in faculty development requires further investigation, and the results should be shared and applied to different contexts.

Lastly, the evaluation of FD programs is generally based on self-reporting. Rigorous data collection methods, especially those employing qualitative data sources, have been recommended (Steinert et al., 2006, 2016). Applying different methods of data collection and rigorous data presentation are needed in FD programs.

In summary, solving the problems in faculty development programs requires a deeper understanding of faculty members, and applying different approaches to the problems (e.g., through the application of blended learning). It is thought that the lack of findings for blended learning faculty development courses limits the current literature and requires further investigation.

1.3. Purpose of the Study

The purpose of the current study is to develop, implement and evaluate blended learning courses for teaching improvement in faculty development programs for medical teaching; and to examine and describe the participation, satisfaction and perception of medical teachers toward blended learning courses.

1.4. Significance of the Study

Faculty development programs have the potential to improve faculty members’ teaching abilities. These abilities range from teaching methods and assessment to instructional design etc. Faculty members find the programs beneficial, and their perception and attitudes are positive to the programs (Sorinola, Thistlethwaite, Davies, & Peile, 2015). However, participation rates are low for traditional faculty

development f2f courses. One important reason is lack of time for specified date and time faculty development, especially for clinicians. Because of the fact that blended faculty development requires less time specificity, the more flexible approach to faculty development may contribute to revealing a new approach to overcome the time-based issues associated with FD programs.

Online programs function solely as a remote operation, and f2f programs' durations can be quite lengthy when participants' workloads are considered. Applying just one of these mediums in a program can limit the educational participation, and thereby decrease the success of the program. Successful implementation of blended learning in a faculty development program could transform future designs of such programs.

Next, blended faculty development is offered online and f2f. The f2f component of blended faculty development requires less time in a specific location at a specific time. Participants of the program are mostly free in terms of their location, and can allocate less time compared to the conventional methods. Blended faculty development programs may support faculty members through a better learning experience. With this contribution to the literature, it may be supported that blended learning can improve the quality and ease of implementation of faculty development programs.

The current study is also expected to support the application of blended learning in faculty development programs for medical teachers. The dissemination of the study's results may provide for better faculty development programs to be introduced for faculty developers that employ blended learning. Employing new technologies in support of medical teachers' development could provide opportunities for improved PD program experiences.

The current study will support faculty development literature through its theoretical basis and through the dissemination of its results. Spencer (2014) reviewed studies on faculty development (Amundsen & Wilson, 2012; Steinert et al., 2006, 2012) and higher education (Stes, Min-Leliveld, Gijbels, & Van Petegem, 2010). Spencer (2014) suggested that for future research, it was strongly recommended that faculty development research should base its background on andragogical theory, models

and frameworks, and as a result variables should be examined and cofounded variables should be eliminated.

Cook and Steinert (2013) also conducted a systematic review of research studies with regard to online learning. The results for online learning for faculty development were neither superior nor inferior when compared to traditional classroom delivery. The researchers emphasized the drawbacks of both methods and concluded that blended learning has the potential to address some of the negatives. In the literature, research studies conducted on blended learning faculty development have been few, and there is a need for current up-to-date research on blended faculty development (Cook & Steinert, 2013). The current study is deemed to be of significant importance in providing research results pertaining to blended learning faculty development.

Previous faculty development research has focused on what works in programs. Spencer (2014) pointed out that faculty development programs work within their context, but unanswered questions remain such as, “Why did the intervention work here and not there?” and “What is it about it that works for whom in what circumstances?” Steinert et al. (2006) also suggested how faculty development can change the behavior of faculty members and suggested qualitative studies as a means to a deeper understanding of faculty members’ views. The current study will also provide qualitative results on how and why changes occur for faculty members.

Although there have been substantial efforts to test different design and implementation methods and models (Amundsen & Wilson, 2012; Cook & Steinert, 2013; Steinert et al., 2006, 2012; Stes et al., 2010), there has been no single agreement on evidence that works for faculty development courses aiming to improve teaching competencies of medical teachers. Thus, the current study aims to contribute a blended learning faculty development program as evidence of a successfully functioning approach.

1.5. Research Questions

In the current study, the following research questions were sought to be answered. The questions guided the entire research in order to obtain a deeper understanding of faculty development programs in the blended learning modality.

1. What are the experiences of medical teachers regarding blended learning in faculty development courses?
2. How do medical teachers define the barriers and the motivators for blended learning faculty development courses?
3. What are the possible factors which influence the experiences of medical teachers in blended learning faculty development courses?
4. What are the suggestions of medical teachers with regards to blended learning faculty development courses?

1.6. Definitions of Terms

This section defines and describes the terms used throughout this study. Although other definitions exist for different fields in which the same terms are used, the current study uses terms with the following definitions.

Faculty Development refers to “all activities health professionals pursue to improve their knowledge, skills, and behaviors as teachers and educators, leaders and managers, and researchers and scholars, in both individual and group settings” (Steinert, 2014b, p. 4). In the current study, the teaching role of faculty members is the primary focus. Therefore, mentioning faculty development refers to the teaching skills of faculty members.

Faculty Development Program is a defined eclectic group of courses and activities offered to faculty members in order to improve their teaching skills.

Faculty or Faculty Members are the scholarly employees of the Faculty of Medicine.

Medical Teacher is used synonymously with Faculty Member in the Faculty of Medicine.

Blended Learning is “the thoughtful integration of classroom face-to-face learning experiences with online learning experiences” (Garrison & Kanuka, 2004, p. 96) .

4C/ID is an abbreviation for the *Four-Component Instructional Design* model, where the training blueprint is built upon a backbone of learning tasks to which supportive information, procedural information, and part-task practice are connected (van Merriënboer & Kirschner, 2013).



CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

Rapid knowledge construction in many respective fields has revealed the issue of knowledge transferal to the next generation in an effective and permanent manner. The activities seen in the educational literature are varied, employing different methods and techniques that are combined with new tools in what is termed Educational Technology.

Educators should ensure that they improve their skills in order to become better teachers. Faculty development programs are designed to improve the skills and knowledge of medical teachers in numerous ways. This chapter summarizes the faculty development literature regarding context, scope and approaches that are employed. Moreover, teaching effectiveness is examined with a focus on blended learning, and then moves to the andragogy and 4C/ID model regarding faculty development courses used in blended learning, along with their instructional design and implementation methods.

2.2. Faculty Development

Faculty development, also referred to as staff development or professional development, is defined as “all activities health professionals pursue to improve their knowledge, skills, and behaviors as teachers and educators, leaders and

managers, and researchers and scholars, in both individual and group settings” (Steinert, 2014b, p. 4). From this definition, faculty development not only focuses on faculty members in their role as teachers, but also encompasses other faculty roles within the higher education institution. In other words, the scope of faculty development is very broad, and addresses the variety of faculty roles found within the institution. “Development” is a word that can be perceived as either personal or career-based development (Steinert et al., 2009). In studying faculty development in a narrow field, the current study focuses on faculty members’ roles as teachers and educators. Thus, faculty development refers to the teaching skills of faculty members throughout this study.

The importance of faculty development programs have been emphasized for the past decade. Improving the skills of faculty is vital for a better educational environment. Thus, students will benefit from their teachers by becoming what they see. Especially in medicine, learning from observing, doing and practice are quite common teaching methodologies. New educational modalities bring about new opportunities for learners, and for teachers to become better in their roles. Medical teachers can keep up with the latest procedures via faculty development programs. These programs are offered by institutional boards, departments and more recently by teaching and learning centers. It is clear that faculty development has gained more interest in the establishment of new teaching and learning centers within higher education institutions (Flick, Sadri, Morrell, Wainwright, & Schepige, 2009).

Faculty development programs and activities have been conducted in various settings (Steinert, 2014a). Figure 2.1 presents the so-called three pillars of faculty development (Steinert, 2014b). Context, scope, and approaches to faculty development may summarize the whole research area within this one figure. However, research on the pillars has been extensive; hence, each should be examined separately. Therefore, in the following subsections, each pillar is explained and examined in an international as well as national (Turkey) context.

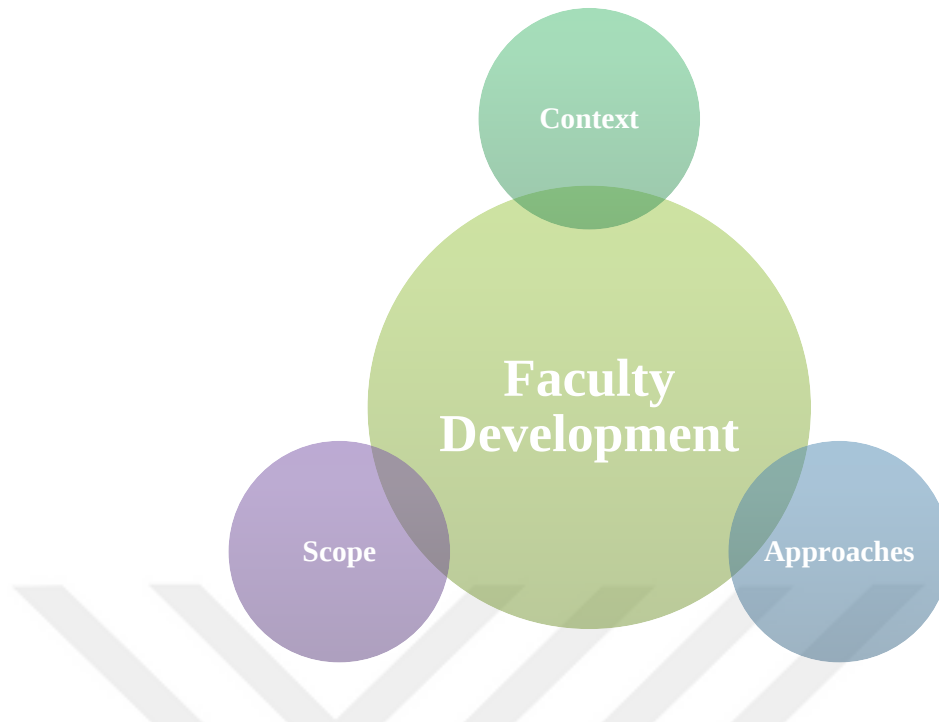


Figure 2.1 Three pillars of faculty development

2.2.1. Context Where Faculty Development Occurs

Faculty members deal with different issues in their workplace. The main arenas for their work takes place in clinics, classrooms, and also in research laboratories (Steinert, 2014b; Swanwick & McKimm, 2010). These places can be located at universities, teaching hospitals, community sites, as well as associations and other organizations (Hueppchen et al., 2011).

Healthcare has dramatically transformed with the help of new knowledge and new technologies, and the changes have increased logarithmically as technologies have advanced. Patients and their families expect and demand more and better quality healthcare (Steinert, 2014b). Continuing professional development is a means to support many healthcare professionals with evidence-based medicinal practices (Curran, Rourke, & Snow, 2010). Thus, the development of medical professionals' content knowledge of their field of medicine results in the provision of better healthcare.

Most members of medical faculties have several roles to fulfil within their daily work such as healthcare, education, and research. These roles bring about different

responsibilities. While clinical science and basic science in medicine have different roles in the faculty, the roles intersect in their teaching and research activities. However, clinical medical teachers may see their primary role as one of healthcare provision (Prideaux et al., 2000).

In Turkey, medical faculties provide undergraduate and graduate level higher education, and also offer healthcare services as well as undertaking research and administrative roles; all of which generate several challenges (Kurdak, Altintas, & Doran, 2008).

Firstly, the administrative role requires full-time work in the faculty with tasks such as staff organization, and the development, maintenance and/or follow-up of course schedules, in addition to other administrative responsibilities.

Secondly, all medical faculty members in Turkey undertake a research role; as a requirement to contribute to the literature and to improve their scholarly skills. Therefore, all faculty members conduct research studies and projects at various levels throughout their faculty careers. They are required to improve their academic standing through following the latest research and techniques in journals, and through publishing new articles etc. themselves.

Thirdly, healthcare services are also provided by clinicians who are faculty members. In other words, faculty members from departments of clinical and surgical science work as healthcare providers, scholars, and also as medical teachers. Moreover, residential education does not provide teaching skills or pedagogical knowledge (Glicken & Merenstein, 2007), in contrast to Ph.D. programs in which several educational courses are taught. Therefore, clinical faculty members have mostly not taken any formal pedagogical courses when qualifying for their roles.

The teaching role is the fourth main responsibility of medical faculty members in Turkey. Medical faculties mainly teach at the undergraduate and graduate levels, with theoretical courses followed by skills-based courses. The number of courses taught by faculty members can be quite considerable (Ege Üniversitesi Tıp Fakültesi, 2016).

When all of the roles of medical faculty members are taken into consideration, it becomes evident that attributing different roles to faculty members may create different settings for the workplace environment. The context for medical faculties in Turkey therefore has several roles attributable to faculty members at the same time.

2.2.2. Scope of Faculty Development

Faculty development aims to improve the various roles of medical teachers at the “individual and organizational level” (Steinert, 2014b, p. 8). These roles form the scope of medical faculty development programs. The literature can be summarized as teaching improvement (Hodgson & Wilkerson, 2014), leadership and assessment (Spencer & Jordan, 2001; Swanwick & McKimm, 2014), research and scholarship (Frontera et al., 2006; Hodges, 2014), career development (Hamilton & Brown, 2003; Kanter, 2011; Leslie, 2014), and organizational change (Brawer, Steinert, St-Cyr, Watters, & Wood-Dauphinee, 2006; Jolly, 2014). To summarize, faculty development programs offer variety in order to cover all of these areas in terms of enabling faculty members to acquire adequate levels of ability and skill. Despite there being significant coverage of topics within FD programs, the current study focusses on the teaching effectiveness of faculty members. Therefore, the following examines teaching effectiveness and improvement based on the literature in relation to the current study.

Teaching improvement can be defined as “to teach teachers to teach” (Steinert, 2014b, p. 9). Faculty development is of significant value in terms of teaching activities in medical schools. Medical professionals are trained for their respective field to become experts; however, some medical professionals then go on to become medical educators, but with no andragogical training as medical educators (Glicken & Merenstein, 2007). Although the concept of faculty development programs vary based on purpose (Steinert, 2014b), within the definition of faculty development, the current study’s focus is primarily for teaching purposes.

The educational role of faculty members is the primary target of medical faculty development programs. Instructional methods, assessment and evaluation, mentoring, and other andragogical content are implemented in such programs in

order to improve faculty members in their delivery of medical content to medical students (Swanwick & McKimm, 2010). The programs for teaching activities are mainly organized and instructed by the department of medical education in order to help faculty members to improve their teaching skills (Benor, 2000; Davis, Karunathilake, & Harden, 2005). Faculty and students significantly interact during medical educational activities, especially skills development processes such as injections, suturing, and measuring blood pressure. Learning from their teacher takes place through numerous methods. The development of the faculty teaching role focuses on the methodology in which faculty members are helped to assess the most appropriate methodology for teaching specific content (Hull, Chaudry, Prasthofer, & Pattison, 2009). Therefore, faculty developers deal with various methodologies in order to decide which method is the most appropriate considering the given scope.

2.2.3. Approaches to Faculty Development

Many institutions and research projects have initiated faculty development programs and training courses. Different approaches for faculty developments are employed such as face-to-face workshops, seminars, short courses, fellowships and advanced training (Steinert et al., 2006, 2016). These approaches each come with pros and cons (Steinert et al., 2009). Figure 2.2 presents a model by Steinert (2010) which consists of different approaches implemented and used in faculty development programs, from the informal to formal, and from the individual to a group context. Each of the approaches are of value within faculty development programs. To be more specific and appropriate to the context of the current study, some selected approaches –workshops, seminars and short courses, workplace learning and communities of practice, and online learning– are elaborated upon in the following subsections.

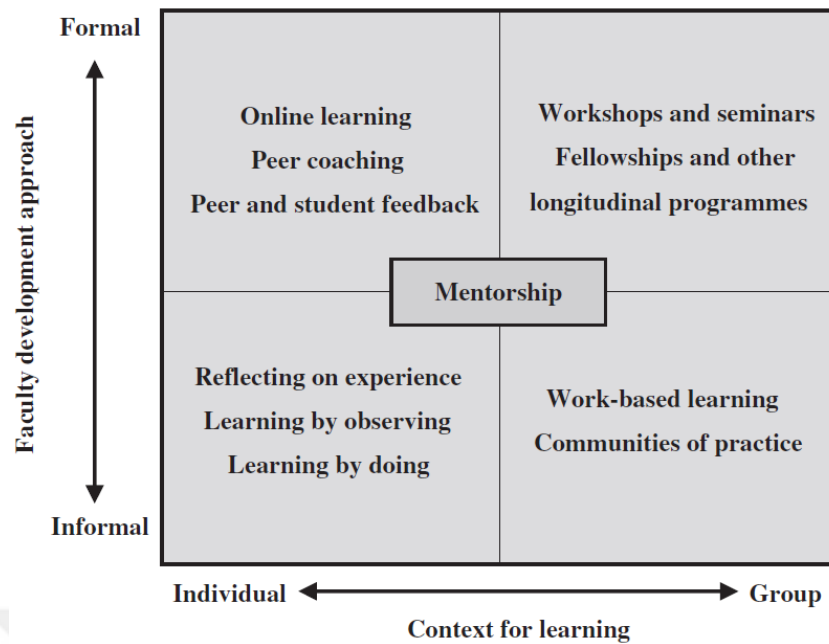


Figure 2.2 Approaches to faculty development (Steinert, 2010)

2.2.3.1. Workshops, Seminars, and Short Courses

Workshops and seminars are some of the approaches most employed in faculty development programs, with many research studies reporting about workshops and seminars (Steinert et al., 2016).

Workshops generally result in the acquisition of knowledge and skills, as well as attitudinal and behavioral changes (Chappell, Sherman, & Barnett, 2018; Nasmith & Steinert, 2001; Steinert, 2010). Workshops can take place within a limited time and mostly have a small group of participants with the supervision of a mentor (de Grave, Zanting, Mansvelder-Longayroux, & Molenaar, 2014).

Seminars tend to target single and primary topics, and are guided by an expert (de Grave et al., 2014). Different instructional approaches may be employed in seminars based on the topic being addressed, the instructor/expert, and the size of the participant group. With active learning methods in both seminars and workshops, the two approaches share similarities; therefore, the terms can often be used interchangeably.

Short courses can be described as having a longer duration than seminars or workshops, but generally last for less than one week (Leslie, Baker, Egan-Lee, Esdaile, & Reeves, 2013; Steinert et al., 2016).

With each of these approaches, faculty developers employ various methods such as role play (Johansson, Skeff, & Stratos, 2012), conferences (Mazotti et al., 2010), and mini-lectures (Wong & Agisheva, 2007). In general, researchers have reported positive results for the application of workshops, seminars, and short courses (Leslie et al., 2013; Steinert et al., 2006, 2016). Specifically, Steinert et al. (2006, 2016) reviewed over one hundred research studies, and found that workshops and seminars are some of the most used approaches to faculty development. Moreover, the approaches were found to be effective in changing the attitudes, skills and behaviors of medical teachers through significantly high motivation and engagement. They also reported that the challenges and issues of the approaches can create some drawbacks for effective course implementation.

From the so-called systematic review research studies and literature search for these approaches, there have only been a few studies based in Turkey that have been published in scholarly journals. Sarikaya, Kalaca, and Cali (2010) used the short course approach for teaching skills improvement in two courses. They reported that medical teachers had improved their teaching skills during the courses, and went on to apply and transfer their knowledge to their workplace environment. In an another study from Turkey, Yolsal et al. (2003) reported that medical teachers found the workshop approach to be beneficial and motivating for learning new skills for more effective teaching. Bahar-Ozvaris, Aslan, Sahin-Hodoglugil, and Sayek (2004) reported a change in knowledge level and attitude in teaching after a faculty program was applied, and retention was shown as high in a delayed posttest.

To conclude, these approaches have shown to have important results in faculty development. However, some major drawbacks have been reported in the literature to the application of these approaches. Therefore, using only these approaches may not be adequate to overcome certain barriers in faculty development, but may be enriched with other approaches.

2.2.3.2. Workplace Learning and Communities of Practice

Workshops, seminars, and short courses are considered to be formal approaches to faculty development that are of value in terms of effective teaching in faculty development programs. Steinert (2010) emphasized that “formal strategies can build on, and incorporate, more informal approaches; and find new opportunities to promote work-based learning and communities of practice” (p. 428). Workplace learning, or work-based learning, can be described as learning for and at work (Swanwick, 2008).

After completion of a faculty development program, medical teachers tend to go on to enhance their knowledge and skills through additional means such as work-based learning (Steinert, 2010). In fact, the knowledge and skills of medical teachers is initially derived from their workplace; for instance, through discussions held with their peers on teaching and assessment, and the development of new curricula (Steinert, 2014c).

Workplace learning can contribute to the knowledge and experiences of medical teachers. Some programs (i.e. Johansson, Skeff, & Stratos, 2009; Laberge, Fryer-Edwards, Kyler, Lloyd-Puryear, & Burke, 2009; Roberts & Devries, 2004) have led to Communities of Practice (CoP) in which medical teachers teach to as well as learn from each other. Particularly, specific content can be discussed in a CoP based on similar interests or level of expertise (Sethi, Ajjawi, McAleer, & Schofield, 2017). Thus, creating common places for medical teachers to learn has the potential to facilitate improved learning experiences.

When the studies from Turkey are examined, Musal et al. (2002) and Musal (2003) reported that problem-based learning faculty development programs were ongoing weekly sessions with medical teachers held to further discuss certain topics. Yolsal et al. (2003) also reported that workshops led to CoPs in the faculty via student and faculty interaction in regard to the teaching activities of medical teachers.

In summary, workplace learning and CoPs have the potential to move faculty development beyond the recognized formal methods, and thereby increase interaction and socialization among medical teachers. Providing such opportunities

to medical teachers may contribute to improved learning experiences, and establish motivational and engagement for more effective teaching.

2.2.3.3. Faculty Development Online

The Internet has been used for many purposes, including education, with online learning having become significant in the use of the Internet in education. Today, there are different styles of online learning provision such as distance education and Massive Open Online Courses, better known as MOOCs. Although using the Internet and online resources to learn something is generally considered to be online learning, it is important to note that dedicated learning objectives and content should be provided to learners when talking about online learning (Cook, 2014). There are a number of different online learning initiatives for faculty development programs (Cook & Steinert, 2013).

Faculty development through online learning can create communities of practice for teaching (Sherer et al., 2003). Faculty members can learn and develop new skills for their teaching activities, as well as receive peer support whilst doing so. Online tools have the potential to support communication and interaction between faculty members (Sherer et al., 2003).

Cook and Steinert (2013) reviewed 20 articles regarding online faculty development and found out that “online faculty development is neither superior to nor inferior to non-computer approaches” (p. 930). Thus, the differences between the two approaches are obscured in terms of which is the better method of teaching. However, the two methods have many advantages, but also some disadvantages. The literature points out these pros and cons, and offers some suggestions.

These two approaches can be merged to benefit from their respective advantages in faculty development (Cook, 2014). As previously mentioned, the pros and cons may be merged in order to provide a better teaching model in faculty development; one that consists of the best practices of both in order that faculty development can better serve faculty members. For example, online learning can provide ubiquitous learning to faculty members, which may be of help considering their busy clinical workload. Social interaction and communication can be also supported through f2f

sessions. This approach may also lead to the establishment of connections for a community of practice.

According to Cook (2014), two questions related to online learning should be addressed by future research into faculty development, and these are “‘When should we use online learning?’ and ‘How can we use it effectively when we do?’” (p. 234). Supporting faculty with a mentor has been also recommended (Steinert, 2010). The literature supports that online learning has been used for faculty development, but that future research should investigate online learning with more rigorous studies (Cook & Steinert, 2013).

Face-to-face approaches and online learning consist of certain boundaries for faculty development. According to Moskal, Dziuban, and Hartman (2013), blended learning has the potential to improve the success of faculty development programs. Therefore, employing solely online learning may not be sufficient for faculty development programs, but blended learning is worthy of investigation as a combination approach.

2.3. Theory and Model to Develop Blended Learning Faculty Development Courses

The published faculty development literature points to several theories, models, and guidelines to support faculty development programs for their curriculum (Silver, 2014), with each supporting faculty development from different aspects. However, none of these are individually sufficient to provide a complete faculty development program design (Steinert, 2011). In the following subsections, some of these theories, models, and guidelines which are believed to support blended learning as an approach to faculty development programs are outlined as the basis of the current study.

2.3.1. Andragogy

Learning styles and approaches to learning differ person to person. The characteristics of the human being affect the way in which they accept knowledge and store it in the long-term memory. One variable that can affect this behavior is the age range of the learner. Children, youths, and adults may each develop or

require different approaches to learning (Kuhn & Pease, 2006). Thus, learning and teaching environments should be adjusted according to the individuals of a certain age range. Andragogy can guide the adult learning process in the design of learning and teaching environments (Knowles, Holton, & Swanson, 2005).

Andragogy is a theory for adult learning (Knowles, 1990; Knowles et al., 2005). The term was first introduced in 1833 by a German grammar teacher called Alexander Kapp, and a Dutch adult educator called Ger van Enckevort who contributed to adult education with his studies (Knowles, 1990). Malcolm Shepherd Knowles was a researcher of adult education who published extensive works on the theory of adult learning (Merriam & Bierema, 2013). According to Knowles et al. (2005), andragogy is different than pedagogy as the word pedagogy is a Greek rooted word pertaining to child education, whilst andragogy is targeted towards learning by adults. Thus, andragogical principles contribute to adults' learning styles and their psychological status toward learning.

Knowles' andragogy is based on six assumptions, which are; (1) the need to know, (2) self-concept of the learner, (3) prior experience of the learner, (4) readiness to learn, (5) orientation to learning, and (6) motivation to learn (Knowles et al., 2005). Andragogy is the major theory to be considered for adult learners when designing educational programs (Merriam & Bierema, 2013). Andragogy and self-directed learning are seen as the pillars of adult education (Merriam, 2001). Since faculty development programs address adult learners, andragogy may therefore be appropriate to be applied to such programs (Lieff, 2009; Silver, 2014). Pololi et al. (2001) reported that the application of adult learning theories in faculty development programs are highly effective.

The design of faculty development programs can be guided with many theories and models (Silver, 2014). However, the researcher of the current study elected to use andragogy due to the nature of the case in study, specifically the wide variety of the participants.

2.3.2. Four-Component Instructional Design (4C/ID) Model

The Four-Component Instructional Design (4C/ID) model was developed by van Merriënboer, Jelsma, and Paas (1992). As Merrill (2002) described, 4C/ID is the most comprehensive recent instructional design model which deals with whole-task learning of complex skills. Especially during the past decade, there have been major improvements to the blueprints of the model by adding systematic and systemic approach as “ten steps” (van Merriënboer & Kirschner, 2013). The model looks promising for education, and conducting further research may open new windows to educational specialists (Göksu, Özcan, Çakır, & Göktaş, 2014). The importance of the model comes from focusing on “training complex skills and professional competencies” (van Merriënboer, 2016, p. 20).

The model (Figure 2.3) consists of four interrelated components, which are; (1) learning tasks, (2) supportive information, (3) procedural information, and (4) part-task practice. Figure 2.3 shows these components and their role in the design of a curriculum. The components are then explained in detail (van Merriënboer, Clark, & de Croock, 2002; van Merriënboer et al., 1992; van Merriënboer & Kirschner, 2013).

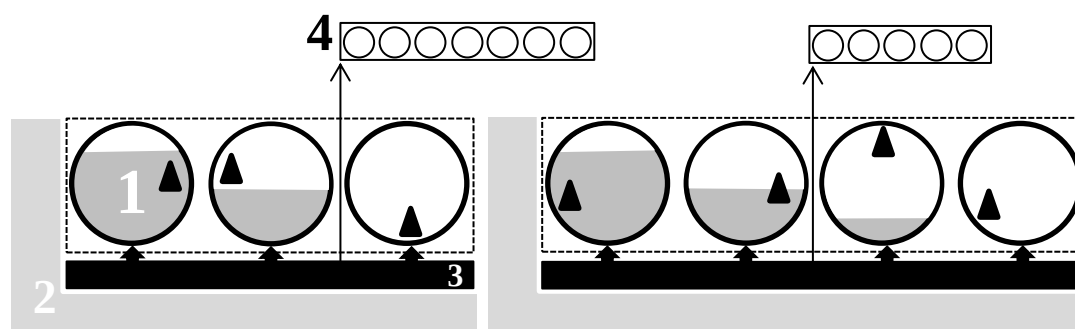


Figure 2.3 Schematic representation of 4C/ID (van Merriënboer & Kirschner, 2013, p. 13)

Learning tasks represent whole-task experiences based on real life scenarios. They integrate knowledge, skills, and attitudes at a variety of difficulties, organized as task classes. Learners can perform tasks from simple to complex within a curriculum.

Supportive information is used to supply task classes with theoretical knowledge. It helps learners to understand the backbone of a task class, and also informs about what needs to be learned with regard to a task class. Throughout education, supportive information can be reached by learners.

Procedural information is the third component of the model. It is also named just-in-time information, meaning that it shows how to perform the routine aspects of a learning task. Therefore, it is provided “just-in-time” when a learner needs it. However, procedural information should be gradually withdrawn as the learner advances in knowledge and skills level.

Part-task practice is introduced to the learner after whole-task learning is presented in order to practice for automaticity. Learners can repeat at any time the routine aspects of learning tasks, and are required to achieve significant levels of improvement for routine aspects before continuing on to the next task class.

Table 2.1 presents “The Ten Steps” of the 4C/ID model as a guide to instructional designers of educational programs. The Ten Steps is a revised version of the 4C/ID model that focuses on the design steps for instruction (van Merriënboer & Kirschner, 2013). The steps can be used from the needs analysis stage right through to the evaluation of an educational program.

Table 2.1 *Four Blueprint Components of 4C/ID and the Ten Steps (van Merriënboer & Kirschner, 2013, p. 9)*

Blueprint components of 4C/ID	Ten Steps to Complex Learning
Learning tasks	1. Design learning tasks
	2. <i>Develop assessment instruments</i>
	3. <i>Sequence learning tasks</i>
Supportive information	4. Design supportive information
	5. <i>Analyze cognitive strategies</i>
	6. <i>Analyze mental models</i>
Procedural information	7. Design procedural information
	8. <i>Analyze cognitive rules</i>
	9. <i>Analyze prerequisite knowledge</i>
Part-task practice	10. Design part-task practice

Over the years, the model has contributed several findings to the literature. Daniel et al. (2018) asserted that the 4C/ID model is suitable for developing case presentation curriculum for medical students and educators, in which it optimizes cognitive load and allows for complex skills learning. Using the 4C/ID model, it has been reported that learners are able to control their own learning using whole-task experiences (Bastiaens, 2012). Vandewaetere et al. (2015) showed how the Ten Steps of the 4C/ID model is considered appropriate to the blended learning environment. They implemented and used the 4C/ID model in a blended learning setting and recommended that it be used in other course formats to bring about significant changes in educational practice and to promote the professionalism of teachers. The components of the 4C/ID model show that complex learning in faculty development programs can be supported through whole-task learning. The 4C/ID model is seen as good practice for the design of blended learning environments for complex learning tasks (Bastiaens, 2012). It is also important to note that the use of the 4C/ID model in Turkey is in need of more attention from instructional designers, with Göksu et al. (2014) reporting an important finding, stating that:

It takes attention that compared to other countries, ARCS model has been given more space in studies conducted in Turkey whereas 4C/ID model...have never been implemented in the last decade in Turkey (Göksu et al., 2014, p. 694).

A literature search resulted in only a single study (Ok, Vatansever, Şener Araz, Agah, & Durak, 2018) being found from Turkey, with a lack of implementation of the 4C/ID model in Turkey pointed out by researchers. The model shows promise to overcome issues in complex learning skills (van Merriënboer et al., 1992). Supportive information can cause a strong learning affect (Frerejean, van Strien, Kirschner, & Brand-Gruwel, 2016), therefore it is worth applying and using the 4C/ID model for faculty development courses, particularly using the blended learning approach.

2.3.3. Blended Learning

Blended learning is basically defined as the combination of f2f and computer-mediated instruction (Graham, 2006). Although other definitions exist in the

literature, the ambiguity of definition has brought about new meanings for blended learning (Dziuban, Graham, Moskal, Norberg, & Sicilia, 2018). From the various definitions, different amalgams have become widely adopted in blended learning such as online and f2f instruction, modalities and methods (de Jong, Krumeich, & Verstegen, 2017). Therefore, various meanings of blended learning have emerged in the published literature.

Graham (2006) describes the three most widely accepted reasons for choosing blended learning (BL). First, improved pedagogy is the most mentioned, as it brings many advantages such as interactivity, and active, independent, and student-centered learning. Developing materials are also relatively easy to achieve. Second, increased access and flexibility is very another important reason to select BL. The concept of anytime learning anywhere is a reality with distributed learning environments. Online systems support learners ubiquitously, which is especially important for adult learners due to their career workloads and scheduling concerns in the workplace. Last, the significant cost-effectiveness of BL enables the provision of rapid content delivery to large groups of learners at a distance. Apart from time allocation benefits, educational programs operated outside of the traditional setting may reduce costs for learners and instructors alike in areas like travel and accommodation. Similarly, developing physical content for a large group and delivering through f2f sessions can increase the cost of a program. These three reasons have become very popular among educators in their reasoning behind choosing BL over other more traditional methods (Adams Becker et al., 2017).

BL has become the “new normal” (Norberg, Dziuban, & Moskal, 2011, p. 208) in the educational institutes. Sixty-one percent of higher education institutions in the United States reported that 35% of their courses are taught using the blended learning approach (Parsad & Lewis, 2008). According to Adams Becker et al. (2017), BL has become a more and more viable alternative to methods and techniques of f2f delivery. Developing new techniques over BL such as flipped classroom shows how BL is becoming an everyday approach in education.

Blended learning has many advantages over one single approach, be that online or f2f. For instance, multiple technologies employed to deliver learning (So & Brush,

2008), positive institutional transformation (Moskal et al., 2013), reduced time impact compared to f2f (Baepler, Walker, & Driessen, 2014), no requirement for a one-size-fits-all approach (Stein & Graham, 2014), and success on reducing dropout rates (Dziuban et al., 2018). All of the advantages to the blended learning approach should be considered in the design of any program aimed at improving and creating better teaching and learning experiences.

2.4. Blended Learning for Faculty Development

Online and the other traditional f2f approaches have been used in faculty development programs either solely or with a combination or mixed format. Cook et al. (2010) mentioned that blended learning can be used along with traditional methods to support faculty development programs. Garrison and Kanuka (2004) posited that blended learning is a simple yet complex process. Blended learning requires departure from both f2f and online methods and creates a new instructional design. While keeping this in mind, Garrison and Kanuka (2004) also mentioned that each blended learning design has an identity in terms of its instructional design, making blended learning the base for certain contexts. Thus, it can be said that faculty development can be designed using blended learning based on its content. Steinert (2014b) described several areas for faculty members to be supported in various context such as teaching and learning, curriculum design and delivery, learner assessment and program evaluation, leadership and administration, and research and scholarship. All of these areas may require a different approach to blended learning methods and their activities.

Moreover, faculty development for teaching purposes varies based on content, and varies from institution to institution. There is no specific standardized content for teaching. Thus, it is important to have a blended learning model that can support faculty development programs for teaching so that faculty developers can benefit and utilize the model within their content.

“Blending online learning with face-to-face contact seems logical” (Wearne et al., 2011, p. 1002). The need for faculty development is to use the blended learning model to describe the stages and activities of the content. Blended learning is worth applying with faculty development programs when the advantages and promises are

considered based on the needs for faculty development (Cook, 2014; Cook & Steinert, 2013; Paskevicius & Bortolin, 2016).

To summarize, blended learning has been pointed out in recent literature as an approach applicable for faculty development programs at various levels. As to the purpose of the current study, blended learning can be designed in the context of medical faculty development programs within the scope of teaching effectiveness. The current literature on blended learning faculty development with instructional design is presented in the following subsections in order to promote understanding of the scope and results published in the literature.

2.4.1. Blended Learning in Faculty Development

Research on blended learning has increased and sub-methods have emerged (e.g., flipped classrooms, flipped learning) in recent years. The breadth of research on blended learning for professional development encompasses fields such as nursing (Myers, Mixer, Wyatt, Paulus, & Lee, 2011), teacher education (Berger, Eylon, & Bagno, 2008; Cutri & Whiting, 2018), pharmacy (Wilbur, 2016), and interprofessional education (Lotrecchiano, McDonald, Lyons, Long, & Zajicek-Farber, 2013). The current study narrowed down from the usual broad research studies to focus on faculty development in the teaching of medicine.

Although there have been extensive research studies conducted for f2f and online approaches in faculty development, few studies have been published in scholarly journals with regard to blended learning. Liu et al. (2016) conducted a systematic review in regard to blended learning for health professionals. The study reported a significant number of studies that focused on blended learning; however, none were reported within the context of faculty development. Therefore, a literature search was conducted, which revealed the following studies.

Burgess, van Diggele, and Mellis (2018) designed clinical teacher training using the blended learning approach. The authors reported that the participants found the intervention beneficial and that it enriched their learning from the program. However, they suggested that f2f content should be more predominant in the design. Lotrecchiano et al. (2013) reported on lessons learned from blended learning as

being increased engagement, continuous interaction between peers and faculty, contextualized discussion, and flexibility in scheduling etc. Moreover, Schönwetter, Hamilton, and Sawatzky (2015) reported that blended learning is highly preferred by faculty members when compared to other approaches.

When the literature was researched for studies based in Turkey, there was only one recently published study. Sezer, Elcin, and Topbaş (2018) conducted a flipped classroom intervention to simulate a train-the-trainers course. The results of the study showed a significant difference in learning by the trainees.

To conclude, blended learning presents opportunities for faculty development programs. Although some studies were found in the literature, it was also recommended that more research be conducted on the topic. Therefore, the current study has the potential to provide valuable knowledge and to contribute to the related literature.

2.5. Summary

In this chapter, literature related to faculty development programs has been explained. The literature pointed out that faculty development requires more investigation as to the problems which have been reported to occur during the different approaches, scopes and context being applied and implemented to faculty development. Characteristics of faculty development programs should be distinguished and approaches to faculty development should be tested in order to improve on the results of FD programs. Especially, blended learning faculty development guided with the 4C/ID model and andragogy is said to possess the potential to improve FD programs in terms of teaching effectiveness. Therefore, effective programs may lead to increased satisfaction and perception of medical teachers through the attainment of knowledge and skills.



CHAPTER 3

METHODOLOGY

This chapter describes the research methodology used throughout this dissertation. More specifically, in this chapter, the research purpose and research questions are revisited, and the research design explained. Furthermore, it includes the design process of the blended faculty development course, information about the study's participants, data collection, and the analysis procedures employed in the study.

3.1. Purpose of the Study and Research Questions

The purpose of the current study is to develop, implement and evaluate blended learning courses for teaching improvement in faculty development programs; and to examine and describe the participation, satisfaction and perception of medical teachers toward blended learning courses.

1. What are the experiences of medical teachers regarding blended learning in faculty development courses?
2. How do medical teachers define the barriers and the motivators for blended learning faculty development courses?
3. What are the possible factors which influence experiences of medical teachers in blended learning faculty development courses?
4. What are the suggestions of medical teachers with regards to blended learning faculty development courses?

3.2. Design of the Study

In this study, qualitative research methodology was applied in order to seek understanding based on the research questions. Qualitative research is an interpretive method in which a researcher ontologically attempts to understand the source of information through the actual live experience of themselves or others (Creswell, 2014; Yıldırım & Şimşek, 2013). Personal views and experiences can be investigated using qualitative research (Patton, 2015), and procedures can take place in a real life context (Fraenkel, Wallen, & Hyun, 2014). As Merriam (2009) pointed out, qualitative methodology can be employed to gather perceptions and views through the experiences of individuals. Yin (2011) acknowledged qualitative research as studying meaning through the lives of real people under real-world conditions. Moreover, qualitative research tries to describe and understand the behaviors and perceptions of subjects toward a certain topic (Creswell, 2012, 2013, 2014). Thus, guidance of the qualitative methodology was employed in order to shed light on the research questions of the current study.

The reason that qualitative methodology was selected lies in the nature of this study. The characteristics of the study provide a good fit with a qualitative approach, which can be explained as follows. First, the current study deals with the ongoing faculty development programs conducted by faculty developers in medical faculties of higher education institutions. As mentioned in the purpose of the study along with the research questions, the FD programs are conducted within the normal environment; specifically, in the workplace. Second, introducing blended learning to the program creates a new phenomenon for the medical teachers, with a chance to improve on their teaching skills. Lastly, applying the program with the revised instructional method reveals different aspects to apply within the program, which will be examined through the qualitative lens as many aspects are revealed during the research.

As asserted in the faculty development literature, the programs have characteristic challenges such as time allocation, workload, and attendance to the program. Blended learning also brings its own technological challenges at different levels of education. For example, digital divide, technology literacy, and attitudes to

technology usage can be associated with the implementation of blended learning. By aggregating them, it can be said that special cases in the implementation of faculty development programs may be worth examining and describing in detail.

Denzin (2011) noted that for decades, qualitative research has generally been applied in case studies as a field of inquiry. With such a purpose in mind, case study methodology seems a good fit to the research questions of the current study. To better understand how case study research methodology is seen as appropriate, the definition of Yin (2009, p. 18) is worth remembering, which is “A case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (p. 18). The definition itself posits several points to take into consideration. Johansson (2003, p. 2) described the characteristics of a case as “complex functioning unit, in its natural context with a multitude of methods, and contemporary” (p. 2). Yin (2012) also emphasized that “the case study method is best applied when research addresses descriptive or explanatory questions and aims to produce a first-hand understanding of people and events” (p. 3). Thus, the reasons and how the case study methodology fits with the current study can be explained as follows.

First, the case should be a contemporary phenomenon. The nature of blended learning in the current study creates such a phenomenon. Novel technology implemented within FD programs and in the literature (Cook & Steinert, 2013) demonstrates the need to address the gap where blended learning is applied to faculty development programs.

Second, “in depth” and “real life context” are other valid reasons to employ the methodology in the study. Faculty development programs are conducted during the participants’ work hours, along with their other duties of medical teachers such as patient care. Throughout the program, how medical teachers react to the program is a necessity since they should divide their working hours in order to cope with each of the roles their job demands of them.

Last, boundaries between the blended learning and faculty development should be investigated further in order to understand medical teachers and their views toward

such a technological approach in their learning experiences. Moreover, the researcher applying this methodology has little control with regards to when the programs start and how many faculty member will attend. Thus, the case study methodology appears a good fit for the current study in order to understand and answer the research questions.

According to Yin (2012), case study can refer to two types that are singular, in which careful attention is paid to a single case; or multiple, where a number of cases add strength to the findings of the study. When deciding the type of case study, either single or multiple, extreme or unique, typical or critical, and confirmatory or contrasting reveals the type of case study to be examined (Fraenkel et al., 2014; Yin, 2012). Since the faculty development program interventions can only be applied to specific participants enrolled and following the program, the recruited participant groups form the cases of the study. In other words, the participant groups are based on those attending courses and their characteristics, and therefore form a natural multiple-case study. In the current study, there were two groups of participants who enrolled to courses based on their medical career needs.

When the types of case study are taken into consideration, the current study can be described as a multiple-case study research. The first case of the study can be described as “junior medical teachers” who had not previously received a faculty development certificate; whereas, the second case consists of senior medical teachers who already hold a faculty development certificate. For both cases, the researcher aimed to understand in-depth the nature of blended learning within the faculty development program, through the lens of medical teachers with different experience levels in their profession. The motive behind participating in such a program may provide the opportunity for cross-comparison between the cases. Therefore, additional details between the cases may be revealed with regards to the participants’ experiences of blended learning in a faculty development program.

3.3. Context of the Study

It is crucial to consider the context of the current study based on the conditions within the medical faculty. For instance, the workload of the faculty members includes academic, healthcare, and teaching duties. Therefore, how this study can be

best implemented needs careful consideration in order to occur within a perceived real life environment of the participants. The following subsections describe in detail the current situation through to the study's implementation.

3.3.1. Context: Ege University Faculty of Medicine

The current study took place at Ege University's Faculty of Medicine. Ege University is located in the west of Turkey. It was established in 1955 and has become one of Turkey's largest universities, ranked 8th nationally (Ege University, 2018c). At the time of this research, a total of 3,337 faculty members were employed at the university (Ege University, 2018b).

The Faculty of Medicine was established when the university was first opened (Ege University, 2018a). According to the self-assessment report of the Faculty of Medicine (2016), there were 359 Professors, 79 Associate Professors, 25 Assistant Professors, 12 Lecturers, 57 Attending Physicians, and 412 Research Assistants in the faculty. The Faculty of Medicine is a relatively large medical faculty by Turkish standards, with 43 departments contributing to the teaching activities of the faculty's educational program for prospective doctors. According to the self-assessment report of the faculty (2016), the faculty's hospital had a 1,816 bed capacity, and serviced a total of 65,245 inpatients during 2015. Additionally, a total of 150,254 patients were treated in the emergency room, and 1,026,644 attended outpatient clinics during that same year.

In the Faculty of Medicine, there are approximately 2,500 medical students overall attending undergraduate education (across all six years of their program). In addition, residency, and graduate programs are also run by various departments. Therefore, it can be said that the Faculty of Medicine is quite busy with both teaching and healthcare provision. As a result, conducting the study within this environment needs careful consideration in terms of the study's design and context.

3.3.1.1. Faculty Development Program

For the past 20 years, the faculty development program has been conducted by Medical Education faculty members, a department of the Faculty of Medicine (Department of Medical Education, 2011). A traditional face-to-face approach has

been employed for many years in the teaching of the program. The program takes approximately three weeks, with numerous teaching activities taking place throughout the program such as basics of instruction, teaching methods, material development, and assessment and evaluation in medical education. Participants are required to attend the program for 12 half days within the three week duration (Department of Medical Education, 2011). As a part of the current study, it was aimed to redesign the program with selected courses from the program due to the need for a new educational program with updated content. At the conclusion of the program, those participants who attended all of the courses in the program are awarded with a faculty development certificate (see Appendix L).

Faculty development programs are of vital importance since residents are not trained for their future teaching activities as part of their medical education; however, graduate programs include a pedagogical formation course.

3.3.2. Scope: Faculty Development Courses

The faculty development program offers several courses to medical teachers. Some of the courses are about medical education, both in Turkey and worldwide, the role of the instructor in teaching and learning, clinical education, teaching with simulated patients, multiple-choice question writing, and e-learning course development. While some courses are specifically related to medical teachers from the clinical and surgical sciences' departments, some are targeted at all medical teachers, irrespective of department. With this in mind, two courses were selected to be designed for the blended learning environment, which were Multiple-Choice Question Writing and e-Learning Course Development.

The researcher decided upon these two courses as they were deemed to be the most desirable and are of high demand in teaching across the faculty. They also require significantly complex learning and application of skills. Another reason that the two courses were chosen was the duration of the program and the time available to complete the actual program, as well as the appropriateness of the field of the researcher's expertise. Therefore, Instructional Technology, and Measurement and Evaluation topics were chosen as the two main courses selected to be developed

with the blended learning approach as e-Learning Course Development and Writing Multiple-Choice Questions.

3.3.3. Approach: Development of Blended Faculty Development Courses

In this section, the analysis, design and development procedures of blended faculty development courses are explained. Andragogical principles (Knowles, 1980) were followed through the overall instructional design processes, and the Four-Component Instructional Design (4C/ID) model (van Merriënboer & Kirschner, 2013) guided the instructional design of blended learning for the faculty development courses. At all steps of the process, the blended learning faculty development courses were designed by the researcher, with expert views taken in order to improve the overall design process of the courses. Each design step was evaluated and reviewed based on feedback from experts from the departments of Medical Education, and Computer Education and Instructional Technology.

3.3.4. Instructional Design Process

When it comes to instruction, there is a considerable volume of information to be found in the literature. To narrow it down, the needs of medical teachers should be considered at all stages. Their characteristics to learning may differ; however, general learning theories and instructional design models can be applied for the study. According to van Merriënboer and Kirschner (2013), the 4C/ID model is suitable for complex cognitive skills, and was reportedly successful when used in blended learning (te Pas, 2015; Vandewaetere et al., 2015).

After considering other instructional design models such as ADDIE (Analysis, Design, Development, Implementation, and Evaluation), the researcher chose to use the 4C/ID model (van Merriënboer et al., 1992) to guide and direct the design of the blended learning faculty development courses. Some of the reasons behind selecting this model are the model's link to adult learning (te Pas, 2015), its suitability to blended learning (Vandewaetere et al., 2015), and ease of knowledge transfer to the workplace environment (te Pas, 2015). The 4C/ID model was used to design two courses, namely Multiple-Choice Question Writing and e-Learning Course Development. These two activities were designed by following the Ten Steps of

instructional design blueprints since the steps ease the design process (van Merriënboer & Kirschner, 2013). However, these steps were adjusted based on andragogical principles as some were inappropriate for the overall design of the courses in a blended learning environment.

The faculty development courses were planned in three phases. The courses were conducted in two f2f sessions, and in-between, there were online activities that participants were required to complete. The first phase of the design was a f2f lecture in which participants were informed about the course content and their assignments based on learning tasks. The second phase consisted of online activities applied following the lecture, whereby participants would access an online platform for a period of two weeks. The online environment was available asynchronously in order that the participants could access the online system according to their own schedule and follow the learning tasks at their own pace. During this period, the participants completed set learning tasks. In the third phase, participants attended a second f2f session. In this session, the participants practiced their skills and improved their products with additional information. Figure 3.1 presents the steps of the blended faculty development courses during the program.

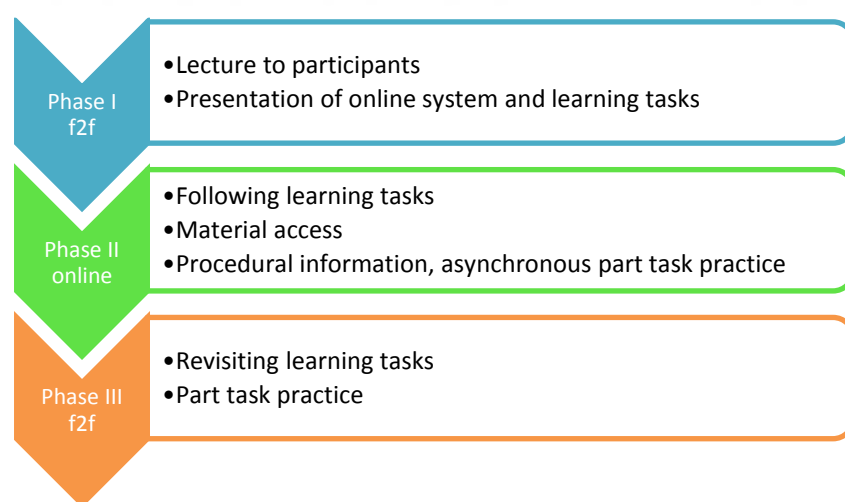


Figure 3.1 Process of blended faculty development courses

The model consists of four components as learning tasks, supportive information, procedural (also known as just-in-time or JIT) information, and part-task practice. Using different components, the researcher divided the topics into task classes in

order to achieve whole-task learning. To help instructional designers working with the 4C/ID model, practical blueprints were published as the “Ten Steps” by van Merriënboer and Kirschner (2013) in order to make the design process of educational programs that much easier and smoother.

3.3.4.1. Learning Tasks

Course instructors were the main source of information while developing the learning tasks for the FD program courses, and provided the raw content. Learning tasks were designed for the two courses. The researcher instructed the course on e-Learning Course Development, and the Multiple-Choice Question Writing course was conducted by two instructors. In addition to the researcher, another instructor from the Medical Education department assisted with the f2f lectures.

The learning tasks were designed with respect to each of the courses content and objectives to reflect real-life situations. For example, when learning to write multiple-choice questions (MCQ), not only was the focus on question content but also on technical considerations in order that the exams were seen as valid by the faculty and thereby to decrease to exams result objections. As a result, teaching on learning tasks should not only be part of a topic, but also deliver a whole-learning experience to the desired objective. Figure 3.2 presents another example, in which the learning task is given to participants in order to enrich their e-learning course development by adding assignment activities. The learning task describes the real life context in which participants may be faced with during their career through the use of e-learning activities. Participants then apply their desired assignment to their sample courses with the learning task.

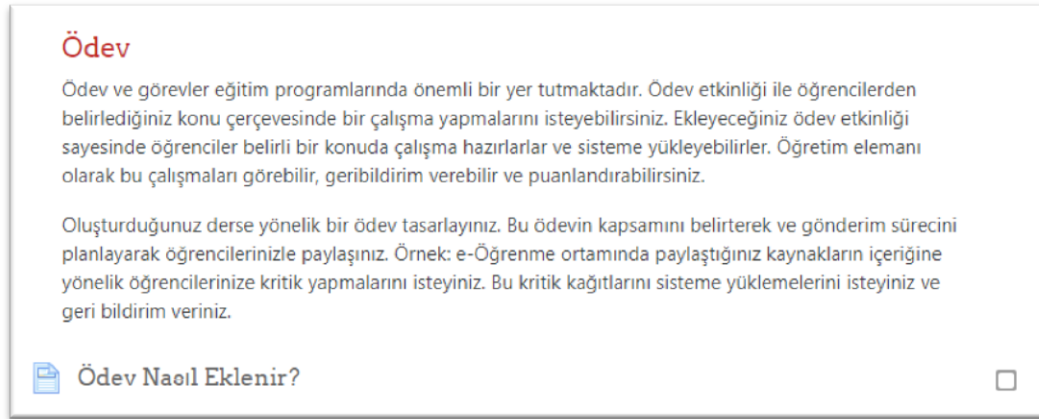


Figure 3.2 Sample learning task

After designing the learning tasks, the assessment criteria were developed in order to evaluate the learning tasks. In each course, learning tasks were designed as the participants create their e-learning courses and MCQs for the selected courses. Thus, the evaluation of the products created by the participants were the assessment sources. The products were assessed by the instructors using rubrics. See Appendices B and D for online screenshots of the two activities.

3.3.4.2. Supportive Information

Supportive information is an important component to bridge prior knowledge and new learning tasks (van Merriënboer & Kirschner, 2013). Moreover, the component offers the theory behind the learning tasks. During the learning process, participants can obtain prior information, overview the fundamentals of a topic, and gain more knowledge about the topic in order to enhance their learning experiences. These features of supportive information are a good fit for f2f sessions.

A Phase I f2f lecture was designed for each course as supportive information. During each lecture, the instructor presented information related to the topic. Additionally, participants were informed about the online activities and the tasks they were assigned to complete prior to attending the next f2f session. The instructors lectured the participants and there was an interactive session during the lecture where participants were able to ask questions during discussions about the topic. The f2f materials were also added to the online system; enabling the participants to review them again after the lecture.

3.3.4.3. Procedural Information

Procedural information, also known as just-in-time (JIT) information, is the third component that supports learners in performing the routine aspects of a learning task. It specifies how to practice the recurrent aspects of a task. Procedural information helps learners to practice the learning task, before being faded away as they gain expertise. While participants practiced online activities, they were provided “how to materials” if they struggled during a learning task. They were able to follow the steps on the materials in order to master their skills at the task. Moreover, the participants were required to repeat several activities in the course. Some such examples are uploading their course slides, supporting multimedia information in their courses, and writing different levels of the questions. In addition, a sample course was available online (see <https://okm.med.ege.edu.tr/course/view.php?id=80>), and faculty members were able to access the online segment of the program using the URL. The sample course showed best practices for various activities such as assignment and discussion forums. See Appendix B for the sample course designs.

3.3.4.4. Part-task Practice

This component provides learners with additional practice opportunities, enabling them to repeat parts of the learnings tasks in small chunks in order to master the routine parts of a task. In this study, the participants were encouraged to increase the number of questions and materials in order to reach a very high level of automaticity. For example, writing more questions at different levels (e.g., remembering, problem solving) ensured that the participants gained sufficient task practice. Besides, for the e-learning activities, the participants were required to design two courses, and for each section of each course they were guided to increase the number of activities they included. See Appendix C for a sample of the online courses designed by the participants.

3.3.5. Online System

The Department of Medical Education used the Moodle Learning Management System (LMS) to support the undergraduate level education with e-learning content.

Moodle stands for “Modular Object-Oriented Dynamic Learning Environment” and is one of the well-known learning management systems used worldwide (Moodle, 2018). Moodle is a web-based system that can be accessed via any Internet connected device using a browser, anytime and anywhere. It can also be enhanced using multiple plugins in order to be customized to suit the needs of the instructors and learners. Therefore, Moodle was used to deliver the online activities of the current study.

As a part of the instructional design process, Moodle was enhanced with a mobile application in order to connect participants ubiquitously so that they could reach the system easily and access information as and when they needed, or “just-in-time.” Moreover, using the mobile application’s notification feature, the participants were notified about their course activities. The mobile applications connect to the Moodle system via Wi-Fi Internet connection, as well via the cellular telephony network. The participants therefore have the opportunity to browse the materials at their own pace. The Moodle Mobile application was originally developed by Moodle (2018), and was subsequently customized by the current study’s researcher and published on Apple’s App Store (<https://itunes.apple.com/tr/app/e%C3%BCtf-%C3%B6km/id1095171383?l=tr&mt=8>) and also on Google Play (<https://play.google.com/store/apps/details?id=tr.edu.ege.med.okm&hl=en>) so that participants could easily download the application to their cellphones. A selection of mobile app course screenshots can be seen in Figure 3.3.

The mobile application supports push notifications. This helps instructors to assist participants when they need just-in-time support during their learning. A general participant discussion forum was made available for the activities, where participants were able to start a topic or ask a question if and when they needed. Moreover, the messaging feature of the system was made available on the mobile application which enabled participants to write direct private messages to their instructor/s. These communication features were supported through push notifications. Whenever a participant used one of these channels, the instructor was notified about the request in order for the participant to be supported with their question.

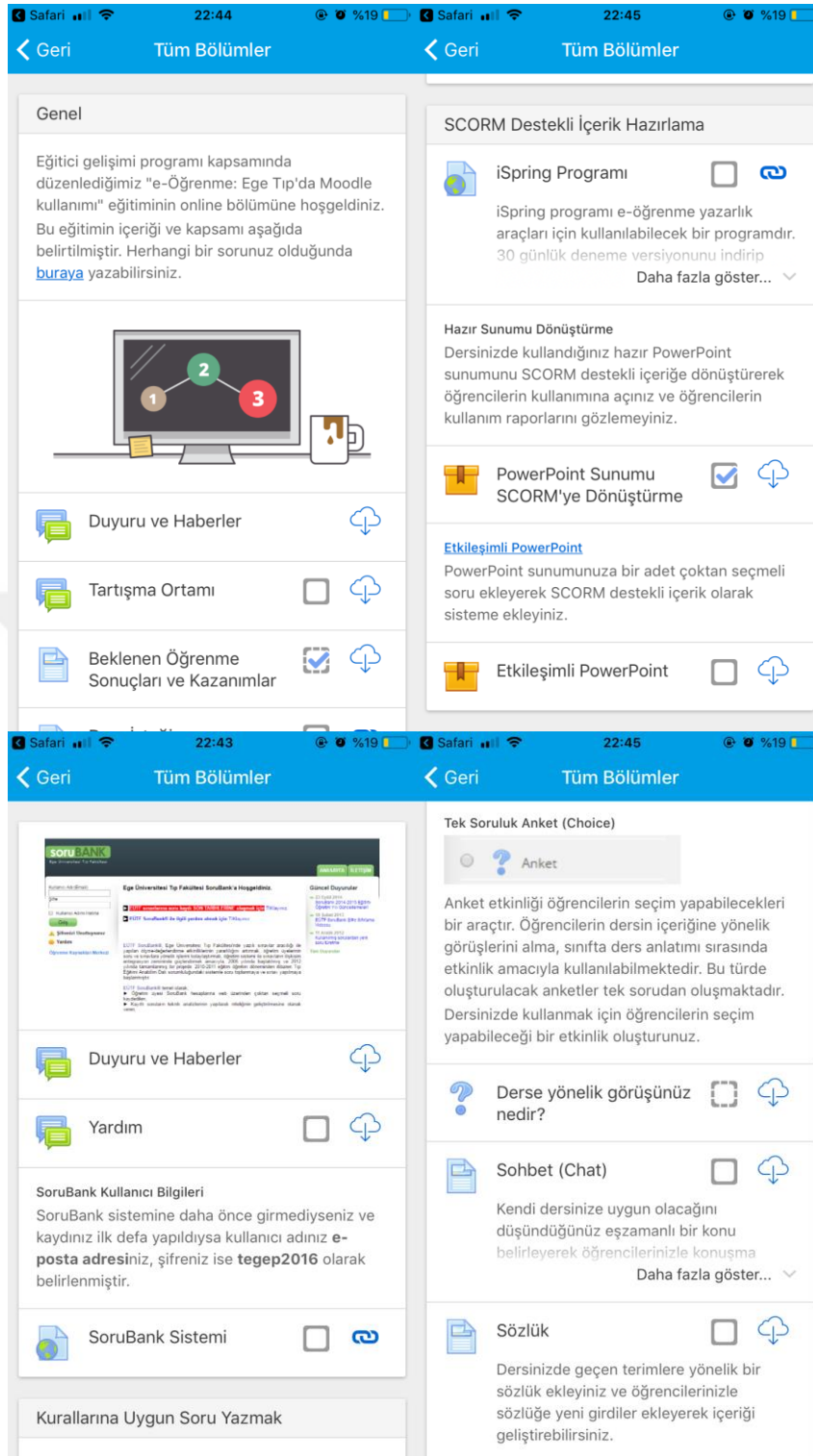


Figure 3.3 Mobile application view of online activities

3.4. Participants

The faculty development program was announced by the Department of Medical Education at Ege University's Faculty of Medicine. The program was open for a

specific time and offered to faculty members of the Faculty of Medicine from June 13, 2016 through to July 1, 2016. The participants were awarded a Faculty Development Certificate at the completion of the course after successfully completing the program through their attendance and completion of their assigned tasks.

The program announcement was targeted at faculty members who were perceived to be in need of pedagogical improvement in their teaching skills, meaning that all participants of the program were thereby also potential participants of the current study. The study group was therefore formed from participants of the FD program. At the beginning of the program, after they had been informed about the current research study, the participants were asked whether or not they were willing to participate in the study. The researcher then provided an “Informed Consent Form” to each of the participants and announced that volunteer participants should return their signed forms in order to take part in the study. From this perspective, purposive convenience sampling was utilized in forming the study group, rather than applying any method to select study group members for the research.

In the current study, medical teachers who worked in Faculty of Medicine of Ege University were the target group of potential study participants. The announcement of the program was sent as a formal letter to each of the faculty’s departments and by e-mail to faculty members, as well as being posted on the faculty’s portal site. In total, 18 applicants completed the application form to enroll to the program. One applicant subsequently withdrew, citing urgent calls for other work even before starting the program.

According to the application forms, there were 17 applicants requesting to enrolment in the FD program. Additionally, there were three other faculty members who were invited to attend the program. In total, there were initially 20 participants; however, not all wanted to participate in the current research study. Three opted not to join the study, while another three were unable to attend the f2f sessions and did not respond to invitations (email and telephone) for the interview sessions. Figure 3.4 summarizes the steps taken for the recruitment of participants for Case Study 1.

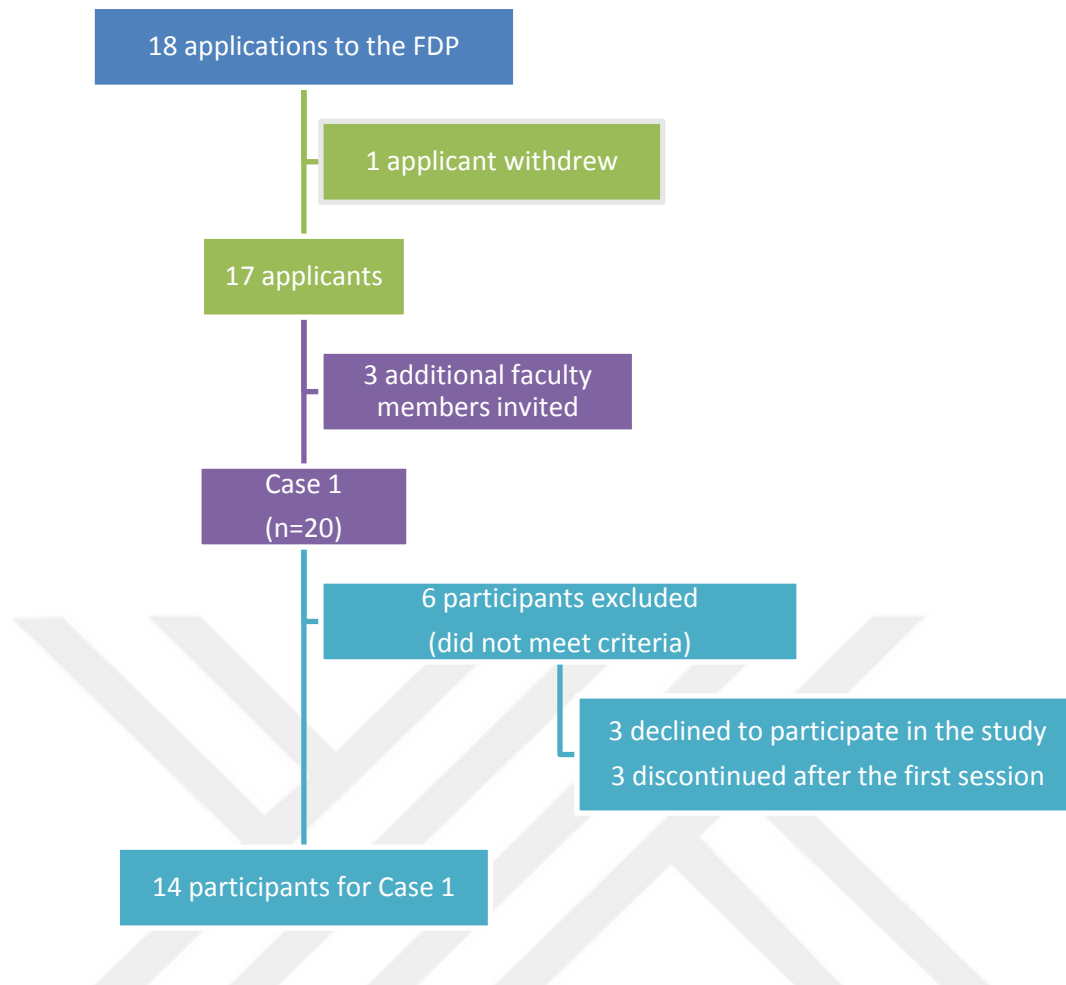


Figure 3.4 Recruiting steps for participants of Case 1

Due to the low number of participants, a second group of faculty members was formed, although this group would only attend the blended learning courses; as opposed to the complete FD program. As can be seen in the steps summarized in Figure 3.5, initially there were 24 applicants to the second group; however, five subsequently withdrew their application citing other urgent work. Of the remaining 19 applicants, five requested not to participate in the current research study and two were unable to continue after the first course session. As a result, there were a total of 12 participants recruited for Case Study 2. However, the participants only wanted to enroll to the e-Learning Course Development because they had previously already taken the MCQ course.

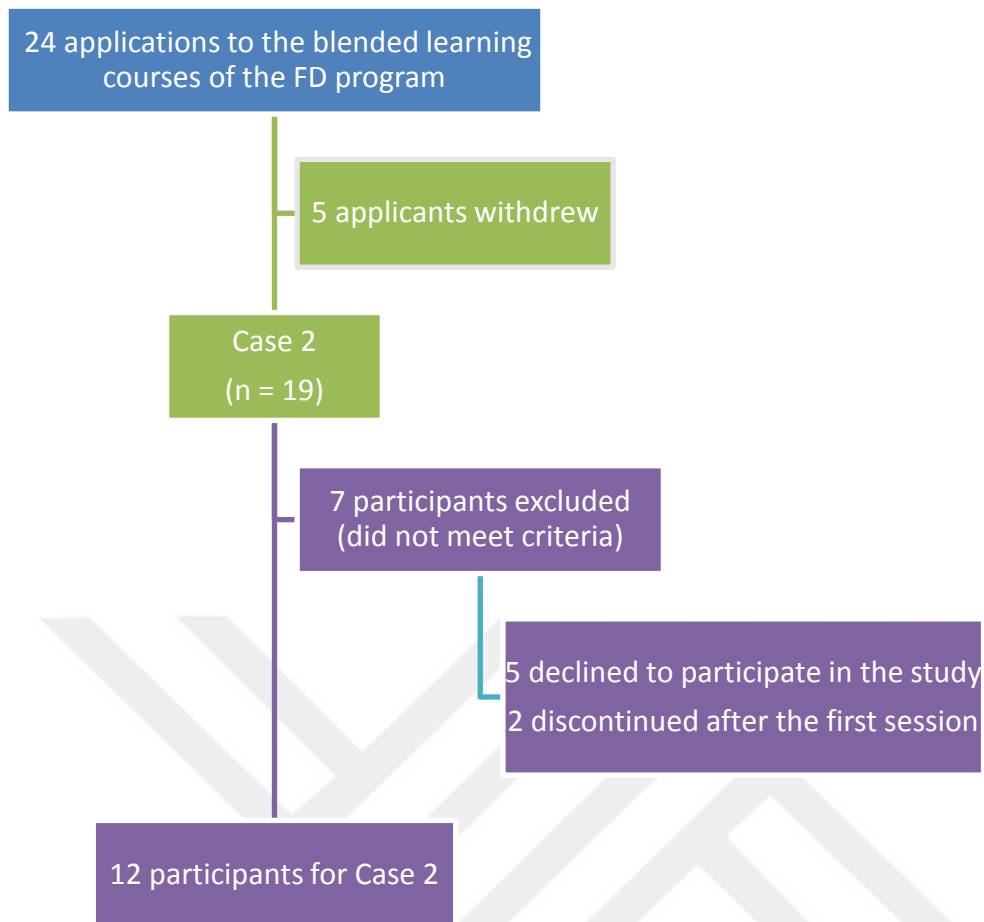


Figure 3.5 Recruiting steps of participants of Case 2

The second study group was recruited due to the low number of participants and high opt-out rates from the study. Although this seemed a significant drop on the number of participants, in the nature of faculty development and faculty of medicine workplace workload, such attrition rates are a known issue for faculty development programs (Diaz, 2002; Jordan, 2015; Tyler-Smith, 2006). This issue is revisited in the Results section of this study with the findings.

Table 3.1 shows the final participants of the study, along with their pseudonym code names which are subsequently used in all participant quotations in the reporting of this study. Of the participants, 16 are female and 10 male, with an overall mean age of 41 ($SD = 6.99$) years, a minimum age of 33 years and a maximum of 53 years.

There are three main sections within medical faculties, which are “Basic Science,” “Clinical Medical Science,” and “Surgical Science.” The study groups included participants from basic science ($n = 11$), clinical medical science ($n = 11$), and

surgical science ($n = 4$). The reason for the low number of faculty members from surgical science compared to the other sections is based on the lower number of departments in surgical science.

In terms of the demographics of the participants, as to the academic titles, there were nine Professors, eight Associate Professors, eight Attending Physicians, and one Assistant Professor. Of the total participants, 12 had already gained a Faculty Development Certificate. Most of the faculty members were either senior or at the beginning of their medical faculty career.

The participants were asked to self-assess their own level of computer skills. They rated their skills with a mean of 4.04 ($SD = .77$) points, with a minimum of 2 and a maximum of 5 on a 1-5 range scale, with 5 being the highest (best) available score. Four of the participants had also attended a course in which blended learning had been used.

Table 3.1 *Demographic Information of the Participants*

	Case	Participant	Title	Section	Blended Learning Experience	Computer Skills Self-Assessment	FD Certified
50	2	Participant 1	Professor	Clinical Medical Science	No	4	Yes
	2	Participant 2	Professor	Basic Science	No	2	Yes
	1	Participant 3	Assistant Professor	Basic Science	Yes	5	No
	1	Participant 4	Associate Professor	Surgical Science	No	3	No
	2	Participant 5	Professor	Basic Science	No	4	Yes
	1	Participant 6	Associate Professor	Basic Science	No	4	Yes
	1	Participant 7	Attending Physician	Surgical Science	No	5	No
	1	Participant 8	Associate Professor	Basic Science	No	4	No
	1	Participant 9	Attending Physician	Clinical Medical Science	No	4	No
	2	Participant 10	Professor	Basic Science	No	5	Yes
	1	Participant 11	Attending Physician	Clinical Medical Science	No	4	No
	2	Participant 12	Associate Professor	Clinical Medical Science	No	4	No
	1	Participant 13	Attending Physician	Surgical Science	Yes	5	No
	2	Participant 14	Professor	Basic Science	No	3	Yes
	2	Participant 15	Professor	Basic Science	No	4	Yes

Case	Participant	Title	Section	Blended Learning Experience	Computer Skills Self-Assessment	FD Certified
1	Participant 16	Attending Physician	Clinical Medical Science	No	3	No
2	Participant 17	Associate Professor	Clinical Medical Science	No	4	No
1	Participant 18	Attending Physician	Basic Science	No	5	No
2	Participant 19	Professor	Clinical Medical Science	No	4	Yes
2	Participant 20	Associate Professor	Clinical Medical Science	Yes	5	Yes
1	Participant 21	Associate Professor	Basic Science	No	4	Yes
1	Participant 22	Attending Physician	Clinical Medical Science	Yes	3	No
2	Participant 23	Professor	Clinical Medical Science	No	5	Yes
1	Participant 24	Attending Physician	Clinical Medical Science	No	4	No
1	Participant 25	Associate Professor	Basic Science	No	4	No
2	Participant 26	Professor	Surgical Science	No	4	Yes

3.5. Instruments

In order to truly understand the phenomena of cases, various data collection methods can be employed, namely quantitative and qualitative data collection to strengthen the research findings (Creswell, 2013; Stake, 2010; Yin, 2012). Fraenkel et al. (2014, p. 188) defined quantitative data as “the variable being studied is measured along a scale that indicates how much of the variable is present” (2014, p. 188). To understand the relations of the program being followed and the patterns of participation, quantitative data may assist in the drawing of overall conclusions of the study. Yin (2009) emphasized that although qualitative data is common in case study research, quantitative data also helps researchers in understanding the phenomena. Therefore, combining the data sources throughout a study may be seen to increase the reliability of the conclusions drawn.

The current study sought to understand the holistic experiences of medical teachers towards blended learning faculty development courses. Therefore, several instruments were employed in order to best understand the different sides of the participants’ experiences, and also to confirm data from several sources. For instance, Silver (2014) recommended the application of participant satisfaction surveys for faculty development programs as a means to receiving overall feedback. Interviews can also be used in order for unknown issues to be revealed (Creswell, 2013, 2014). Moreover, in order to triangulate data from other sources, data collection via questionnaires, system logs, and documents were also employed in the current study. The instruments selected for application in the study are explained in detail in the following subsections.

3.5.1. Interview Form

Interviews can be conducted in order to gather deep information based on the experiences of a study’s participants (Patton, 2015). According to Creswell (2014), interviews may reveal data through some additional questioning during an interview. Interviews may therefore be considered as a very powerful data source to reveal previously unknown topics or issues. Thus, an interview form was developed by the researcher of the current study in order to collect data on the views of the

participants based on their experience during blended faculty development courses. Participant interviews were therefore the main data source of the current study.

In order to better understand the participants' views on blended faculty development courses, a semi-structured interview form was developed by the researcher. The form was then examined by two field experts, and subsequently improved based on their feedback. The final interview form consists of 12 main questions, and there are also probing questions in order to gain a deeper understanding and to enhance the interview in terms of detail and to uncover undetermined topics or issues during the interview (see Appendix I). Probe questions are helpful to researcher in order to follow up and to elaborate upon a topic when the main questions may not be deemed adequate (Merriam, 2009; Yıldırım & Şimşek, 2013). The interview questions mainly focused on the participants' experiences from their engagement in blended learning faculty development courses. Primarily, the questions focused on the opinions and points of view with regard to the participants' experiences during the f2f and online instruction.

3.5.2. Questionnaire of Satisfaction on Blended learning

The "Student Satisfaction on Blended Learning Questionnaire" originally was developed by Karadeniz (2012). The original questionnaire was a five-point, Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree), structured within three factors, which are (1) Perceived Usability of Learner Interface, (2) Perceived Usefulness of e-Content and Course Structure, and (3) Instructor Support. The Cronbach Alpha measure of internal consistency for the questionnaire was found to be .94 for the overall scale. The questionnaire was designed with and for undergraduate students. Some of the items targeted a specific system called UBIMETIS in Karadeniz's (2012) original study. Since some of these items were inappropriate for the design of the current study, the original format of the questionnaire could not be applied to the current study.

For the current study, a revised questionnaire was developed that was based on the original satisfaction questionnaire developed by Karadeniz (2012). Scale items were edited based on the context of the current study, and some additional items added to the questionnaire.

The revised questionnaire consisted of 22 items. The questionnaire was then reviewed by two experts, from the fields of Educational Technology and Medical Education. Their feedback helped ensure that the revised questionnaire was clearer and understandable for medical teachers. The revised questionnaire employed in the current study is shown in Appendix H.

3.5.3. Pre and Post-Survey Form

A faculty development program has been offered by the Department of Medical Education of Ege University for the past two decades. For each program, a pre- and post-survey form is completed by the participants. Since it is mandatory for faculty members to obtain FDP certification, each activity of the program should be evaluated in order to gain a clear understanding about the program's activities and to improve their quality for the next new program. Thus, the current study's questionnaire included questions to evaluate the blended learning courses. With the permission of the department, the parts of the questionnaire related to the study were divided and included in the research so that another data source could be added to increase the source of information. Appendix J shows the part of the questionnaire that was included in this study.

The questionnaire was applied both prior to and following the program. The items of the questionnaire target data collection in the domain of teaching skill competency levels of the participant faculty members. The Competency Construct of the questionnaire consists of 10 items. Each item was graded in three aspects, with those being (1) Importance Level, (2) Current Competency, and (3) Desired Competency. Importance Level employs a four-point, Likert-type scale, ranging from 0 (not important at all) to 3 (very important), with an option included for "no opinion." For Current Competency and Desired Competency, a five-point, Likert-type scale ranged from 1 (very poor) to 5 (master). These 10 items are used as a self-assessment instrument in the current study from the participants' perspective.

3.5.4. Rubrics

Rubrics are used for assessing learners in areas of complex performance (Mertler, 2001). Rubrics, as assessment tools, standardize assessment based on performance

criteria (Roblyer & Wiencke, 2003). Holistic and analytic rubrics are two types of scoring rubrics (Mertler, 2001; Moskal, 2000). Holistic rubric defines complete assessment in which the researcher makes the overall judgement with regards to the quality of the process or the product (Jonsson & Svingby, 2007). Therefore, holistic rubric was chosen to evaluate the documents which the current study's participants created during their FD education; specifically, questions from the MCQ course, and e-learning course designs.

Two rubrics were developed by the researcher in order to assess the participants' products developed at the end of the courses based on learning tasks. Explicitly, the participants were required to develop e-learning courses and to write multiple-choice questions, and the rubrics were used in order to assess and score them.

The grading rubric for MCQ is shown in Appendix E. Since this instrument was developed by the Department of Medical Education, it has been used within this study for the evaluation of the participants' MCQs. The rubric was designed for the quality assessment of the multiple-choice questions which the participants were assigned to write based on the learning tasks of the course. Three aspects of the questions were evaluated based on (1) Presence of Case, (2) Level of Cognition, and (3) Question Type. For Presence of Case, if a question does in fact present a case, it scores 1 point. For Level of Cognition, remembering scores 1 point, application scores 2 points, and problem solving scores 3 points. For Question Type, each question is evaluated for its level and scored based on whether it is the single best answer, which scores 0 points, or one best answer, which scores 1 point. Finally, technical errors were considered in the questions based on several criteria (see Appendix E). Where any errors were found, then a technical error score of 0 points is given; however, if there were no (zero) errors, then a technical error score of 1 point was awarded. The following formula shows how the score of each question was calculated.

Matrix Score = (Presence of Case + Level of Cognition + Question Type) x Technical Error

Based on the formula, each question can achieve a matrix score of between 0 points and 5 points. A matrix score of 0 points (zero) means that one or more technical error/s were found, resulting in the total score from the three aspects being cancelled

out. A matrix score of between 1 point and 5 points shows the quality of measurement of the question, with 5 points representing the highest score.

Another rubric was developed by the researcher in order to evaluate the e-learning courses developed by the participants. See Appendix F for details of the e-learning holistic rubric. The rubric is used to score the developed courses between 0 points and 6 points. A score of 0 points (zero) represents a course that has taken no action to achieve the set learning tasks; whereas, a score of 6 points represents a course where action has been taken to complete all of the set learning tasks for the course.

3.5.5. System Logs

Throughout the study, data from the learning management system (LMS) logs were also collected. The LMS presented several different informational items about the participants' online footprint during their online activities. For example, their login and logout times, duration of their online activity, how many times they accessed the content, how they accessed the system (web or mobile), and which components they used and benefited from. These data items are deemed to be of significant importance to understanding and examining how the participants exploited the online content and how the content helped them to learn better.

3.5.6. Demographics Form

The demographic data of the participants were collected through a form developed by the researcher. The form consisted of basic questions to obtain the participants' gender, age, academic title, and their experience with information communication technologies and blended learning. These questions were also reviewed by the two experts, and the form revised based on their feedback (see Appendix G).

3.6. Role of Researcher

The research paradigm, which consists of ontology, epistemology, and methodology, shapes the entire research, and the root of the research comes from the paradigm. Therefore, research conducted should be understood from the perspective of the researcher's eye (Denzin & Lincoln, 2011), and specifically, their belief in the paradigm is key throughout any qualitative research (Creswell, 2014).

The researcher's connection to the phenomenon being studied is of paramount importance. The research should be aligned accordingly with this aspect (Patton, 2015; Yin, 2011), since the reality of the phenomenon, whilst participant sourced, is revealed through the researcher (Marshall & Rossman, 2016). Moreover, Creswell (2014) and Yin (2011) also emphasized that the researcher is the key instrument of qualitative studies. It is therefore of significant importance to explain the role of the researcher in the current study.

First, this research was conducted through the interpretivist paradigm. The researcher tried to understand, examine, and reveal what is known by the participants, and how this knowledge should be acquired.

Second, for the current study, the research had an "insider researcher" position as a faculty member and FD program instructor from the Department of Medical Education. Yin (2011) explains the insider researcher as researchers who conduct studies within their own organizations. Insider researchers must not be seen to create potential conflicts when disclosing their appropriate affiliations; whereas, they have the potential to be considered a threat to a study's trustworthiness. In order to address these issues, the participants of the research were duly informed up front about the overall study and their and the researcher's roles. Triangulation was used so as to validate the data obtained from the various sources – interview, questionnaire, and system logs.

Third, the researcher played a major part in the analysis, design, development, and implementation of the intervention of the current study into blended learning faculty development. In terms of the analysis, the FD program analysis was performed and the need for blended learning as an approach revealed so that the design of such an environment could be documented. Then, the design of the blended program followed the 4C/ID model, which also included the analysis stage. The researcher also developed the instructional environment as guided by the instructional design model. For some components, a mobile application was constructed by the researcher and self-published on Apple's App Store and Google Play market sites. Lastly, one course of the blended FD program was also instructed by the researcher himself, teaching both of the two study groups for the e-learning course of the

program. Moreover, the researcher also developed some of the instruments and held discussions with experts during that process. In addition, data collection processes, including semi-structured interviews, were conducted by the researcher.

Another issue that can be seen in qualitative research is “researcher bias” which cannot be underestimated. Patton (2015) mentions that as an insider researcher, it is hard to remain neutral in a qualitative study; however, the bias can be eliminated from the point of the researcher when it is understood and addressed upfront. In the following paragraphs, information about the researcher is given so that the set of beliefs of the researcher can be understood.

The researcher of this study holds both B.Sc. and M.Sc. degrees in the field of Computer Education and Instructional Technology, in which several courses were taken related to instructional design and educational research methodology. The researcher published several articles in national and international peer-reviewed journals, some of which are internationally-indexed (see Curriculum Vitae attached at the end of the study). During the researcher’s Master’s thesis study, he examined faculty members through a qualitative research approach, which resulted in gaining experience in the steps of qualitative research methodology.

3.7. Data Collection Procedures

The current study was conducted under the approval of the Human Subjects Ethics Committee of Middle East Technical University. The research aim, questions and related literature, along with the research methodology, were all presented to the committee. All instruments of the research and the data collection procedures were approved according to protocol number 2016-FEN-033. The approval of the committee is shown in Appendix A.

The two case studies of the current research required different data collection procedures. The main difference between the cases being the participants’ levels of experience as medical teachers. Case 1 consists of participants who, in general, were Attending Physicians or junior faculty members; whereas, the participants of Case 2 were senior medical teachers. The participants of Case 1 also attended all courses of the faculty development program; whereas, the participants of Case 2 only attended

one course (e-Learning Course Development) of the faculty development program. Therefore, there were some minor differences in the data collection for each case. The steps of the data collection procedures for Case 1 and Case 2 are illustrated in Figure 3.6 and Figure 3.7, respectively.

All of the participants completed an Informed Consent Form (see Appendix K) before attending the program and thereby prior to taking part in the study. The Informed Consent Form informs the participants about the aim and scope of the study, and also describes what and how data would be collected during the study. The participants were also informed about their voluntary participation in the study and that they were free to leave the study if and when they chose to do so. Data were collected during June and July of 2016 through the application of several instruments. Data collection procedures took place either online or during f2f sessions, depending on the instrument type.

A Demographic Form was completed by each of the participants at the start of their first f2f session. Participants of both cases completed the paper-based form and returned it to the researcher. Additionally, the participants of Case 1 completed a Faculty Development Program Pre-survey Form as an application form to enroll in the program. Items of the survey include a prior check on their perceived skills for the program.

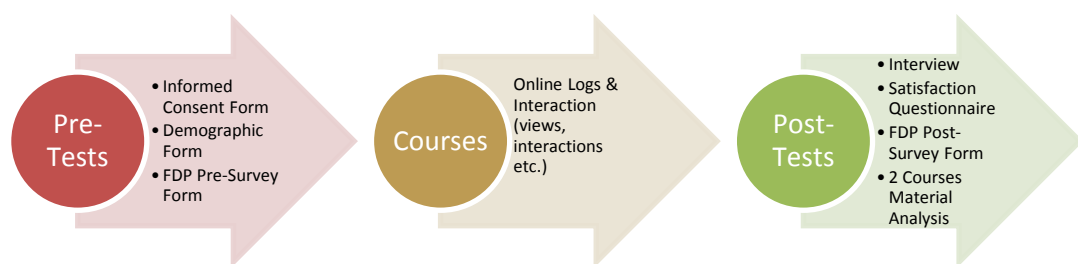


Figure 3.6 Illustration of data collection for Case 1

After the pre-tests were completed, the first f2f session for the courses commenced. Participants from Case 1 enrolled to both of the blended learning faculty development courses (e-Learning Course Development, Writing Multiple-Choice Questions), whereas the participants of Case 2 enrolled only to e-Learning Course

Development; having elected not to retake the MCQ activity, again even though they were informed that the content had been subject to an update with new information in the form of the Writing Multiple-Choice Questions course.

Throughout both of the courses, the online system (LMS) logs were collected in the background, without need for any user intervention. The logs included information such as login and logout times, their activities on the system such as what material was accessed, and what activities were followed, as well as the frequency of their having accessed the materials. For the learning tasks, the participants were required to create e-learning courses based on their own department's courses. They were tasked with adding materials and creating online activities for their own courses. Additionally, the participants of Case 1 also wrote multiple-choice questions, as prescribed by the learning task, on a system called SoruBank (QuestionBank). All of these documents and artefacts that were completed by the study's participants were gathered as data to be analyzed using the aforementioned rubrics.

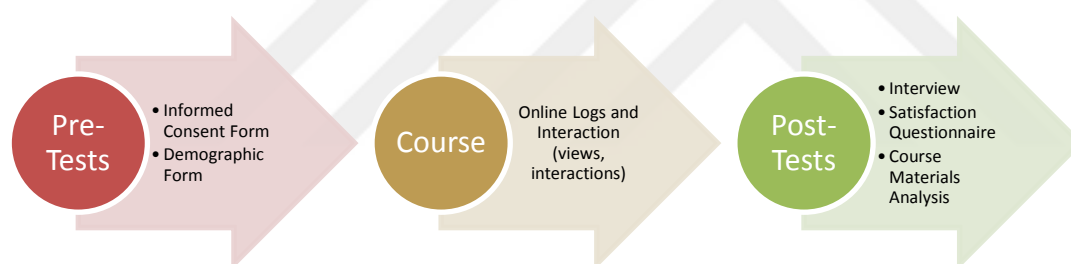


Figure 3.7 Illustration of data collection for Case 2

When the blended learning faculty development courses had been completed, post-test data collection took place. In-depth semi-structured interviews were conducted in the two weeks after the program had finished. The interview meetings were planned in advance with the participants. Since the participants each had their own clinical and/or teaching duties, the researcher made an advanced appointment for an interview with each of the participants, and were informed about the scope and expected duration of their interview. The interviews took place in locations where the participants would feel comfortable, and all of the interviews were conducted by the researcher. Prior to the interview commencing, the participants were notified about the interview procedure itself. Audio recording permission was obtained and

confidentiality of the recording was clarified to the participants in that the sound was only recorded for the purpose of the current research study and that it would not subsequently be used anywhere else. The researcher followed the pre-set questions on the semi-structured interview form, and asked probe questions where the researcher felt they were necessary. All 26 of the study's participants were interviewed.

After each interview had finished, the participant was requested to complete an online questionnaire named the "Questionnaire of Satisfaction on Blended Learning." The questionnaire was sent to each of the participants via e-mail on the day of their interview, after the interview had taken place. The questionnaire was sent out to the participants of both cases.

The participants of Case 1 also completed the paper-based post-test form called the "Faculty Development Program Post-Survey Form" when they completed the program.

3.8. Analysis of Data

Analysis of data provides the researcher with the information upon which to draw conclusions based on the aim of the research being undertaken. Under the umbrella of quantitative and qualitative research, there are diverse approaches and facets at the researcher's disposal to identify relations between data and research questions. In the current study, qualitative data, namely interviews, were the primary source of data collected along with quantitative data. The analysis approach for each data type is described in the following subsections.

3.8.1. Qualitative Data Analysis

Qualitative data of the current study consists of interviews and documents (artefacts) as developed by the participants. There are different approaches to qualitative data analysis. Yin (2011) describes five phases for analysis "(1) compiling, (2) disassembling, (3) reassembling (and arraying), (4) interpreting, and (5) concluding" (p. 177). Creswell (2012) also defined six steps for analyzing and interpreting qualitative data that are (1) prepare and organize data, (2) explore and code, (3) build description and themes based on codes, (4) represent and report,

(5) interpret, and (6) validate the accuracy of findings. Yıldırım and Şimşek (2013) also provided another solution for the analysis of data, which was (1) code data, (2) construct themes, (3) organize codes and themes, and (4) present and interpret findings. Common practices of these approaches for the analysis is an ongoing process, where the researcher creates understanding from the smallest ideas, codes, through to general concepts and themes in order to answer the research questions.

According to Patton (2015), coding can be either inductive or deductive. The deductive method can be used when there is a framework or a theory to guide data for an overall theme/s. However, when that does not exist, the inductive method can be utilized in order to develop from codes to main themes and patterns.

For the current research study, the inductive method was employed for the analysis of interview data. Verbatim transcription of the audio recordings was made by simply listening to each recording and writing down all of the conversation, with added memos made where necessary. The average duration of the interviews was 43 minutes. In order to make the transcription process as easy as possible, NVivo software was used along with an audio playing feature in order to adjust the conversation speed and for time-marking each questions' specific answer times. The time-marking helped the researcher later on with the analysis where any part of the conversation needed to be listened to again. NVivo is a qualitative data analysis software that helps researchers transcribing audio, coding documents, adding memos to the analysis, and visualizing themes at different node levels (Bazerley & Jackson, 2013; Creswell, 2014; Yin, 2011, 2012). Although alternative computer-assisted qualitative data analysis software exists, the researcher chose to employ NVivo owing to prior experience using the software and that it was licensed for use at the university. Transcriptions were read and reread by the researcher in order to confirm that each correctly reflected its interview.

Next, each of the interview transcriptions were coded in nodes related to the research questions. Coding can be described as determining meaningful chunks from the data for greater understanding (Miles & Huberman, 1994; Saldaña, 2009). Emerging codes create a master list for the all codes from the interviews. The codes are then merged into categories that represent similar meanings. During this

merging process, codes were adjusted and recoded where needed. Each category was then labeled according to its theme.

Other qualitative data were the documents created by the participants during the intervention. These artefacts were also qualitatively analyzed using rubrics developed by the researcher. With the help of two faculty members from the same department (Medical Education), the documents were graded against the rubrics. Interrater agreement was established between the evaluators. The coding results from the rubrics were found to be almost the same between the evaluators. A short discussion took place between the evaluators with regard to the differences, and the scores for the documents were then finalized. The scores were linked to each participant's data as to how they had performed for their course learning tasks.

3.8.2. Quantitative Data Analysis

The quantitative data sources of the current study were the questionnaire, surveys, and system logs. The quantitative data were analyzed through descriptive statistics using IBM SPSS version 21 analytical software. Mean and standard deviation statistics are presented later in the findings. Data is visualized using MS Excel, and bar charts and pie charts were also used where deemed appropriate to emphasize the results. The Demographic Form consisted of information about each of the participants. Together, these data were used to describe the cases.

The Satisfaction on Blended Learning Questionnaire was analyzed and presented item by item. This questionnaire was completed by all 26 participants. The participants of Case 1 also completed the Faculty Development Program Pre-Survey Form and the Faculty Development Program Post-Survey Form. A total of 17 items were related to this study. Item mean and standard deviation was calculated for both the pre- and post-survey data results. The difference was also indicated as being positive, negative, or neutral for both the before (pre) and after (post) program evaluations.

Data from the system (LMS) logs were also handled as quantitative data. The participants' involvement in the online activities were calculated based on the

number of interactions, login times, materials accessed etc. The analysis was also reported in frequencies based on the number of participants.

3.9. Trustworthiness

Trustworthiness, put simply, is the validity and reliability of qualitative research. Any research should provide details of its methodology in order to fulfil the requirement as to its trustworthiness (Fraenkel et al., 2014). In qualitative research, the researcher can easily misjudge the findings unless certain precautions are taken.

The term “trustworthiness” was coined by Guba (1981) and Lincoln and Guba (1985), and four indications were formed for trustworthiness that are credibility, transferability, dependability, and confirmability. Together, these indications provide a framework to support valid and reliable results (Denzin & Lincoln, 2011; Merriam, 2009). In the following subsections, strategies for assuring trustworthiness are explained in detail.

3.9.1. Credibility

The most important and highly recommended criteria to be assured in any research is its credibility (Lincoln & Guba, 1985). Credibility can be described as the degree of truth and accuracy of findings that are presented for a research study. Credibility is more akin to internal validity, if paralleled to the quantitative research methodology (Creswell, 2013).

One of the techniques to provide credibility is *triangulation*. Triangulation is fulfilled when multiple and different data sources are employed (Creswell & Miller, 2000; Yıldırım & Şimşek, 2013). The goal of having several data sources is the ability to assess consistency among findings (Patton, 2015). Therefore, in the current study, both quantitative and qualitative data were gathered using different techniques as described in Data Collection (see Section 3.7.). Questionnaires and survey were employed for each participant, utilizing participant self-reporting. Moreover, LMS system logs and document analyses were conducted in order not to overly depend on the participants’ self-reported data. Consequently, data were collected from different sources. In order to obtain a holistic view to the case under study, two groups of participants were assembled from different backgrounds and

experience levels. All of these were presented in order to triangulate data in the findings.

Peer debriefing is second technique used for assuring credibility within a study. According to Guba (1981), “Inquirers ought regularly to detach themselves from the site and to seek out and interact with other professionals who are able and willing to perform the debriefing function” (p. 85). The researcher consulted his thesis supervisor and co-supervisor, as well as the assigned thesis monitoring committee during various stages of the study. Moreover, ideas and feedback from two independent scholars in the field of medical education were sought throughout the study.

A third technique, named *prolonged engagement*, was also employed in the current study, with the researcher in the field at all times during the study. In qualitative research, inquirers should immerse themselves in the eye of the participants (Lincoln & Guba, 1985). From initial design through to data collection, the researcher in the current study took on each of the primary roles, along with the subsequent analysis and research report writing. The participants’ online sessions were also monitored by the researcher. One of the courses was instructed by the researcher. Whilst the other course had f2f sessions delivered by two other instructors, these were observed by the researcher.

Fourth, *persistent observation* was used to gain details of the studies during the implementation process, and afterwards. Persistent observation is important to the identification of characteristics relevant to the case (Lincoln & Guba, 1985), with the researcher able to distinguish what is important and relevant to the research, versus what is not. During each of the courses, the researcher was present in the field at all times. This enabled the researcher to be mindful of the broad details in regard to the context and participants being studied.

Member checking was used as a final technique of credibility assessment. This means that “data and interpretations are continuously tested as they are derived with members of the various audiences and groups from which data are solicited” (Guba, 1981, p. 85). The researcher applied member checking during the interviews and again after the transcription. In addition, two voluntary participants were invited to

review the raw data and themes in order to eliminate issues caused from misinterpretation. No major problems were raised during the volunteer participants' review meeting.

3.9.2. Transferability

Transferability means external validity and generalization of a study (Bitsch, 2005). Although qualitative research is not particularly concerned with generalizability, transferability ensures that the research findings are applicable for other contexts with similar participant characteristics and phenomena. Therefore, purposive sampling and thick description of the phenomena can be of significant help in transferring the findings to other research (Guba, 1981).

Purposive sampling is used for the deliberate selection of participants for a study in order to provide the most relevant data (Yin, 2011). The nature of the current study was based on the participants' real workplace environment and the intervention targeted all of the participants. Since there was no sampling methodology applied for study group formations, purposive sampling was fulfilled with purposive convenience sampling. The study groups were defined in detail in the Participants section (see Section 3.4.).

Thick description is also used for transferability. The researcher provides details about all stages of the study, and supports the formal reporting with appendices without revealing participants' identities (Bitsch, 2005; Guba, 1981). In the current study, each step is clearly explained and additional materials are presented in the Appendices.

3.9.3. Dependability

Dependability is the reliability of the research, and refers to the stability of the findings (Bitsch, 2005). If other researchers want to repeat the research later on with the same participants and the same method, the results should parallel the original. In the analysis of qualitative data, different meaning can be construed from the different view or angle of the coders. Thus, Lincoln and Guba (1985) recommended the *interrater reliability* process to ensure data is analyzed with consensus among researchers.

Coding data in qualitative study poses many challenges, and a considerable amount of time should be spent on examining the data. There are several methods available for the analysis of qualitative data such as thematic coding and open coding. Due to the nature of qualitative data analysis, two or more coders should simultaneously work on the process in order to ensure consistent findings (Creswell, 2013; Yin, 2011). In the current study, several coders were utilized at different stages of the analysis process.

Prior starting to code, each of the coders were informed about the research, specifically the research aim and the research questions, the interviews and their structure, and the interview question form. The first round of coding was conducted by the researcher and two coders, each of whom had a Ph.D. in Healthcare. During the process, the coding structure and main codes were described. Each coder then examined a small part of the data, and they discussed new emerging codes. Final codes were discussed between the coders, and consensus reached for all codes.

The second round of coding was conducted with coders from the field of Computer Education and Instructional Technology. Two coders were briefed about the research and the coding schema, along with the participants' quotations from the semi-structured interview transcripts. The coders then worked independently to identify codes and candidate emerging themes and subthemes. A crosscheck was performed between the coders, and consensus reached for controversial areas that required a degree of negotiated resolution between the coders. The final themes and subthemes were checked and discussed once again at the end, and no major disagreements were found between the coders.

3.9.4. Confirmability

Confirmability is the exclusion of potential bias of the researcher in the reporting of a study's findings. In other words, confirmability demonstrates the objectivity of the researcher through data confirmation (Guba, 1981).

Practicing reflexivity is the first of two steps that researchers take into consideration. Researchers should self-disclose any assumptions, beliefs, or biases that they may hold (Creswell & Miller, 2000). Although it is important to present

the study's findings from lens of the researcher, bracketing and allowing readers to understand the researcher's position is crucial. Therefore, the researcher's role was presented in detail in Section 3.6. , in order to clearly position the researcher's standing in terms of the current study.

The second step is *triangulation*, which is also used for confirmability as well as credibility. To avoid repetition, please see Section 3.9.1. for details with regards to triangulation.

3.10. Limitations

In the nature of educational studies, there are base limitations which are present in the research methodology, as well as for the qualitative research approach itself (Fraenkel et al., 2014). The researcher should be aware of such limitations with respect to the applied research methodology. In the current research study, there are several limitations worthy of mention in order to provide clarity.

First, this research was conducted within the participants' routine workplace environment of a medical faculty. Intervention took place within a larger faculty development program. Thus, the participants were only able to be sought through the program's announcements. The program was run by the Department of Medical Education, and their official program was followed in terms of requesting official permissions.

Second, the participants of the current study all medical faculty members who willingly enrolled in the program. Busy workloads of the participants proved a disadvantage to conducting research with the faculty, which represented a considerable challenge. During the research, some of the initial participants opted-out from the study, forcing the researcher to recruit a second study group to mitigate this limitation.

Third, gathering the study group was more complex than anticipated. Since the official program had to be announced to the faculty, the study group was formed from the participants of the official program. During the study period, only one official program was conducted. Therefore, a pilot study to review the instructional design of the activities was not possible prior to the actual start of the study. Instead,

experts from the departments of Medical Education, and Computer Education and Instructional Technology reviewed the instructional design and implementation of the study.

3.11. Delimitations

This study aimed to investigate the experiences of medical teachers in a blended learning faculty development program. The faculty development program was designed to address the many roles of medical teachers such as teachers and researchers. The contents for the program varied based on duration. The current study formed part of a 20-hour program taught by nine instructors. Therefore, only selected faculty development courses were included in the current study in order that teacher affect and content differences would not impact the participants' experiences during the investigation.

Another delimitation chosen by the researcher was the lived experiences of the medical teachers in the program. Blended learning is a commonly employed method in many research studies. In the current study, the experiences of the participants were taken into consideration as they learned during the study.



CHAPTER 4

RESULTS

In this chapter, the findings of the research are reported for each research question using different data sources. Specifically, quantitative and qualitative data analysis are presented and the results described in detail, with the findings presented separately for each case. Prominent characteristics of the findings are also highlighted based on the nature of the data.

4.1. Experiences of Medical Teachers Toward Blended Faculty Development Courses

The first research question in this study is “**What are the experiences of medical teachers regarding blended learning in faculty development courses?**” In order for the participants to develop a level of experience, blended learning courses were developed for a faculty development program using the 4C/ID model. The model presented various learning tasks to the participants, which were completed online or during f2f sessions. During the sessions, the participants worked on the learning tasks and developed their experience through blended faculty development courses. For this research question, the researcher sought to understand the experiences of the participants.

The experiences of the participants were investigated through several different data sources. First, online logs are used to understand the participants’ system usage patterns for each activity. As a second data source, document (artefact) analysis

using the results from rubrics were examined to further investigate and understand how the participants had followed the assigned learning tasks. Third, results of the Satisfaction on Blended Learning Questionnaire were examined in order to understand how satisfied the participants were with the intervention. Fourth, pre- and post-survey results from the Case 1 study were assessed. Lastly, the participants' views on blended learning which emerged from semi-structured interviews were reviewed and the results detailed.

4.1.1. Use of Online Activities

The participants of Case 1 took two courses (e-Learning Course Development, and Writing Multiple-Choice Questions), while the participants of Case 2 only attended one course (Writing Multiple-Choice Questions). Therefore, the interaction results of Case 2 were based only on the e-Learning course activities. In order to make equal comparison between the cases, only the e-Learning course logs are presented when forming a comparison between the groups. For Case 1, additional findings are also presented separately.

Table 4.1 presents the system log analysis for the online part of the e-Learning course. According to the logs, all of the participants accessed and interacted with the system at least once. The participants of Case 1 made a total of 799 interactions, while Case 2 interactions totaled only 340. Thus, the participants of Case 1 were clearly the more active over Case 2. When the activities are investigated for participant interaction, there was no one single activity which all participants accessed. Therefore, it can be said that the participants used the system to whatever level they needed. Due to the free design of the course, this result was as expected, since these adult learners should not be forced to participate in accordance with analogical principles.

The discussion board saw the highest access frequency in both cases. For Case 1, course request, accessing news, resource sharing, and SCORM content development all followed in terms of highest visited components. For Case 2, the visit activity trends were similar. The findings showed that participants used the resources based on their specific needs. It can be said that when they felt that the content was inappropriate for them, they ignored it, or did not use the content online.

Table 4.1 *Use of Online Activities in e-Learning Course*

Type	Activity	Case 1 (N = 14)		Case 2 (N = 12)	
		f	n	f	n
	General				
Access	Entering to Online Course	352	14	123	12
Forum	Announcements and News	35	9	23	5
Forum	Forum Discussion Platform	186	13	80	9
Page	Intended Learning Outcomes and Attainments	19	5	9	2
URL	Course Request	50	13	1	1
URL	Faculty Development Program Sample e-Course	25	8	4	4
	Creating and Sharing Resources				
SCORM	How to Share Resources?	32	6	21	7
SCORM	Adding Label	13	5	6	2
Page	Sample Hypertext Page	3	3	5	3
SCORM	Creating Page	10	6	8	3
SCORM	Adding URL	5	2	13	4
	Student Interaction				
SCORM	Adding Discussion Platform	7	2	6	2
Page	How to Add Assignment	2	1	3	2
Choice	Your views on a course	5	1	10	2
Page	Chat	1	1	2	2
Page	Dictionary	1	1	2	2
	Developing SCORM Supported Content				
URL	iSpring Software	13	10	6	4
SCORM	Converting PowerPoint Presentation to SCORM	27	7	15	3
SCORM	Interactive PowerPoint	13	5	3	1
Total		799		340	

Participants of Case 1 also attended a second course (Writing Multiple-Choice Questions). Table 4.2 summarizes the Case 1 participants' interactions for the online course. All of the participants accessed the course at least once. Moreover, all of the participants accessed the news forum, SoruBank (QuestionBank) system via URL, and the MCQ course content. Except for one participant, all of the participants obtained information from the SoruBank system on how to write questions. Lastly, less than half of the participants accessed the Help facility and the MCQ checklist.

Table 4.2 *Use of Online Activities in MCQ Course*

Type	Course Activity	<i>f</i>	<i>n</i>
Access	Entering to Online Course	91	14
Forum	Announcements and News	51	14
Forum	Help	17	6
URL	SoruBank (QuestionBank) System	33	14
SCORM	How to Write Questions in SoruBank (QuestionBank) System	58	13
Resource	Checklist of Multiple-choice Question	13	6
SCORM	Multiple-choice Questions	17	14
Total		280	

Participants of Case 2 elected not to attend the second course (Writing Multiple-Choice Questions) as they had already taken a similar course as part of a previous faculty development program. During the first announcement of the study, they were notified that they were not obliged to attend the second course, but that they could still access the course learning tasks. Thus, the participants of Case 2 were free to access the online course content. Although the data was excluded from the analysis, it is significant to note that even though they did not have to follow the learning tasks of the MCQ course, 10 of the participants from Case 2 accessed the course content, with a total of 99 interactions. As a result, with access to the course content open to all of the participants, it helped at least in supporting them with additional content that was free to access. However, whilst they did not systematically follow the learning tasks, it can be said that they were curious about new knowledge (with the MCQ course having been updated since the Case 2 participants had taken a similar course in their previous FD program in which they were certified. This may be explained as adult learners being internally motivated and self-directed. Since Case 2 participants did not seek certification for the one course of the program they attended, they were notably ready to explore new content when it was provided.

Figure 4.1 shows the types of participant access to the online platform. There were a total of 799 interactions recorded for Case 1, with 45 interactions sourced from mobile devices which accounted for 5.63% of the total interactions. However, the participants of Case 2 used mobile devices to access the system much more than

seen in Case 1. Of a total of 340 online interactions for Case 2, 54 of those interactions were made using mobile devices, representing 15.88% of the total number of interactions. Therefore, Case 2 participants used mobile devices more actively during the program. Mobile devices may have enabled Case 2 participants to interact quickly as push notifications were received immediately when announcements had been sent to the participants.

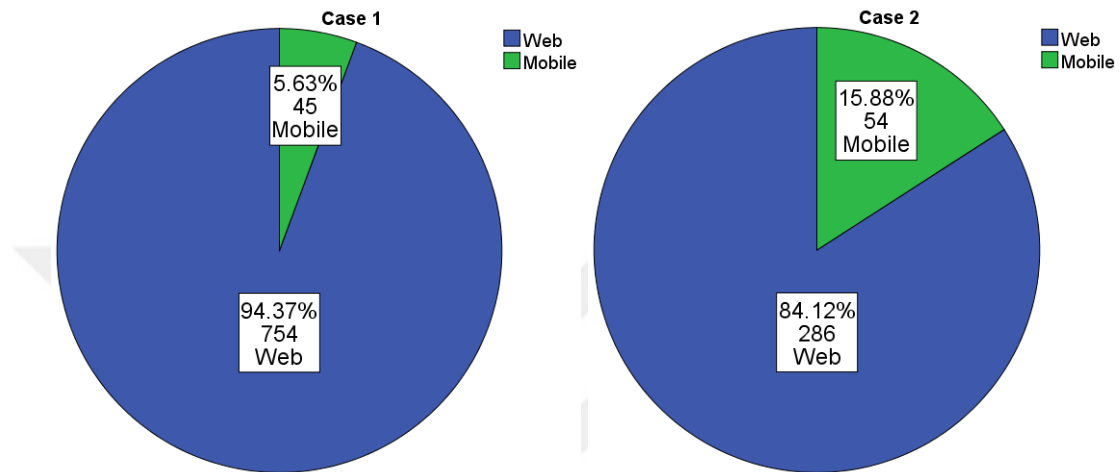


Figure 4.1 Type of access for e-learning course

As shown in Figure 4.2, study periods were investigated through interrogation of the system logs. The study period consists of three periods. First, “working hours” relates to 08:00 to 17:00 on weekdays (Monday to Friday). Second, “time off” relates to the non-working periods from 17:01 to 07:59 (on Monday afternoon until Friday morning). Last, “weekend” relates to the period from 17:00 on Friday afternoon until 08:00 on Monday morning.

According to the findings, the participants studied and used the system mostly during their working hours for each case. During the weekend, participants from Case 2 interacted with the system with a frequency of 88 interactions (25.88%), while Case 1 participants were less active during the weekend (7.38%). Overall, the participants from Case 2 were more active than those from Case 1 when away from work. However, in terms of total number of interactions, the participants from Case 1 were much more active on the system, with a total of 799 interactions (Case 1) compared to 340 (Case 2).

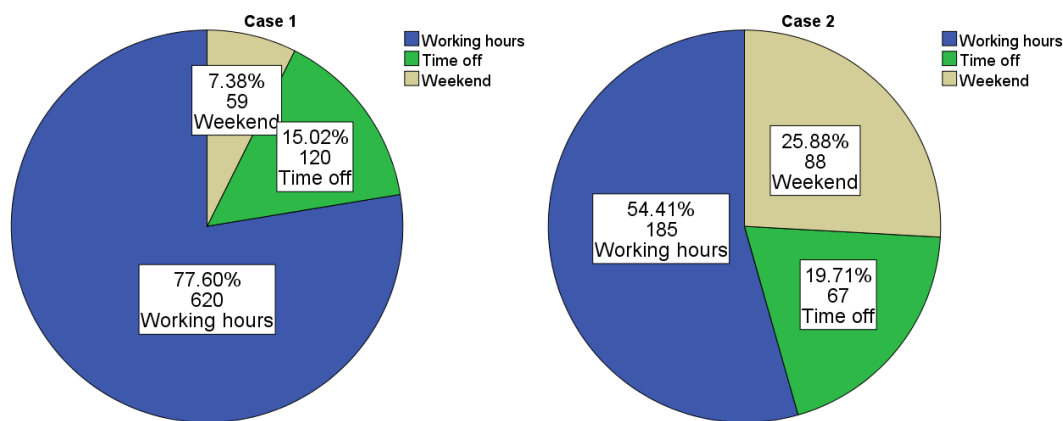


Figure 4.2 Distribution of online study time in e-learning course

According to the system logs, the participants accessed the system during the online period of their blended learning faculty development course. The participants from Case 1 were more active than those from Case 2. However, it is important to note that the participants from Case 2 were more active during out of work (weekday) periods, whilst the participants of Case 1 were more active during the weekday working hours. Their usage patterns showed that they used the online activities whenever they needed to. Therefore, they are seen to be relatively experienced with online activities.

4.1.2. Involvement of Participants in Learning Tasks

Based on the course design, the participants were tasked with following and completing learning tasks, with each of the two courses having different learning tasks. The participants were supposed to request two courses using the online system. Moreover, they were required to create and develop e-learning courses in the scope of their assigned learning tasks.

In a similar vein to the e-learning course, the MCQ course also had various assigned learning tasks. The participants were tasked with writing multiple-choice questions for different levels of measurement. In this section, the e-learning courses and MCQs developed by the participants based on the assigned learning tasks are analyzed using rubrics. The result may provide insight into how involved they became with the learning tasks, and to what degree they were completed.

4.1.2.1. Participants' Involvement in Learning Tasks for e-Learning Course

Both case study groups enrolled to the e-Learning course. Based on learning tasks, they were asked to develop two separate courses. The courses were scored based on the holistic rubric for e-learning courses. Table 4.3 shows the results for each case. Analysis showed that three of the participants did not make any requests for an e-learning course. The remainder of the participants made at least one course request.

The participants of Case 1 and Case 2 developed a total of 24 courses. Therefore, overall, a total of 48 courses were developed by the participants. Although four of the participants made six course requests, they did not follow the remainder of the learning tasks to further work with the content in e-learning courses. The majority of the participants completed the basic learning task classes. There were only two participants who completed all of the learning tasks in three courses.

Table 4.3 *Involvement of Participants for e-Learning Course's Learning Tasks*

Rubric Grade	Case 1 (N = 14)		Case 2 (N = 12)	
	<i>n</i>	<i>f</i>	<i>n</i>	<i>f</i>
0 Course request was not made	1	1	2	2
1 Only one course was requested	4	6	-	-
2 Single resource was added	2	2	7	10
3 Various resources were added	5	6	4	7
4 Activity and resources were added	5	5	3	3
5 Course content supported with syllabus by using items such as learning objectives	1	1	2	2
6 Faculty combined e-learning environment with course activities and learning objectives, and/or competency objectives	2	3	-	-
Total	24		24	

f = number of courses, *n* = number of participants

4.1.2.2. Participants' Involvement in Learning Tasks for MCQ Course

Case 1 participants enrolled in the Writing Multiple-Choice Questions course in addition to e-Learning Course Development. A total of 39 multiple-choice questions were developed by the participants. Each question was scored using the MCQ rubric (see Section 3.5.4. for details of the calculation method).

Table 4.4 presents the quality assessment matrix scores of the participants' MCQs. According to the scores, there were seven questions that contained technical errors that were written by three of the participants. The majority of the questions targeted the knowledge level with 27 questions. There was only one question that achieved a maximum score of five points. Therefore, it can be said that most of the participants did not follow all of the learning tasks in order to improve their ability to write better multiple-choice questions.

Table 4.4 *Quality Assessment Matrix Scores of MCQs*

Matrix Score	<i>n</i>	<i>f</i>
0	3	7
1	12	27
2	1	1
3	3	3
4	-	-
5	1	1
Total	39	

f = number of questions

4.1.3. Satisfaction of the Participants

Overall satisfaction of the study's participants were measured with a questionnaire. The questionnaire was originally developed by Karadeniz (2012) and subsequently modified by the researcher for use in the current study. **Hata! Yer işareti başvurusu geçersiz.** shows the verbatim English language translation (from Turkish) of the questionnaire items. The original language of the questionnaire can be seen in Appendix H.

The questionnaire has four areas that were applied in order to understand the different aspects of the participants' satisfaction toward the blended learning faculty development course. The participants completed the satisfaction questionnaire online following completion of their interviews. The findings for each area are presented in **Hata! Yer işareti başvurusu geçersiz.**, and explained as follows.

The first area is *system satisfaction*. When the findings were investigated, only Item 4 was found to be rated between 4 and 5 for both case studies. During the intervention, there was no system down time (offline); it was always online. This

finding was found to be aligned with reality. However, the rest of the items in the first factor were rated between 3 and 4. Although this reflects a positive level of satisfaction, the system requires some level of improvement. The findings showed that the participants did not find the system as easy and friendly to use as it could be. One outcome to note is that the participants of Case 2 were much more positive than those from Case 1. Since the system has been used for some time by the faculty, the participants were all used to the Moodle LMS system. Therefore, their pattern was much more positive. However, they also accept (Item 3) that the system is not that easy to use.

Second, *course structure* was asked with a total of seven items. All items were rated between 4 and 5, except for Item 11 for Case 2. Overall, the participants were satisfied with the course structure and the design of the courses. Case 1 scored Item 12 ($M = 4.79$, $SD = .43$) as the highest in this area. The participants were reportedly happy with their f2f sessions, in addition to their online activities. Since most of the Case 1 participants were junior faculty members, it was important to conduct their f2f sessions with community support. The participants from Case 2 scored Item 10 ($M = 4.67$, $SD = .49$) the highest. They were happy for additional materials that provide the opportunity to access resources to improve their teaching skills.

Third, *instructor support* was also examined as another factor. The participants rated instructor support above 4 points for all items, except for Item 14 in Case 2. According to the means values of the items, the participants were satisfied with the f2f sessions, as described in Item 13. The participants in both Case 1 and Case 2 gave the highest scores to Item 13, with a mean of 4.71 ($SD = .47$) and 4.33 ($SD = .49$), respectively. Generally, the participants were satisfied with their instructor support.

The final area was *learning tasks*. The participants of Case 2 were satisfied in all items, having given a score of between 4 and 5, while the participants of Case 1 rated Item 20 and Item 22 below 4 points. Since the participants of Case 1 took other courses during their FD program, the overall learning tasks may have been too onerous for some of them to complete; and therefore, they rated the items as seen.

Having course modularly might result in a satisfaction increase as seen in Case 2, in which the participants only took a single course.

Table 4.5 *Satisfaction of Participants for Blended Faculty Development Courses*

	Case 1 (N = 14)		Case 2 (N = 12)	
	M	SD	M	SD
LRC Moodle System				
1. LRC Moodle system is easy to use	3.71	.61	3.92	.51
2. Design of LRC Moodle system is user friendly	3.79	.89	3.92	.67
3. Content of LRC Moodle system (elements such as menu or list of course content including message, calendar etc.) is easy to understand	3.86	.66	3.75	.62
4. LRC Moodle system runs stable	4.21	.70	4.00	.60
5. LRC Moodle system makes it easy to find content that I need	3.71	.73	3.83	.72
Course Structure				
6. Presenting course subjects in holistic structure is beneficial	4.36	.50	4.58	.51
7. Videos in courses make learning easier to me	4.50	.52	4.17	.94
8. I am pleased with the course materials	4.14	.66	4.08	.79
9. Presentation of the course slides is beneficial	4.29	.73	4.33	.89
10. Additional course materials uploaded to the system are beneficial	4.50	.52	4.67	.49
11. I can reach course announcements easily	4.43	.65	3.75	1.29
12. I am pleased that the courses are supported with f2f sessions	4.79	.43	4.33	.49
Support of Lecturer				
13. F2f sessions with lecturer are beneficial through course	4.71	.47	4.33	.49
14. I communicate easily with the lecturer by using "Messages" tool in Moodle system	4.36	.63	3.67	1.30
15. I get timely answers to my questions directed to the lecturer	4.21	.70	4.17	.58
16. Lecturer helps me to learn subjects in the course	4.29	.61	4.33	.65
17. I get useful feedback from the lecturer	4.29	.61	4.25	.62
Learning Tasks				
18. Learning tasks were appropriate for my level	4.21	.58	4.42	.51
19. Number of learning tasks was adequate	4.14	.53	4.25	.62
20. Performing the learning tasks was easy	3.79	.70	4.00	.74
21. Sufficient opportunities were provided when performing learning tasks	4.14	.66	4.08	.79
22. It was beneficial to repeat learning tasks by increasing the number of exercises	3.86	1.03	4.17	.83

According to the findings of the Questionnaire of Satisfaction on Blended learning, it can be concluded that the participants for each case were satisfied with the blended learning that they received in four areas. The experiences of the participants were positive and satisfied for the blended learning faculty development courses.

4.1.4. Change in Knowledge and Skill of the Participants

The participants of Case 1 attended the blended faculty development courses as well as other courses in the faculty development program. The FD program uses an application form that acts as a pre-survey form, and an evaluation form for a post-survey, which, when assessed combined, measures the skills for each module in the program. Since the participants of Case 1 attended the full program, they also completed the pre- and post-test surveys.

The questionnaire measures skills in 10 items. The items were rated in three dimensions based on self-reporting, with those dimensions being Importance Level, Current Competency, and Desired Competency. Means and standard deviations are presented for selected items of the pre- and post-test survey. The direction of the scores toward the post-survey results was also presented as “D” (for Direction).

The first dimension of the questionnaire is Importance Level. The participants graded the Importance Level from 0 (not important at all) through to 3 (very important). The average scores of skills increased over time. All of the scores were close to being “very important.” Therefore, it could be said that the participants found the faculty development contents to be important.

The second dimension of the questionnaire examines the Current Competency in terms of the participants’ skills. The participants graded items from 1 (very poor) through to 5 (master). As can be seen in Table 4.6, the average scores show that an increasing trend toward the post-survey results. Moreover, Items 4, 2, and 9 each showed the most increase in mean difference for each item, with 2.14, 2.05, and 2.03, respectively. Overall, the current knowledge showed a large increase in skills of the participants in Case 1.

Finally, in the third dimension, the participants were also asked to rate their Desired Competency level that they wanted to achieve as medical teachers. The items were

also scored the same as for the second dimension (Current Competency), hence, the scores ranged from 1 through to 5 for each item. All items showed an increasing trend, with the average scores quite close to the maximum score; indicating that the participants wanted to improve themselves further. Also, the more they knew about the topics, the more they raised awareness toward the topics. Overall, it can be said that the participants wanted to improve further and gain more new skills.

Moreover, when the pre-survey results for Desired Competency and post-survey results for Current Competency are compared, it can be seen that the participants were relatively close to where they wanted to be at the end of the course. However, none of the items were scored as being higher than the Desired Competency level expressed in the pre-survey. Therefore, it may be said that the medical teachers did not learn or practice sufficiently to all be where they wanted to be based on the pre-survey.

Table 4.6 Pre- and Post-Survey Results

	Importance					Current Competency					Desired Competency				
	Pre		Post		D	Pre		Post		D	Pre		Post		D
	M	SD	M	SD		M	SD	M	SD		M	SD	M	SD	
1. To write proper multiple-choice questions with five choices and one true answer.	2.75	.45	2.89	.33	+	2.67	.65	4.00	.71	+	4.50	.67	4.78	.44	+
2. To interpret the results of item analysis of multiple-choice questions correctly.	2.73	.47	2.89	.33	+	2.17	.83	4.22	.67	+	4.25	.97	4.78	.44	+
3. Being able to integrate the e-Learning environment of one's own course.	2.75	.62	2.89	.33	+	2.17	.72	4.11	.60	+	4.25	1.22	4.67	1.00	+
4. To share resources (such as presentation, pdf files) in e-Learning environment using Moodle	2.70	.67	2.78	.67	+	2.08	.79	4.22	.67	+	4.33	.98	4.89	.33	+
5. Being able to connect with additional resources using Moodle.	2.80	.42	2.89	.33	+	2.42	1.08	4.00	.71	+	4.25	1.22	5.00	.00	+
6. To prepare a single question survey by using the activities feature of Moodle.	2.70	.67	2.78	.44	+	2.18	.75	4.00	.71	+	4.33	.98	4.67	.71	+
7. To use the label feature in planning and visualizing course content in Moodle.	2.67	.71	2.89	.33	+	2.08	.79	3.78	.83	+	4.25	1.22	5.00	.00	+
8. Creating linked pages in Moodle using the rich content and hypertext features.	2.67	.71	2.78	.44	+	1.92	.67	3.89	.33	+	4.33	.98	4.89	.33	+
9. Being able to use Moodle forum activity for discussion, question-answer and exchanging ideas.	2.80	.42	2.89	.33	+	2.08	.79	4.11	.60	+	4.17	1.03	4.56	.73	+
10. Being able to add homework activities and give feedback on Moodle	2.80	.42	3.00	.00	+	2.08	.79	4.00	.71	+	4.17	1.03	4.89	.33	+

N =14, D = Direction of mean difference from pre to post-survey

4.1.5. Views on Blended Learning

The experiences of the participants were also investigated through semi-structured interviews with each of the participants after completion of their blending learning faculty development course/s. The interview results highlighted several themes and subthemes in order to emphasize and understand the experiences and perceptions of the study's participants.

The preferences of the participants were derived from the interview data so as to understand their overall experience and attitude toward blended learning (BL). All of the participants responded to the question about wanting to take more courses through blended learning. All of the interviewees responded that all courses should be supported with e-learning. Therefore, it can be said that their attitude toward BL learning seemed positive. Some of the participants mention BL as follows.

When we consider the traditional and Internet separately, I understand that the blended method is one step ahead. Gathering both of them by taking their positive features gives advantages in many ways. P1

Karma yöntemin bir adım daha iyi olduğunu anlıyorum geleneksel ve interneti ayrı ayrı düşündüğümüzde. İkisinin de artı özelliklerini alıp bir arada toplamak birçok yönden avantaj sağlıyor. P1

The blended one is the most appropriate for me. The classic method is already boring and it is difficult to reach data. Also the motivation may not been able to be provided from the Internet environment when it was left to individual's own choice. When it is just Internet environment, it can take a backseat. That's why it seems to me that it is the most useful one. P18

Karma olan bana en uygun. Zaten klasik olan yöntem sıkıcı veriye ulaşmanız zor. Tamamen kişinin kendine bırakınca da motivasyon sağlanamayabiliyor internet ortamından. Sadece internet ortamı olunca ikinci plana atabiliyor insan. O açıdan karma olması en kullanışlı olanı gibi geliyor bana. P18

I think it's definitely blended. Because even though we have a background, there are things that we don't understand from the

assignments you send on the Internet. Anyway, I think that f2f contact has that difference. But only f2f would be boring. I think the last applied one is quite ideal. You try to do something on your own, but you also have the chance to ask when you come across. P4

Bence kesinlikle karma. Çünkü bizim bir birikimimiz olmasına rağmen bazı şeyleri sadece internette gönderdiğiniz ödevlerden anlamadığımız şeyler oluyor. Yine de yüz yüze o temasın o farklılığı var bence. Ama bir tek yüz yüze sıkıcı olur. En son uygulanan bence çok ideal bir şey. Hem kendiniz bir şeyler yapmaya çalışıyorsunuz ama karşılaştığınızda sorma şansınız da oluyor. P4

Although blended learning was seen by the participants as a course with a combination of f2f and online activities, their attitudes were examined further with another question to understand how they perceived the ratio of activities that took place. When the balance of online and f2f sessions was questioned, the participants differed in their views. Seven of the participants were unsure about their position, but the remaining 19 participants responded to the question. Figure 4.3 shows their preferences for apply differing balances on a course between online and f2f learning tasks. The findings show that most of the participants (from both case study groups) preferred f2f-dominated courses. The participants who favored online instruction also mentioned which online tools could be employed for support and communication tools to decrease f2f session durations.

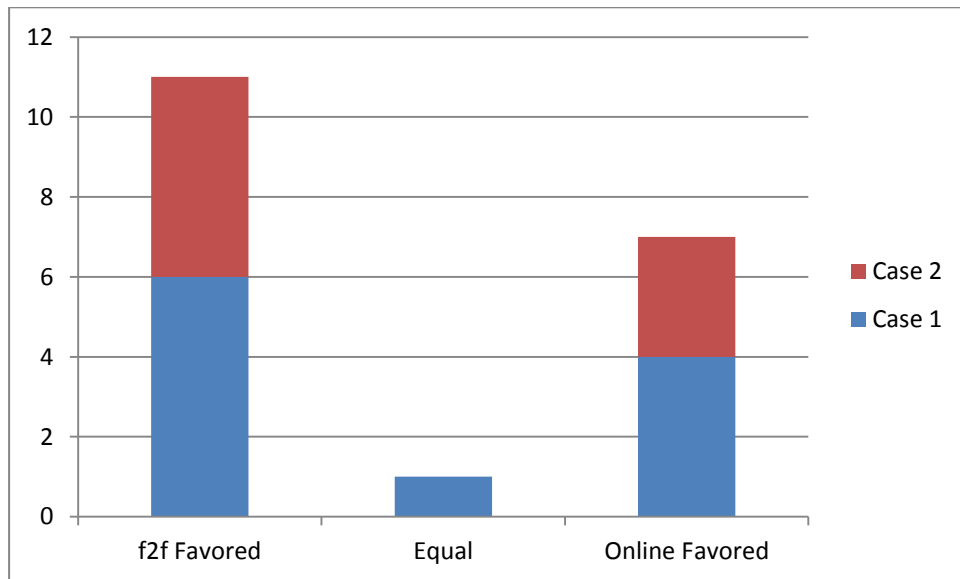


Figure 4.3 Preferences on f2f and online balance in blended learning

4.1.6. Summary of Results for RQ1

The experiences of the participant medical teachers toward blended learning in faculty development were sought to this first research question. Different data sources showed that the medical teachers engaged in the learning tasks to create experience at different levels. While some of the medical teachers made use of most of the activities, some used the activities less, or not at all, based on data from the system's online user logs.

According to the transcribed quotes of the medical teachers and the satisfaction questionnaire results, the participants were satisfied overall with the blended learning experience in faculty development. Moreover, they reported that they expected to receive instruction through blended learning in future implementations. However, the f2f sessions were seen as being of more importance to them, and that online support should be present in all cases for content, communication, and further development in their own time. Furthermore, the learning tasks were also found to be appropriate by the participant medical teachers. Lastly, there were positive changes seen in the knowledge and skills of the participants in Case 1 between their pre- and post-survey results for all items.

To conclude, the medical teachers had experiences in blended learning for faculty development courses that resulted in positive views and attitudes being reported.

4.2. Barriers and Motivators for Blended Learning Faculty Development

Faculty development programs offer many potential improvements to the skills and knowledge of medical faculty members with teaching responsibilities. However, from enrolment to completion, there are certain barriers to such programs. Providing adequate motivation to medical teachers might be a means to overcoming many of these issues. For this purpose, the second research question of the study was created, **“How do medical teachers define the barriers and the motivators for blended learning faculty development courses?”**

Answers given by the interviewees to the question related to barriers and motivators were subsequently analyzed. The findings are summarized in Figure 4.4 and showed

all the themes for barriers and motivators of blended learning faculty development courses.

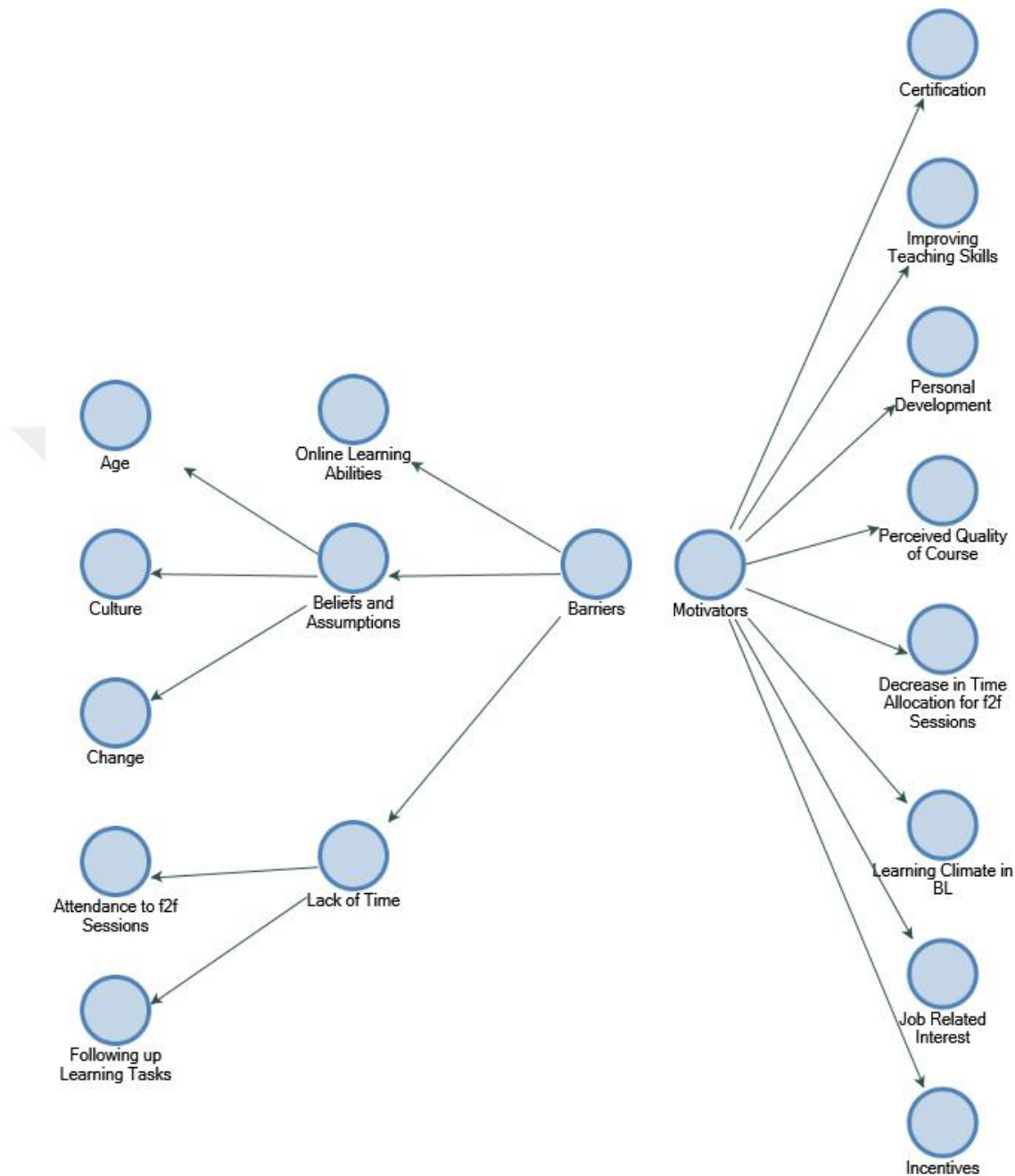


Figure 4.4 Map of themes for barriers and motivators

4.2.1. Barriers to Blended Faculty Development Course

The *barriers* that were reported to blended learning in faculty development emerged in three main themes. Table 4.7 presents the themes for barriers *Lack of Time*, *Beliefs and Assumptions*, and *Online Learning Abilities*. Both case study groups asserted the same themes, but with different prioritization. According to the findings, *Lack of Time* was prioritized the highest (by Case 1), while *Beliefs and Assumptions* was second (by Case 2).

Table 4.7 *Themes for Barriers*

Case 1 (N = 14)	<i>n</i>	<i>f</i>	Case 2 (N = 12)	<i>n</i>	<i>f</i>
Lack of Time	11	16	Beliefs and Assumptions	7	24
Beliefs and Assumptions	6	7	Online Learning Abilities	5	7
Online Learning Abilities	3	4	Lack of Time	4	5

f = Code frequency

4.2.1.1. Lack of Time

Lack of time was perceived as an important barrier for the participants of Case 1. Eleven participants of Case 1 reported time-related barriers, compared to four participants from Case 2. In total, more than half of the participants reported *Lack of Time* as being a barrier.

In-depth analysis expanded this theme into two subthemes: *Following up Learning Tasks* and *Attendance to f2f Sessions*.

Following up the Learning Tasks

Within the course designs, there were several learnings tasks assigned to the participants in order to guide their learning process. In total, 10 of the participants mentioned how hard it was *Following up the Learning Tasks*. Although most of the learning tasks were supposed to be completed online, the participants struggled in completing them. Providing learnings tasks and requiring participants to follow all of them may be overwhelming to some due to their clinical and teaching workload.

I could not spend too much time on tasks because of the problems. Due to temporal problems... You know some students scribble something only for not saying “I didn’t do.” Mine was kind of that type. P24

Problemler yüzünden görevlere çok fazla vakit ayıramadım. Zamansal sorunlardan dolayı... Öğrenci vardır ya yapmadım dememek için bir şeyler karalar. Biraz benimki o modda oldu. P24

We had to continue because it was the last course however in background, we had a working environment that bothered us. I have to do this etc. After I left at 1 pm, I had to complete things within the office hours and because of this situation I had difficulties in completing the learning tasks, many people had. P9

Son eğitim olduğu için devam etmek zorunda kaldık ama arka tarafta bizi rahatsız eden bir iş ortamımız vardı şunu yapmam lazım. 1’de çıktıktan sonra mesai saatleri içinde tamamlamam gereken işler vardı bu durum öğrenme görevlerini tamamlamada beni zorladı, çoğu kişiyi zorladı. P9

I am in a tough bind in the busy schedule. The patients are accepted in order, I miss that. The patients are waiting and their everything is ready. We have to think about them... They made an appointment and it’s the natural one. There are patient relatives came from Germany and you cannot postpone them. I don’t even want to take administrative function. Binds are bad. P26

Yoğun programda ben çok sıkışıyorum. Hastalar sıra ile alınıyor o sırayı kaçıyorum. Hastalar bekliyor her şeyleri hazır. Onları da düşünmek lazım... Randevu almışlar, doğal olan o. Almanya’dan gelen hasta yakınları var onu erteleyemezsin. İdari görev bile almak istemiyorum. Bağlayan şeyler kötü. P26

Attendance to f2f Sessions

Another barrier reported by the participants was *Attendance to f2f Sessions*, as the medical teachers were required to be present for the f2f sessions of the FDP courses. Eight of the participants reported that allocating time to attend the courses become hard within such a busy workplace environment. Advance arrangements should be made according to the course program. Moreover, the long duration of the courses

may affect attendance of the f2f sessions by some. Participants P13 and P16 described their workplace and scheduling arrangements as follows:

In my view, I could not enter the operations I wanted to enter. It was not problem for the patient but for me... Not in terms of learning experience. When the break intervenes, it will break the integrity but I prefer the flexible schedule because of my work. Today is the day of cleaning, for example, I could stay all day today... P13

Kendi açımdan girmek istediğim ameliyatlara giremedim başkası girdi. Hasta açısından sıkıntı olmadı ama kendi açımdan... Öğrenme deneyimi açısından değil. Araya ara girince de bütünlüğü bozacaktır ama işim nedeni ile esnek programı tercih ederdim. Bugün temizlik günü, tüm gün kalabilirdim mesela bugün... P13

For example, I came after I arranged all my shifts. We might not have been able to arrange. Because you have to arrange a lot of things consecutively. Coming in the morning can create a problem in many branches. P16

Mesela ben tesadüfen bu ay nöbetlerimi ayarlayıp geldim. Belki de ayarlayamayabilirdik. Çünkü arka arkaya bir sürü şeyi ayarlayan gerekiyor. Sabahtan gelmen için birçok branşta sıkıntı olabilir. P16

4.2.1.2. Beliefs and Assumptions

Beliefs and Assumptions were seen as another major barrier to blended learning of a faculty development program. Integrating online components in which participants are used to taking courses by traditional methods of teaching and learning made different impressions on the medical teachers. Therefore, this theme was built upon their points of view. Of the 26 participants, 13 mentioned their beliefs and assumptions with regards to blended learning; meaning that exactly half of the participants' beliefs and assumptions affected their views. In-depth interview questioning revealed three subthemes, which are: *Age*, *Change*, and *Culture*.

The theme of *Beliefs and Assumptions* was considered the first barrier for Case 2 participants, while it was the second for Case 1. The experienced senior medical

teachers saw it as the most important barrier for a blended learning faculty development course.

Age

Seven of the medical teachers saw the *Age* as a potential barrier. They reported that age may be a cause for lack of concentration, lack of technology usage, and lack of ability to adapt. Some of the participants' views were quoted as saying:

After a certain age, the concentration decreases. P8

Belli bir yaştan sonra konsantrasyon azalıyor. P8

It is very important for the academician, I think we can adapt more, however the adaptation of the older lecturers is much weaker. P16

Akademisyen için çok önemli bizim daha fazla adapte olabileceğimizi düşünüyorum ama eski hocaların adapte olabilmesi çok daha zayıf. P16

As they get older, they can't be familiar with the system. No matter how close the ages were, I think people couldn't do a lot of things because they couldn't spare time. P3

Yaş ilerledikçe o sisteme aşına olamıyorlar. Yaşlar ne kadar yakın da olsa vakit ayıramadıkları için pek çok şeyi yapamadı insanlar bence. P3

You may say that by age, the fact that we are accustomed to our classic education system. Indeed, I rather prefer it. It's also happening in congresses. P1

Belki yaş itibari ile diyebilirsiniz bizim klasik eğitim sistemine alışık olduğumuz da bir neden olabilir. Daha çok onu tercih ediyorum doğrusu. Kongrelerde de öyle oluyor. P1

Change

Change is another subtheme of *Beliefs and Assumptions*. The *Change* subtheme was brought to light by the participants of Case 2, with six of them having emphasized change during their interviews. Altering routine was seen as another barrier. However, the Case 1 participants did not mention anything about change. Therefore, it can be said that the senior medical teachers were not open to change and therefore it may become an obstacle.

In truth, I am a person who reacts to everything new, but I get used to it after a while. P15

Vallahi ben kiři olarak yeni olan her řeye kendi içinde tepki koyan biriyim ama bir müddet sonra alışıyorum. P15

There is usually a resistance. For instance, it happens also when teachers go to a driving school. The important thing is to get what's given. P5

Genelde bir direnç oluyor. Öğretmenler ehliyet kursuna gidince de oluyor mesela. Önemli olan verilen şeyi alabilsek. P5

Culture

The last subtheme of *Beliefs and Assumptions* is *Culture*. Four of the participants mentioned culture as a barrier. The participants stated that getting used to one method and then adding other methods to learning may not help them. Moreover, the traditional point of view is also affected like culture. They are afraid that introducing blended learning may bring about additional workload, especially learning tasks to be completed beforehand.

I am a classicist man, my learning model is like this. I must go on without anything intervening cause, so this schedule is ideal in terms of duration. I think it wouldn't have the same effect for me if it was just online. P11

Ben klasikçi bir adamım benim öğrenme modelim böyle. Araya başka bir şey girmeden devam etmem lazım o nedenle bu program süre olarak da ideal. Sadece online olsa benim açımdan aynı etkide olmazdı diye düşünüyorum. P11

Because we are traditional faculty member of a traditional school, just like I said, we get what we can get in the course, but it's hard for us to do homework online. Because of that it comes up to that ratio [online and f2f balance]. Our culture is weak. P10

Geleneksel bir okulun geleneksel öğretim üyeleri olduğumuz için tam da söylediğimiz şekilde derste ne aldysak aldık ama internette ödevlerimizi çok

zor yaparız. Dolayısı ile o orana [online and f2f balance] geliyor aslında bu. Kültürümüz zayıf. P10

We are a nation who never read the manual of an electronic device. We are a nation who tinker with the devices. So what can be done? For instance, in faculty development, homework can be asked from that videos. There should be indications like “Everyone will watch this video, and will do that” and it will appear that who done what. There should be either stick or carrot for Turkish people, I am saying it including myself. Otherwise when we say “watch it we will meet tomorrow,” because of there are no output of whether we watched or not, no one will not watch. P19

Biz hiç bir elektronik aletin kılavuzunu okumayan bir milletiz. Açıp kurcalayarak yapan bir milletiz. Yani ne yapılabilir eğitici gelişiminde o videolardan ödev istenebilir bakması için. Herkes şu videoyu izliyor ondan sonra da şunu yapacak denilecek hem kimin yaptığı belli olacak. Ya sopa ya havuç olacak Türk insanına kendimi de katarak söylüyorum. Yoksa izleyin bakalım yarın toplanacağız dediğimizde izleyip izlemediğinizin bir çıktısı olmadığında kimse izlemeyecektir. P19

4.2.1.3. Online Learning Abilities

The last theme for barriers is *Online Learning Abilities*. Generational differences may create a gap in terms of Information and Communication Technology (ICT) skills. Eight of the participants pointed out that technology frightens some of the medical teachers. Furthermore, learning how to use such technology must be both adopted and disseminated by them to their medical students. The more they feel “into” the online technology, the more they are able to overcome this perceived barrier to their online skills.

I had difficulties while getting into LRC. I had other projects in the evenings. I was restricted in there. I’ve a little hard time trying to find where to enter. There was a little deficiency in the information that guided me. That menu structure needs a little improvement. Today we

even looked for 2-3 minutes to find out where to upload the assignment. It needs a little more simplification. P9

ÖKM'ye girmekte zorlandım başka projelerim de vardı aksamaları orda kısıtlandım ama gireceğim alanları ararken biraz zorlandım nerden girmem gerekiyor beni yönlendirici bilgiler o konuda biraz eksikti. Biraz da o menü yapısının gelişmesi lazım. Bugün bile baktık 2-3 dk. nerden gireceğiz ödevi diye bulmam gerekiyor biraz daha basitleşmesi gerekiyor. P9

People are afraid of also technological things. Technological things may need to be told a little more. If this is really wanted, the subsystem support can be established. P5

Teknolojik şeylerden de insanlar çekiniyor. Belki biraz daha teknolojik şeyleri biraz daha anlatmak gerekebilir. Bunu gerçekten yapmak istiyorsa alt destek yapılabilir. P5

Homework [doing] etc. are kind of hard. It is difficult for us because we are unfamiliar with the system. P2

Ödev [yapmak] vs. zor gibi. Biz sisteme yabancı olduğumuz için zor geliyor. P2

4.2.2. Motivators of Blended Faculty Development Course

The findings based on the semi-structured interviews clarified a second part of the research question as *Motivators*. In total, eight themes emerged from the analysis. Table 4.8 presents these themes and their order for both case groups based on the number of participants that mentioned motivators. *Personal Development* was the most motivating factor for Case 1, whereas *Improving Teaching Skills* was the most mentioned motivator for Case 2.

Table 4.8 Themes for Motivators

Case 1 (N = 14)	n	f	Case 2 (N = 12)	n	f
Personal Development	10	14	Improving Teaching Skills	5	7
Improving Teaching Skills	8	11	Job Related Interest	4	5
Certification	6	11	Personal Development	3	4
Perceived Quality of Course	4	4	Incentives	2	8
Learning Climate in BL	3	3	Perceived Quality of Course	2	2
Decrease Time Allocation	1	1	Certification	1	1
for f2f Sessions					
Incentives	1	1	Learning Climate in BL	1	1
Job Related Interest	1	1			

f = Code frequency

4.2.2.1. Personal Development

Participants of Case 1 reported that *Personal Development* motivated them the most. Ten out of the 14 participants from Case 1, and three out of the 12 participants from Case 2 mentioned how the courses improved their abilities in areas they perceived as lacking in their personal competencies. As junior medical teachers, they saw blended learning in faculty development as an opportunity for personal development. Blended learning faculty development courses can be said to have the potential to aid personal development.

The first one of my objectives for my course and to be here is to do research, the second is patient care and the third is education. We have not received training [before]. I also mentioned in the feedback. I had no idea how to prepare a question. When measuring a person's knowledge it is necessary not to use a negative expression. I've put a comma here and saw how unimportant that to pay attention. I came to close a period that is missing for me. P11

Benim kursa geliř amacım benim burada var oluş sürecim bir araştırma yapmak, iki hasta bakmak, üç eğitim. Bu konuda [daha önce] bir eğitim almadık. Geribildirimde de yazdım. Soru hazırlama konusunda en ufak bir fikrim de yoktu. Bir insanın bilgisini ölçerken negatif bir şey kullanmamamız lazım. Buraya virgül koydum ne kadar dikkat etmenin önemsiz olduğunu gördüm. Kendimce eksik olan bir dönemi kapatmak için geldim. P11

It becomes possible for the individual to see their shortcomings. I think it is the best one. Also my tenure track is newly coming, these are the periods when we step into the associate professorship. Well, you know I did not have an account in entering question. The best is to being able to see shortcomings and then ask them to you. It is important to be able to get information from safe [trusted] people! P4

İnsan eksikliklerini görüyor. Bence en güzel şey o. Bir de benim kadrom yeni geliyor, doçentliğe yeni adım attığımız dönemler. İşte biliyorsunuz o soru girmede benim şeyim yoktu hesabım. En güzel yani eksikliklerini görmek sonra sizlere de onları sorabilmek güvenli [güvenilir] kişilerden alabilmek önemli! P4

I have a mechanic for how it can be used in terms of my personal development. P14

Bireysel gelişimim için nasıl kullanabilmeme yönelik bir mekaniğim var benim... P14

For the faculties, it will be of great help to their self-improvement. P10

Öğretim üyesi açısından kendini geliştirmek adına çok faydası olacaktır. P10

4.2.2.2. Improving Teaching Skills

As the primary focus of the blended learning faculty development courses in the current study, *Improving Teaching Skills* emerged from the analysis as a motivating theme. Of the participants, 13 in total reported that the courses motivated them to improve their teaching skills. Although the theme took first place for Case 2 with five participants, eight participants from Case 1 also reported the theme as a major motivator for the courses. Therefore, it can be said that the scope of the courses is of value to its participants, and that they saw the courses as an opportunity for their own professional development.

Participant P24 clarified his motivation as workplace responsibilities and possible knowledge to be gained from the courses in order to provide better teaching. Additionally, participant P17 mentioned her motivation from a student perspective,

as improving her skills for the benefit of future generations motivated her to become a better educator.

At the moment, we are viewed as future faculties. From my point of view, I am getting the first steps of the education career. When I came across an education for a faculty, I thought I shouldn't miss it and I was thrilled. I have to attend this education. For example, why do we have regular assistant trainings? Intern trainings are provided for 2nd and 3rd grade students. We become role model for the students. At this point, in order to get close to them, I came to learn the method of education while giving education. I can't say that my qualifications were super when I came to the course, but I started to learn how to fish. Frankly, that was why I came and I had motivation. P24

Gelecekte öğretim üyeleri olarak bakılıyor şu aşamada. Kendi adıma eğitici basamaklarının ilkini atıyorum. Eğitici eğitimi görünce kaçırmamam gerektiğine yönelik heyecanlandım. Mutlaka katılmalıyım. Ne için sürekli asistan eğitimi var mesela bizde. İntörn eğitimi var belli aralıklarla gelen 2. ve 3. sınıf öğrencileri var. Öğrencilere de rol model oluyoruz. Bu aşamada onlara da yaklaşımımız açısından bir şeyleri eğitirken eğitmenin de yöntemini öğrenmek için geldim açıkçası. Kursa geldim süper donanımlıyım diyemem ama nasıl balık tutulacağını öğrenmeye başladım açıkçası gelme sebebim buydu ve bu motivasyon ile de geldim. P24

I'm 40 years old, and there's a huge generation difference between me and the new generation. I wanted to come to class to be able to tell them enough, more appropriate and better quality lessons. My main objectives were to offer more benefits to students and to learn how to use the Internet actively. P17

40 yaşındayım yeni nesil ile aramda baya bir jenerasyon farkı var... Onlara yetip daha uygun daha kaliteli ders anlatabilmeyi hedefleyerek gelmek istedim. Öğrenciye daha fazla nasıl faydalı olurum daha aktif interneti nasıl kullanabilirim. Bunları öğrenebilmek amacımdı. P17

4.2.2.3. Certification

The program's participants become certified after successfully completing the faculty development program. The certification is generally seen as beneficial for their progression in earning the next level of academic title. Especially, program participants who are Attending Physicians are required to obtain certification in order to be promoted within their job. Seven of the participants reported *Certification* as a motivator.

To tell you the truth, we are making efforts to be tenured as the faculty members. We attend the classes instead of faculty member in a period of time but the education need to be taken before. To create awareness. This information transfer is not something everyone can do. People can learn the methods of teaching and learning. If people have the ability, to reach the upper levels is possible. This level falls after participation in this course. My initial aim was actually to get the certificate that I could use when becoming tenured. P7

Açıkçası biz burada öğretim üyesi kadrosuna geçmek için çabalıyoruz. İlerde böyle bir periyoda geçtikçe şu an öğretim üyesinin yerine derse giriyoruz ama önce eğitiminin alınması gerekiyor. Farkındalık yaratmak adına. Bu aktarma işi herkesin yapabileceği bir şey değil. Eğitme ve öğrenme yöntemlerini kişi öğrenebilir. Kişide yetenek varsa yüksek düzeye de çıkabilir. Bunu edinebilmek bu kursa katıldıktan sonra düşer. İlk baştaki amacım kadroya girerken kullanabileceğim sertifikayı almaktı. P7

Actually, my purpose of getting this education was only to receive certificate. The reason of this was I had no information. Head of our department, our dean, mentioned that it would be useful if we attended and received this education and this motivated me to participate. P9

Sertifika için geldim açıkçası benim geliş amacım sertifikaydı öğrenme beklentim fazla yoktu. Çünkü bilğim yoktu. Anabilim dalı başkanımız, dekanımız bu eğitime katılın dedi sertifika alın dedi o motivasyonla katıldım... P9

4.2.2.4. Perceived Quality of Course

Faculty development courses should be of value to the participants, and how the participants of the current study benefitted from the blended learning FD courses was considered by the interviewees. The course content in the study was seen as important to the participants. *Perceived Quality of Course* was a theme that emerged from six of the participants. As participant P22 mentioned, the courses were designed for immediate use in a short time. Especially, the blended learning faculty development courses were seen as effective use of their time as academicians. In a short amount of time, they were able to complete the courses compared to the f2f sessions.

You will get rid of the useless information heap and you will reach the information in short time from the target lecture notes showed by the faculty. Definitely it is something that will save time and the biggest benefit of it is that. P22

Kirli bilgi yığınınan kurtulup hocanızın gösterdiği hedef ders notlarından kısa sürede ulaşacaksınız. Kesinlikle zaman kazandıracak bir şey en büyük faydası bu olur. P22

In classical system, everyone can use electronic technology very widely. For instance, while waiting for the flight on a trip, I can open my laptop or mobile device and get a chance to read. It's really a timesaver. It is very important thing to our academic life. We might need to study everywhere. A guideline is published, we can immediately download and check it. The same thing can be provided to the students. We are already trying to provide now... however if you say this takes complete place of the lessons, I might disagree with. P1

Klasik sisteme göre artık herkes elektronik teknolojiyi çok yaygın kullanıyor. Örneğin mesela bir yolculukta uçağı beklerken hemen bilgisayarından ya da mobil cihazından hemen bir şeyi açıp okuma şansını elde edebiliyorum. Zaman kazandırabiliyor gerçekten. Bizim akademisyenlik yaşantımız için çok elzem bir şey. Her yerde ders çalışmanız gerekiyor. Bir guideline çıkıyor hemen onu indirip bakabiliyorsunuz. Aynı şey öğrenciye de sağlanabilir. Ki

sağlamaya çalışıyoruz şu anda... ama tamamen derslerinin yerini bu alır dersiniz ona çok katılmayabilirim. P1

4.2.2.5. Learning Climate in BL

Four of the participants reported their views as *Learning Climate in BL*. Being social in f2f sessions was seen as an integral part of the BL process. The online part of the learning was seen as supportive information, whereas retention of knowledge was required to support the f2f sessions. Interaction and feedback was seen as important in BL.

After the technology is integrated, the socialization of people is increasing. The person cannot ask the question within 300 people but then they can ask via message. I think this situation is more advantageous in terms of self-improvement. Mutual interaction also has benefits in learning. You can learn something in front of the computer, but a humor or example that the teacher says at the moment can provide persistence. P7

Teknoloji entegre olduktan sonra kişilerde sosyalleşme daha artıyor. Kişi 300 kişi içinde belki soru soramaz ama sonra mesaj yolu ile sorabilir. Bu kişinin kendini geliştirmesi açısından daha avantajlı olduğunu düşünüyorum. Karşılıklı etkileşiminde öğrenmede faydaları var. Bilgisayar karşısında bir şeyi öğrenebilirsiniz ama ne kadar kalıcı olduğunu hocanın o an söylediği bir espri ya da örnek kalıcılık sağlayabilir. P7

An interactive learning environment, and self-direction of the faculty based on feedback are extremely important. P10

İnteraktif bir eğitim ortamı, geribildirimlere dayalı olarak öğretim üyesinin kendini yönlendirmesi son derece önemli bir şey. P10

4.2.2.6. Decrease Time Allocation for f2f Sessions

One participant mentioned the time allocation needed for attending f2f sessions. For long duration courses, participation can be problematic and can be hard to follow courses to the end of the program. On that point, BL was seen as a time saver, and a means to *Decrease Time Allocation for f2f Sessions*.

There were friends of mine who couldn't come to this program... the first thing they say that why it was 8 days. With the blended method, the reduction of f2f durations is good. P25

Benim konuştuğum arkadaşlarımdan gelemeyenler var bu programa... neden bu 8 günmüş ilk söyledikleri bu. Karma yöntem ile yüz-yüze sürelerin kısılması iyi bir şey. P25

4.2.2.7. Incentives

Another motivator seen by the participants was *Incentives*. The participants wanted to know if attending the courses would be supported with anything additional. Financing with some additional extras or award for participation could foster motivation for future course participants.

To create something tangible here. So in the end, it's one of its tasks. P25

Maddi bir şey burada oluşturmak. Yani sonuçta bu onun görevleri arasında olan bir şey. P25

Personal effort should be prioritized and supported with thanks. The biggest thing is to support lower base ..., I'm more motivated when a letter of thanks comes. Sometimes the students, sometimes the dean, are sending me such letters. As a result, I'm quite happy. In the same way, a motivating letter of thanks can be sent from time to time as a result of participation and support in e-learning. P12

Kişisel çabayı öne koyalım. Teşekkürler ile destekleyelim. En büyük şey alt tabanın desteklenmesi... Daha çok bir teşekkür mektubu gelse motive olurum mesela bazen öğrencilerden geliyor dekanlık bana gönderiyor, nasıl mutlu oluyorum mesela. O tarz ara ara motive edici, bu öğretim üyemiz e-öğrenmeye katılmıştır, desteklemiştir şeklinde. P12

4.2.2.8. Job Related Interest

The motivating final theme identified was *Job Related Interest*. Five of the participants mentioned the knowledge and experience that they could possibly gain from the courses as a good motivator for them. BL was seen as the current and

future methodology of education. Therefore, they wanted to be part of its development. They felt that they were able to improve their skills during the courses in order that they could then go on to transfer their knowledge into their own teaching.

Of course I would enter the notes [I would upload to the system]. I might upload resources or motivating things. P25

Tabi notlarımı kesin buraya girerim [sisteme yüklerim]. Kaynakları ya da motive edecek bir şeyler koyabilirim. P25

I wanted to learn a lot and had this kind of experience when I was abroad. I was using another e-learning platform more actively. I wanted to create a platform of our own here and I was very motivated. P20

Ben çok istiyordum öğreneyim diye yurtdışında da öyle deneyimlerim olmuştu daha aktif kullanıyorum başka bir e-öğrenme platformunu. Burada kendimizde yapalım diye çok istiyorum diye motiveydim. P20

4.2.3. Summary of Results for RQ2

Barriers and motivators were identified for blended learning faculty development based on responses to the second research question from interview results with the medical teachers. Three barriers and eight motivators were reported to launching a successful blended learning faculty development program. Some of the barriers may be eliminated or managed more easily, such as providing prior ICT skills training to medical teachers. However, beliefs and assumptions may require extensive work and community support in order to be successfully tackled.

Lack of time might be eliminated by providing some form of increased motivation in order to raise awareness. As a result, the medical teachers could attach a feeling of importance to faculty development, and thereby self-prioritize it against their other duties and commitments. Therefore, motivators are crucial in order to address barriers to faculty development. The theory of andragogy mentions learners' "need to know" as the first assumption. Creating a need for personal development, improving teaching skills and perceived quality, which were suggested motivators

that emerged from the views of the participants, may support medical teachers to establish an increased willingness to attend blended learning faculty development.

From an incentives and requirements point of view, especially junior medical teachers were highly motivated in order that they could progress in their professional careers. Therefore motivators could bring about improved results for FD programs in terms of knowledge and skills improvement.

4.3. Factors Influencing Experience of Medical Teachers in BL Faculty Development

In the first research question, experiences of the participants were considered. Several data sources were employed in order to investigate and understand those experiences. For the third research question, factors that influence those experiences were sought, and the question was formulated as, “**What are the possible factors which influence the experiences of medical teachers in blended learning faculty development courses?**”

Factors were identified from the semi-structured interviews, with the participants explaining how each factor influenced their experience. Analysis of the interview data revealed numerous factors that may affect the participants’ experiences in blended learning faculty development courses.

Table 4.9 shows all of the factors which emerged from the interviews. Each case study group came up with a different order for the factors, based on the number of participants that mentioned each factor. Overall, 11 factors were identified that may influence the experiences of participants in blended learning faculty development. Analysis showed that the participants from Case 1 prioritized *Workload* as the first factor, whereas for Case 2 it was *Novelty*. There are also subthemes for the factors which are detailed as follows.

Table 4.9 Themes for Factors Influencing Experience

Case 1 (N = 14)			Case 2 (N = 12)		
	<i>n</i>	<i>f</i>		<i>n</i>	<i>f</i>
Workload	14	54	Novelty	12	35
Novelty	11	26	Workload	11	35
Online Component	7	17	Flexibility in Learning	6	13
Need for Using Off-time	6	7	Instructor Support	4	5
Real World Transfer	6	7	Need for Using Off-time	4	4
Flexibility in Learning	5	8	Online Component	4	5
Instructor Support	5	8	Real World Transfer	3	4
Duration of Course	4	8	Personal Learning Preferences	3	5
Learning tasks	4	4	Duration of Course	2	3
f2f Component	3	6	f2f Component	2	5
Personal Learning Preferences	3	5	Learning Tasks	2	2

f = Code frequency

4.3.1. Workload

Workload was identified as a major factor that affected the participants' experiences in the BL program courses. Almost all of the participants, except for one from Case 2, mentioned *Workload* for a number of reasons such as busy working hours, too many responsibilities, and spending extra time during non-working (off) times. It is clear that concentrating on courses in a busy workplace environment like a medical faculty requires significant time allocation. As participant P21 mentioned, when there is no time to allocate for a faculty development course, the online part of the learning may become a disadvantage. Therefore, the workload is of crucial importance to be seriously considered for blended course designs.

If I could spare time for this program at home, it would be advantageous for me to have a longer distance education period. It could have been quite comfortable, but now I can't spend time in both office hours and in the evening, and long e-learning hours turn out to be a disadvantage for me. P21

Çünkü mesela ben evde zaman ayırabilen bir insan olsaydım uzaktan eğitim öğrenme zamanlarının daha uzun olması benim işime gelen bir şey olurdu. Rahat olan bir şey olurdu ama şu an gün içinde zaman ayıramadığım için

akşam da zaman ayıramadığım için e-öğrenme saatlerinin çok yüksek oranda olması bana dezavantaj olarak dönüyor. P21

It can be quite difficult for clinicians. Our schedule is already pre-determined on the date the program is determined. It may be easier, for example, if it is already determined one month before. The schedule of whole month is already determined when the program of the month is determined. Due to pre-determined meetings, lectures and appointments, I have never been able to cancel. P12

Klinisyenler için zor olabiliyor gerçekten. Program belli olduğunda sizin programınız belli oluyor zaten. Daha önceden bir ay önceden belli olsa, sizden kaynaklı olmayabilir benden de kaynaklı olabilir, 15 gün öncesi oluyor. O ayki program belli, dersler belli, toplantılar randevular belli o yüzden bloke edemedim hiç bir zaman. P12

4.3.2. Novelty

Another major theme as a factor was *Novelty*. The factor was developed from the experiences of 23 of the participants. Blended learning, the teaching approach employed for the current study, was seen as a novel method that the participants were not used to. Novelty both positively and negatively affected the faculty members' perceptions. The theme of novelty consisted of three subthemes, *Computer Use*, *ICT Skills*, and *Technical Support*.

Computer Use

Using computers for their professional work is common for faculty members. Especially when used for their teaching practices, the medical teachers enjoyed and perceived as though the BL approach was doing something new, and opposite to the more traditional methods. On the other hand, gaining access to a laptop and carrying to and from the f2f sessions became an issue for some of the participants. Some of them did not bring a laptop, and some did not undertake the prescribed practice on the computer in order to achieve the learning tasks. The habits that required the participants to use computers in the faculty development program were different for some. They preferred to use their cellphones, which were inadequate to complete the course activities.

I think the program was adequate but the computer was a problem. In the animation part, it is necessary to do some practice on hospital computers. P4

Yeterli oldu bence ama bilgisayar problemi oldu ya animasyon şey kısmında biraz hastane bilgisayarında pratik yapmak gerekiyor. P4

I did not bring laptop and because of the smartphone's inadequacy, I had difficulties. P5

Bilgisayar getirmedim ben telefonun yetersiz kaldığı yerler oldu zorlandım yani. P5

ICT Skills

Another subtheme was *Information and Communication Technology (ICT) skills* of the medical teachers. A total of 17 of the faculty members mentioned their ICT skills affecting their ability to go on to fully complete their learning tasks. Especially, some of them struggled using the Moodle LMS system; to which practicing on Moodle may help overcome such issues. On the other hand, using their ICT skills within an online environment made a great impression on the medical teachers. They felt that practicing and developing online motivated them in their teaching practices.

The new generation is able to do better the things like multi-task which I had difficulties while I was doing it. They can both listening and looking at the phone, maybe they get better. P21

Hatta benim zorlandığım o multi-task gibi yapamadığım şey yeni nesil daha iyi yapıyor. Hem dinliyor hem telefona bakıyor belki daha iyi oluyor. P21

I get used to it more easily if I practice at home. It is difficult for the first time. There are problems in finding things. P23

Evde biraz kurcalasam bakarsam daha kolay aşinalık oluyor. Orada ilk defa bir bocalama oluyor. Onu bulamadım bunu bulamadım gibi sıkıntılar oluyor. P23

Technical Support

Although they did not encounter any issue during the course, *Technical Support* was mentioned by four of the participants, and the faculty members emphasized that technical support may be needed should issues have arisen. Some of the participants, P16 and P1, reported their technical needs as a “just in case.”

In terms of feedback, people’s feedback on technical support can be addressed. The feedback corners can be opened to the problems and questions about various access issues. P16

Geribildirim olarak, kişilerin teknik desteğe karşı geribildirimleri olabilir. Biz buradan buraya ulaşamıyoruz bunu nasıl yapabiliriz gibi geribildirim köşeleri açılabilir. P16

People often want to do this kind of work without getting tired. Technical support is therefore required. For example, when I think of it now I will upload the lessons but when I encounter a problem I feel I will need technical support. P1

İnsanlar çok yorulmadan bu işleri yapmak istemesi çok olur. Teknik desteğe ihtiyaç olacaktır. Mesela ben şimdi düşündüm derslerimi yükleyeceğim ama bir şey olsa tekrardan desteğe ihtiyacımın olacağını hissettim. P1

4.3.3. Online Component

Eleven participants reported their experiences for the *Online Component* which provides various activities for a rich learning environment. The participants mentioned how the online component seemed beneficial to their learning such as being able to access content at all times, even after the course had finished. For this theme, two subthemes emerged from the analysis, which are *Communication Concerns*, and *Sharing Experience*.

By creating a case through a simulation, I like to arouse curiosity in students. I like it so much. I even thought that I could use a case presentation myself at the meeting if the time was enough. P22

Mesela arada quiz soruları koyabilmeniz işte bir insanla simülasyonla bir olgu yaratıp öğrencilere merak uyandırıp sonu ne olacak işin içine katmak

hoşuma gitti. Çok hoşuma gitti. Hatta süresi yetse de toplantıda bir olgu sunumu olsa kendimde kullanabilsem diye düşündüm. P22

Because of the different characteristics of two different methods, one should not forget the value of bringing together a teacher and a student. It is also possible to catch the chance. However, in my opinion, it is very important to be able to learn how to access education material without having a physical contact with a teacher or a classroom. P20

Her ikisinin olumlu özelliklerini taşıdığı için bir hoca ile öğrencinin bir araya gelmesi de değerli. O şansı da oluyor. Ama derslikte olmadan ya da hoca ile fiziksel temas olmadan o eğitim materyaline ulaşabilme daha esnek bir programda öğrenebilme de önemli bence. P20

Communication concerns

Online discussion boards have the potential to follow through with communication and to provide the opportunity for everyone's voice to be heard. However, in adult learning the situation may be somewhat different. Since the online component of a blended learning course is transparent, in which users can see each other's work on learning tasks, some participants compared their work with that of their peers. Therefore, public communication, specifically open discussion boards, may have a negative effect on maintaining open communication. Instead, the participants preferred to use private messages for support and to raise issues. Participant P22 shared her experiences as follows:

I was afraid of being a disgrace during the forum. Mrs. ..., Mrs. ..., Mr. ... and Mrs. ... used it. I also wanted to use it but they have more experience about it! I thought they asked questions based on this condition. Due to lack of experience, I sent a private message to the instructor. P22

Ben forumda rezil olurum diye korktum. ... hanım, ... hanım, ... bey ve ... hanım kullandı. Ben de kullanmak istedim ama onlar olaya hakim! Ona yönelik soru soruyorlar gibi geldi. Olaya hakim olmadığım için hocaya özel mesaj attım. P22

Sharing Experience

Another subtheme for the online component is *Sharing Experience*. Four of the participants mentioned sharing experience within the online environment which they learned during the lecture was beneficial to their improvement. In the workplace, faculty members learn from each other a great deal. In this course, their online learning experiences and the courses that they developed were based on learning tasks that were open to all course participants. Browsing the courses gave other participants a level of motivation. Participant P3 mentioned that peers from different departments gave each other ideas about different methods that could be used.

There are individuals belonging to different department of science, and the groups of students they work with are different. Presence of those who have never worked with a small group is likely. It is also possible that there will be people involved in specialization training. Like me, there are people in the lecture hall describing the subject. It is a need to come together in order to share each other's experience with each other. P3

Farklı anabilim dalından insanlar var ve farklı sorular farklı öğrenci grupları ile çalışıyorlar belki hiç küçük grup ile çalışmayanlar var. Belki uzmanlık eğitiminde yer alanlar var. Benim gibi amfide anlatanlar var. Herkesin tecrübesini paylaşmak açısından o bir araya gelmek ihtiyaç oluyor. P3

4.3.4. Need for Using Off-time

Blended learning can provide users with the opportunity to learn at their own pace for the online part of their studies. Time allocation for online work may be based on the learner's own will. Ten participants in total mentioned about extra time being required during their non-working (off) hours. With a busy work schedule, the medical teacher participants are required to deal with a number of responsibilities (e.g., clinician, teacher, academician). Adding further responsibilities in the form of online learning tasks was perceived as additional work, and some participants were unhappy at having to use their non-working (off) time. Therefore, the online learning tasks should be considered based on participants' workloads. Participants

P8 and P14 reported that their private lives were impacted by the additional work required for the online learning tasks.

My involvement was quite troubled. Do I have to do homework? I have a kid and I have to take care of it. My mom makes sentences like, “You’re still studying at 50.” P8

Çok sıkıntılı katıldım aslında ben buna niye zorunda mıyım ödev yapmak zorunda mıyım çocuk var bir tarafta. Annem diyor 50 yaşına geldin hala ders çalışıyorsun falan... P8

I never turn on the computer at home. I’ve been writing for all these years. In 2012, I had a philosophy about not bringing home work. P14

Evde hiç bilgisayar açmıyorum. Bunca yıl yazıyorsun. 2012’den sonra evde bir şey çalışmayacaksın diye bir felsefem oldu. P14

4.3.5. Real World Transfer

Nine of the participants reported their views regarding *Real World Transfer*. They wanted to know how the knowledge and skills gained in the courses could be transferred to their workplace in the real world. The fact that the design of the courses was based on real life scenarios helped the participants in this issue. However, given the short time period to complete the assigned tasks, the time was deemed too little by participant P23.

It may be useful to tell the subjects individually over a longer period of time. Assignments, such as preparing something, can be given. If this happens, leisure time becomes important. Half-day lessons and then a 15-day period may be good. Or 3 days in a row, just focusing on the subject, doing homework. For example it can be said that “people who will not spare time should not come. P23

Daha uzun sürede tek tek göstermek onlara yararlı da olabilir. Ödevler verilebilir. Bir şeyler hazırlama gibi. Boş bir zamanın olması lazım. Bu tür bir şey olacaksa yarım gün yarım gün bundan sonrası için arada 15 günlük süre iyi olabilir. Ya da 3 gün üst üste başka bir şey düşünmeyecek sadece onunla ilgilenecek ödev yapıp gelecek gibi olabilir. Zamanı oraya ayıracak ayıramayan zaten gelmesin gibi. P23

4.3.6. Flexibility in Learning

Online learning and the short f2f sessions were found as being a flexible approach to learning by 11 of the participants. Being able to repeat the course online, gain access to materials and additional content, and the short f2f sessions to support the online learning were some of the examples given of having an element of flexibility in their learning. Participants P18 and P20 mentioned these advantages of blended learning as follows:

Thus, it is possible to give more information without limiting the course hours. In addition, the opportunity to give responsibility to the student is born. What I'm not most used to for "Ege" [university] is that I came from a different system. P18

Bir kere fazla bilgi verebiliyorsunuz ders saati ile sınırlı kalmıyor. Bir de öğrenciye de sorumluluk yüklüyorsunuz. Benim ege [üniversitesi] için en alışık olmadığım şey farklı sistemden geldiğimden... P18

I was able to recheck the things I didn't understand. In order for a program in the classroom to be controlled later, you need to keep a note. No such action was required. I can watch a video of what I forgot during each new course. This is a good thing. P20

Anlamadığım yerde tekrar gidip bakabildim. Sadece derslikte öğrenseydim o uygulamanın nasıl olduğuna ilişkin sonradan bakmak için not tutmam gerekiyordu. Öyle bir şey yapmam gerekmedi. İstediğim kadar her yeni ders eklemede unuttuysam videosu vardı açayım tekrardan bakayım diye, güzeldi yani. P20

4.3.7. Instructor Support

Another factor that affected the learning experiences of the medical teachers was *Instructor Support*. Nine of the participants mentioned how important it was to receive support from their instructor during the course, both online and f2f. As part of the course design, just-in-time information was provided as and when the participants needed it; which was generally during online sessions. Providing online communication tools such as private messaging through web and mobile mediums, public discussion boards, email and mobile push notifications helped the

participants considerably to accomplish their assigned learning tasks during different phases of the courses.

As I mentioned, I can't get much online, but I have been looking at that section [online]. I liked the immediate response to every question. I followed the discussion questions. Either the mail was coming, or there was an immediate response. There were also those who followed. P6

Dediğim gibi ben çok online olamadığım için ama o kısma [online] baktım. Her soruya anında yanıt verildi mesela o da benim hoşuma gitti. Tartışma sorularını da takip ettim. Mail geliyordu ya yanıtı hemen geliyordu. Takip edenler de oldu. P6

Well, I am good with computers. I am asking questions whether I can do it by myself. So the subject becomes more permanent. P5

Tabi ben biraz bilgisayarla şeyim fena değil. Bakarak algılayıp kendi kendime yapabiliyor muyum? Yapamıyorsam onu sorunca daha çok aklımda kalıyor. P5

4.3.8. Duration of Course

Six of the participants reported their views with regard to *Duration of Course*. Long hours in the traditional classroom settings had left a very bad impression on the participants. The workload and issues of time allocation can be quite demanding for longitudinal programs; however, short period f2f sessions and online content support was appreciated by the medical teachers. Modular programs were seen as being that much more appropriate to ensure their attendance and for completion of the courses.

The fact that half-a-day courses are held every day and the theoretical density decreases learning, inferencing and participation. It is also difficult to reserve half a day for eight days. I had permission from the head of the department, but I had people to fill my place. I chose the afternoon, but the attendance was low. More people may want to join, but they may not have been able to spare eight half days. This way, it will be easier. P7

Her gün yarım gün gelince teorik yoğunluğu yüksek bir ders ise o dersi dinleme bir şey çıkarma katılım gösterme daha düşük oluyor. Tabi 8 yarım gün ayırabilmemiz zor oluyor. Ben anabilim başkanından izin istedim ama beni kompanse edecek kişiler vardı. Ben öğleden sonra istemiştim ama katılım düşük kaldı. Daha fazla insan katılmak istiyordur ama belki 8 yarım günlük dönem için ayarlayamamış olabilirler bu şekilde daha kolay olacaktır. P7

Intensive courses can be advantageous. Those who are not interested in the 15 days are more likely to forget. Those who stay there for a long time can do the homework there. Those who cannot do their homework, get help from the instructor and have better results. In the 5-day training we were completely focused on education. It's training from morning till evening. Otherwise, there is a distraction. On the last day, even if the homework is not done, a file is prepared and the process is finished. P23

Sıkıştırılmış, unutmadan, avantaj olabilir. 15 gün sürede ilgilenmeyenler unutulabilir. Yani oraya gelip süre orada uzun tutulursa orada da ödevleri yapabilir. Yapamayanlara siz gösterirsiniz o öğretmen açısından daha iyi olabilir. 5 günlük eğitimde biz kafamızı oraya verdik. Sabah gidiyorsun akşama kadar diğer türlü olursa kafa burada kalıyor ister istemez. Son gün ben ödevleri yapmadım deyip gidiyorsun oraya bir dosya hazırlıyorsun bitiyor ödev. P23

4.3.9. Learning tasks

Under the 4C/ID model, learning tasks were developed as part of the course designs. Although it was not mandatory to complete all of the learning tasks, six of the participants mentioned how the learning tasks influenced their experiences throughout the courses. Participant P10 reported that the giving of learning tasks like assignments were found to be tough and annoying. However, participant P8 said that learning tasks could be seen as reinforcement and the best practice way for them to learn.

Tasks may be given to consolidate learning rather than a mandatory homework. I think doing homework is one of the best learning tasks. P8

Zorunlu bu ödevi yapmaktan ziyade öğrenmenizi pekiştirecek deyip görevler verilebilir. Çünkü o ödev yapmanın en iyi öğrenme görevlerinden biri olduğunu düşünüyorum. P8

To be realistic, it's annoying to give the faculty the homework. It's getting pretty hard! To be severed from student philosophy, intensive workload, advancing age... For many reasons, it is hard to take time for the assignment. But it needs to be ideally adjusted. P10

Gerçek düşünceler öğretim üyesine ödev verilmesi onu çok bozan bir şey. Zor geliyor, çok zor geliyor! Öğrencilik felsefesinden uzaklaşmış olmak, işin çok olması, yaşı ilerlemesi... Bir sürü sebepler ödev zaman ayırmak ödev verilmesi zor geliyor. Ama ideali olması gerekiyor... P10

4.3.10. F2f Component

Five of the participants expressed that the *f2f component* was an influencer for them. Especially, at the start of the courses, the f2f sessions were seen as an ice-breaker, and helped them understand the scope of the content and to gain an initial understanding about the courses. With the first f2f session as an introduction, and then a summary in the second f2f session, these left effective impressions on the participants. Mostly, the participants wanted to have f2f encounters with their instructor/s, as well as other participants of the courses. The second f2f session was also seen as a showcase for their e-learning courses and MCQs, since group discussions were held during the second f2f session.

At the beginning, only the use of the program [LRC] was discussed, and we were able to discuss what was done later. The faculty sent us an e-mail about how the SCORM file was prepared. If you are a little familiar with technology, you can solve the problem immediately. But it is important to have an introduction training at first. P3

Mesela sadece girişte şu programın [ÖKM] kullanımı anlatıldı sonra ne yaptık tartışma ortamı üzerinden yürütebildik. İşte SCORM dosyası nasıl

hazırlanır. İşte öğretim üyesi bize mail attı. Azıcık teknoloji ile aşınaysanız problemi hemen çözebiliyorsunuz ama ilk başta o girişin verilmesi önem taşıyor. P3

During the training, it is important to see the person [instructor] visually and to recognize the mimics and accents. We don't have a chance on the Internet. Or, watching a patient video or a physical therapy video alone is not enough. For me, a maneuver is more instructive to learn during practice and to see how it is done in the real environment. That's one of the things I'm paying attention to. P1

Bir de görsel olarak yani kişiyi [eğitimci] görmek o anda, mimiklerini görmek işte anlatırken vurgularını hissetmek, anlamında önemli oluyor. Yani internet ortamında bunu çok yakalayamayabiliyorsunuz. Ya da mesela görsel bir şey varsa örneğin bizim için bir hasta videosu mesela, fizik muayene videosu görmek sadece yetmiyor. Kişinin o manevrayı göstermesi size hoca bir manevra öğretiyor size, yani sadece onu ekranda izlemek değil de o nasıl yapıyoru görmek benim için mesela daha öğretici oluyor. Ona dikkat ediyorum mesela. P1

4.3.11. Personal Learning Preferences

The final theme factor reported was *Personal Learning Preferences*. Six of the participants expressed their learning styles in relation to blended learning. Although most of the participants preferred one-to-one training, they were happy to have individual learning opportunities provided within the online environment.

Everyone's learning style differs. We had a motto of preparing for specialty in medicine (TUS). Single source, much repetition... But I'm not this type of person. For example, when I was working on the questions in the field of obstetrics, I read all the questions in the market and saw the shortcomings. My learning is different. I do not attend classes in medical school, but when important topics are explained, the faculty is important as much as the subject. P11

Herkesin öğrenme şekli farklı. Biz TUS'a çalışırken bir motto vardı. Tek kaynak çok tekrar... Ama ben öyle bir insan değilim. Ben mesela kadın doğum sorularına çalışırken piyasadaki tüm TUS sorularını okumuşumdur biliyorum

çünkü onun eksikliği var. Daha farklı bir öğrenme şekli var. Kaldı ki ben tıp fakültesi derslere giren biri olmamışındır ama önemli konularda dersin önemli olduğunu düşünüyorum ama eğitici çok önemli. P11

One-to-one learning is better because not all topics concern everyone.

But it is also good to ask something to the group. P20

Birebir daha iyi öğrenme oluyor çünkü herkesi ilgilendirmeyebilir yani. Ama gruba da sormak güzel bir şey yani. P20

4.3.12. Summary of Results for RQ3

Factors that influenced the experiences of the medical teachers were identified within the scope of the third research question. Eleven factors emerged in total that had the potential to affect the participants' experiences, negatively or positively.

Workload was seen as an important negative influencer for the medical teachers. The time required for faculty development might otherwise be spent within their busy workplace; with less time paid to faculty development. However, the new approach of blended learning was seen largely as a novelty, and the online components positively influenced the medical teachers, and were seen as an opportunity to improve their knowledge and skills through the FD program. Moreover, advantages to blended learning were also mentioned by the medical teachers as a positive influencer such as flexibility in learning, duration of the course, and instructor support.

In summary, factors identified from the blended learning faculty development courses may contribute to creating better programs in the future for the high achievement and attainment of medical teachers.

4.4. Suggestions of Medical Teachers for BL Faculty Development

The fourth and final research question is “**What are the suggestions of medical teachers with regards to blended learning faculty development courses?**” Based on the experiences of the participants, suggestions toward blended learning faculty development programs were sought via semi-structured interviews in order to improve the design and implementation of future programs. Analysis showed that

the participants of Case 1 identified six themes, whilst the participants of Case 2 mentioned five themes in total.

Table 4.10 shows the distribution of themes for both case study groups. Only the *Announcement* theme differs when the two cases are compared. The remaining themes were the same, having been mentioned by participants of both cases. However, the ranking order of the themes differed based on the number of interviewees from each case study group who mentioned them. Consequently, *f2f Sessions* and *Design Approach to BL* were ranked in first place for Case 1 and Case 2, respectively. There are also subthemes to some of the themes. The themes and subthemes are explained in the following subsections, with added quotations from the participants.

Table 4.10 *Themes & Frequency Distribution of Medical Teachers' Suggestions*

Case 1 (N = 14)			Case 2 (N = 12)		
	<i>n</i>	<i>f</i>		<i>n</i>	<i>f</i>
f2f Sessions	12	25	Design Approach to BL	6	8
Participation	9	21	Participation	4	5
Design Approach to BL	7	11	f2f Sessions	3	3
Announcement	4	4	Timetable for Online	2	2
			Learning Tasks		
Course Duration	2	2	Course Duration	1	1
Timetable for Online	1	1			
Learning Tasks					

f = Code frequency

4.4.1. f2f Sessions

Of the 26 participants, 12 from Case 1 and six from Case 2 made suggestions about the *f2f sessions*. Compared to the other themes for suggestions, f2f sessions were mentioned the most, with a total of 33 suggestions made. In blended learning, f2f sessions require dedicated time of the participants as they are required to attend the learning environment in person. As previously mentioned, the *workload* of the participants can have a considerable impact on their learning experiences. The issue of workload may generally be related to their attendance of the f2f sessions; therefore, suggestions with regards to the f2f sessions should be taken into

consideration. Comments from participants P18 and P17 were considered worthy of citing as follows.

It doesn't matter much to me, but in general terms, it may be more appropriate because of an intense workflow. I can come in two weeks, on separate days... Having separate courses can By having separate courses, narrowing a subject after learning LRC and the subject completely, can benefit. P18

Benim için düşündüğümüzde çok fark etmez ama geneli düşündüğümüzde yoğun bir iş akışı olan bir durum olduğu için geneline daha uygun olur benim için de uygun olur yani. Ben iki hafta da gelebilirim ayrı ayrı da... Ayrı ayrı olması su açıdan da iyi olabilir. Biraz konuyu hazmedip özellikle ÖKM'nin kullanımını öğrettikten sonra darıltılırsa daha da faydalı olabilir. P18

Even though I wanted to, I couldn't join the program. Since I am the only specialist in our clinic, it is very difficult for me to take half a day or a day off from my clinic. So I couldn't attend. For me, it would be very useful if blended. I have learned my knowledge of writing questions from the questions prepared by other teachers. P17

Mesela ben çok istememe rağmen [katılamadım] tek uzmanla çalışıyoruz uzmansız olduğumuzda benim klinikten yarım gün 1 gün ayrılmam çok zor o yüzden de katılamadım benim için böyle [karma] olursa çok faydalı olur. Ben soru yazmayı başka hocalar yazarken ya da hazırlanmış sorular ile öğrendim. P17

In summary, separate and non-sequential courses should be designed, and decreasing the length of f2f sessions was also suggested. Apart from these general suggestions, *Method* and *Schedule* subthemes emerged as suggestions from the participants with regards to f2f sessions.

Schedule

A total of 15 participants highly emphasized the *Schedule* of the course delivery. The duration of the overall course, the course timetable, and the primetime working hours were some of the issues raised in recommendations made with regard to course scheduling. It is clear that scheduling all of the courses to occur during the

free time of all participants is considerably challenging. Pre-scheduling, however, may allow the participants to allocate their time accordingly to ensure that they can attend the courses. The lengthy duration of some courses may decrease participation during the busy working hours. Participant P16 talked of their situation at work as follows:

People can come here for 1 hour by taking off. It's not really easy to get permission all day for 2 weeks. We were lucky and suitable. I was saying that I could never come. However, our other friends who became experts have compensated us. Otherwise, I could not come. P16

İnsanlar mesela 1 saat izin alıp gelebilirler buraya mesela bütün gün 2 hafta artarda izin almak gerçekten kolay değil. Biz şanslıydık denk geldik. Ben kesin gelemem falan diyordum başka uzman olan arkadaşlarımız oldu onlar bizi kompanse ettiler biz gelebildik, başka türlü gelemezdim. P16

Method

F2f sessions of the current study's BL courses were held in two phases, as pre- and post-, or before and after the online study element. The duration of each f2f session was around two hours. Four of the participants had recommendations with regards to future course designs and the f2f sessions. First of all, the duration should be decreased. Second, the content should be compact and delivered within the least possible time required. Participant P25 summarized this subtheme as follows:

For example, if you shorten the time, it can take 20-25 minutes. We need to compress as much as possible. It is also clear that the people here have a certain level of IQ who have reached a certain academic level. No need to repeat. P25

Mesela süreyi kısaltırsınız o 20-25 dk'ya çekilebilir. Mümkün olduğunca sıkıştırmak lazım. Bir de buradaki insanlar belli bir akademik seviyeye gelmiş IQ'larının belli bir seviyede olduğu belli. Tekrara düşmeye gerek yok. P25

4.4.2. Participation

The second major theme for the suggestions made by the participants is *Participation*, and was ranked in second place as a theme by the participants of both case studies. A total of 13 participants mentioned 26 times in the interviews about participation overall. The participants' views with regard to participation yielded subthemes of *Compulsory Attendance*, *Incentives*, and *Participant Selection*.

When the main theme of *Participation* is considered as a suggestion, blended learning faculty development courses should ensure that (1) participants must attend the courses, (2) rewards are given in order to motivate participants to attend, and (3) participant selection should be undertaken carefully for each course so that all participants have the same goal orientation.

Compulsory Attendance

Adult learning has a downside in that following and completing courses can be considered quite challenging in busy workplaces like a medical faculty. Dropout rates are high, especially, when courses are conducted online. Blended learning, however, helps reduce dropouts via the scheduling of f2f sessions. Even though, *Compulsory Attendance* was raised as a suggestion by some of the participants, with 11 of them saying that f2f course session attendance should somehow be forced to a certain degree. While participant P4 mentioned that obligation should be performed in a kind or gentle way, participant P19 emphasized that when there is an obligation to attend, that another form of support should be made available.

Being polite can become a necessity. It would be nice if the discourses were more polite. Our hospital is a big hospital. It takes more than 10 years to become an associate professor. The idea that there is no point in sending experts is dominant. This is a situation that changes from department to department. P4

Kibar bir zorunluluk olabilir. Hani biz bu kişilerin eğitim almasını istiyoruz rica ediyoruz gibi. Bizim büyük bir hastane tabi. Bizim 10 yılda doçent olunamıyor tabi uzmanı oraya göndermenin ne şeyi var bölümlere de göre biraz fark ediyor. P4

I think that individuals in Turkish society will not voluntarily participate in something without obligation. P19

Türk insanına zorunluluk şunu yapacaksın ya da bunun karşılığında şu olacak demediğin zaman gönüllü olarak bir şeye katılmadığını düşünüyorum. P19

Incentives

Another suggestion put forward for the motivation of participants was the provision of incentives. Three of the participants mentioned incentivization. The incentives may be at different levels such as financial support or some kind of reward. For instance, participants P21 and P26 suggested:

It seems that how much the mechanism has encouraging and rewarding role, determines how much it can be done. P21

Özendirici rolü olan ödüllendirici mekanizma ne kadar etkinse o kadar yapılabilir görünüyor. P21

Reward or punishment is required. The feeling of necessity reduces efficiency. But there is no other option. If the learners are given the option, they do not participate. I do not know the participation rate, but 50% of your expectation is coming. There may be punishments between rewards. This may be a material way of deducting additional tuition if no participation is shown. P26

Ya ödül ya ceza vereceksin. Mecburiyet hissetmesi verimi düşürür. Ama yine de başka çaresi yok. Yoksa bakmaz. Onun keyfine bırakırsan. Yüzde kaçını öğretim üyelerinin çekebiliyorsunuz bilmiyorum ama beklediğinizin belki %50'sini çekebiliyorsunuzdur belki. Ödül den ceza da olabilir. Verilen maddi bir karşılık vardır. Ek ders var ya [katılmadığında] bir kısmını kesersiniz mesela. P26

Participant Selection

In medical faculties, there are different departments that deal with various perspectives of teaching undergraduate medical students. The main difference between them is that medical teachers come from different fields of study and medical specialization, and consequently, this affects their own personal career

teaching requirements. This difference should be taken into account when participants of FD program courses are selected, since their differing backgrounds can affect the content mix and thereby cause a loss of focus to the course. With two different groups of participants on the same course, participant P6 described her experience as:

We were involved in 2 heterogeneous groups in the training process. We could answer other group's questions. They couldn't answer our questions. Only doctors can answer. We stayed in the lower group they were in the upper group. Separation of basic sciences and clinical sciences may be appropriate. The presentations in the heterogeneous group were more favorable to others. P6

2 heterojen gruptuk ya biz onların sorularını yine biliyoruz ama onlar bizim sorularımızı hiç bilmiyor ama tıpcılar onu cevaplayabilir biz alt grupta kaldık onlar üst grupta öyle bir şey de oldu. Temel bilimlerle klinik bilimleri ayrı yapmak gibi. Heterojen grupta biraz sunumlar onlara yönelik oldu. P6

4.4.3. Design Approach to BL

The blended learning faculty development courses were designed according to the 4C/ID model in the current study. Since the number of studies in which the 4C/ID model has been used for BL is relatively low, the BL design approach and BL activities caught the attention of a number of the participants, with 13 mentioning the design approach. Participant P9 suggested that online activities should be distributed and completed in modular formation over a longer duration. Participant P23 suggested that learning tasks should be finished prior to the f2f session.

By spreading courses to long term, creating an environment in which modules can be taken from the Internet would be very successful. P9

Uzun döneme yayılıp etkinliklerin internet ortamından yayılabileceği modüllerin internet ortamından alınabileceği bir ortam bence oldukça başarılı olur. P9

Of course the blended method is better. We need to come to the classroom because the discussion environment in the class can go in

many different ways. Different things can be spoken. Other than that, if we can see the slides on the Internet either by working or watching videos, our tasks would be easier in class. P23

Karma yöntem tabi daha iyi olur. Hem sınıfa gelmesi gerekiyor çünkü sınıftaki tartışma ortamı çok farklı yönlere gidebiliyor. Farklı şeyler konuşulabiliyor. Onun dışında internetten de önceden tabi çalışarak ya da videoları izleyerek slaytları görürsek sınıfta bizim işimiz daha kolay olur. P23

4.4.4. Announcement

The participants of Case 1 suggested *Announcement* as another theme. The course application, dates and other requirements for the courses should be announced a considerable time in advance of the program start date in order that participants can arrange their schedules accordingly. The method of announcement should vary according to the participant target group. Participant P4 offered a suggested alternative method for such announcements.

I think the announcements came with mail. However the head of the medical school may call other department heads to report something. Some cases may be compulsory, such as the appointment of an expert in each season. P4

Maille de geldi o da geldi sanırım ama hani belki ne bileyim tıp eğitiminin bölüm başkanı bölüm başkanlarını arayıp şey diyebilir. Bazı şeyler zorunlu olabiliyor her dönem bir uzman gelecek gibi. P4

4.4.5. Course Duration

Three of the participants made suggestions with regard to *Course Duration* and repetition. Courses should be repeated at different times within the academic year in order that more medical teachers could benefit from the courses. While attending more advanced courses, the course duration and the design may be altered according to the experience of the faculty members. Thus, summarized, more compacted courses may be offered such as micro-teaching for more experienced groups. For instance, participant P1 gave the following instance for a future course.

In September, if you open the program in the new school year, I can join again. Even if it is not 2 days, it may be a program in summary form. The perception of people is different now... P1

Ben şunu isteyebilirim. Eylülde siz açarsanız ben tekrar katılırım yeni öğretim yılı... Tekrardan katılabilirim. 2 gün değil ama özet seklinde olarak hap program olabilir. Şu an insanların algısı farklı... P1

4.4.6. Timetable for Online Learning Tasks

Learning tasks that require online sessions should be well planned and participants should be regularly notified about their progress. Three of the participants mentioned suggestions with regard to *Timetable for Online Learning Tasks* as another theme. Participants P18 and P2 emphasized the timetable as follows:

Information about the use of the LRC was given only in the first week and there was a gap for a week. Spreading this training over time could have given better results. P18

Zamana yayılsaydı ya da ÖKM'nin kullanımı ilk haftada verildi arada da bir hafta boşluk vardı. Zaman uzatılsaydı daha iyi olabilir ve yapılabilirdi. P18

After all the faculties have finished the first part, they must work for a while and then they must pass to the second part. P2

Tüm öğretim üyeleri ilk kısmı bitirsin biraz çalışsın sonra ikinciye geçsin. P2

4.4.7. Summary of Results for RQ4

The participant medical teachers were asked about their opinions for improvements to future blended learning faculty development programs within the scope of the fourth research question. Their suggestions were mainly about the design of the program and matters of scheduling/timetabling. Especially, the online components were mentioned by the participants with regard to how they should be applied, and when they should be used in terms of course instructional design. As previously mentioned, their general views on blended learning were examined under the first research question, with the medical teachers emphasizing and comparing f2f and online sessions in terms of their duration, design, and ratio in order to create better programs in the future.

In summary, the suggestions of the medical teachers were found to be very important for improved future course planning and implementation. It is highly recommended that future program and course designs consider the suggestions put forward for program development.

4.5. Summary of the Results

Within this study there are four research questions. Each question targets a different aspect of a blended learning faculty development courses such as their design, implementation, and evaluation in order to understand the holistic view toward the application of improved methodologies in planning future faculty development programs.

First, the experiences of the participants were investigated. Findings from LMS system logs, questionnaire analysis, and views based on semi-structured interviews were presented as the result of the multi-phase analysis. While the questionnaires that were based on the self-reporting of participants showed a great deal of attention and satisfaction towards the blended learning faculty development program courses, actual usage data taken from the Moodle LMS system showed a slightly different story from the self-reporting. This meant that the medical teachers perceived the overall application of blended learning in a more positive light. However, the actual usage and benefit perceived from the courses was relatively lower by comparison. Following the course learning tasks and completing them could have been at higher rates. The reasons behind this was explained through examination of the other three research questions, based on qualitative data gathered from the participants' interviews.

The second research question sought to understand what barriers and motivators were perceived by the participants of the blended learning faculty development courses. Lack of time, beliefs and assumptions, and online learning abilities were some of the barriers mentioned. Personal development was one of the biggest motivators for the medical teachers for their attendance to the blended learning faculty development program. This theme was followed by improving teaching skills, certification, and incentives.

Third, the factors that influenced the participants' experiences were investigated in order to improve future FD programs for medical teachers. Participants' workplace workload, novelty of the program, and the online component of the courses seemed the most important factors that influenced the participants' experiences. Developing new or altered methods to overcome issues highlighted by these factors might lead to improved learning experiences.

Lastly, suggestions of the medical teachers were gathered for the potential benefit of participants of FD programs designed in the future. Mostly, the f2f sessions, participation, the design approach to blended learning, and program/course announcements were mentioned.

Taking into consideration all of the findings, the application of blended learning in medical faculty development programs was seen as positive. Today's medical teachers have a desire to incorporate new technologies and methodologies that can be utilized within their own teaching activities. Therefore, the inclusion of blended learning courses within a faculty development program had an essential impact on the participant medical teachers.

CHAPTER 5

DISCUSSION AND CONCLUSION

The purpose of the current study was to develop, implement and evaluate the blended learning courses for teaching improvement in a medical faculty development program; and, to examine and to describe the participation, satisfaction, and perception of medical teachers toward blended learning courses.

The current study consisted of four research questions, to which answers were sought throughout the research. In this chapter, the discussion and interpretation of the findings takes place in light of the related literature. The first and third research questions examined the experiences of the medical teacher participants, and the influencing factors to those experiences. The findings are interpreted and discussed in light of the published literature on blended learning faculty development programs. Next, the barriers and motivators in regard to the second research question are presented and then discussed. Then, suggestions of the medical teachers for blended learning in the scope of the fourth research question are explained and argued against the current literature. Finally, the implications of the current study and recommendations for practice and future research are shared.

5.1. Discussion of RQ1 and RQ3: Experiences and Influencing Factors

The experiences of the medical teachers were investigated in regard to the first research question, “What are the experiences of medical teachers regarding blended learning in faculty development courses?” Moreover, factors influencing those

experiences were sought through interviews conducted with participants following completion of the courses, in scope of the third research question, “What are the possible factors which influence the experiences of medical teachers in blended learning faculty development courses?” In this section, the findings are discussed in relation to these two research questions. Experiences of the medical teachers with the study’s blended learning faculty development courses are discussed, along with influencing factors considered in the following five subsections.

5.1.1. Usage

Firstly, use of online activities was presented as the first finding of the participants’ experiences. According to the LMS system logs, the system usage in accordance with the learning tasks was analyzed. All of the participants accessed and used the system for at least one of the online activities; it can therefore be said that the participants gained experience with online components. Interestingly, none of the participants made full use of the access to complete their online activities for the e-learning course, whereas three of the activities were fully completed by all of the participants in the MCQ course.

As a requirement of the 4C/ID model, the task classes were sorted from easy through to difficult. Interestingly, the learnings task assessed as belonging to the difficult task class were accessed more. Therefore, it can be said that medical teachers only accessed content when they were unable to figure out the solution on their own. As confirmed by the participants in the semi-structured interviews, they initially tried to see how to accomplish the learning task on their own. Next, they looked for either supportive information or procedural information. The participants reported that they only used “instructor support” and “learning task” themes for the research question in order to resolve the problem. The medical teachers were self-learners and only sought out help when they really needed it after spending quite some time addressing the issue alone. Seeking help from the instructor helped the participants to work on and complete some of their learning tasks. Usage of online activities were also varied in terms of their completion; similarly, McKimm and Swanwick (2010) reported completion rates between 56% and 84%.

Moreover, it can be said that the participants also only accessed the activities that they wanted to learn and needed to in order to obtain a comprehensive look at a topic. This was seen with the “developing SCORM supported content” task class having been accessed more than other tasks. Compared to the other classes, this was the most difficult task class. The participants must have seen this as a challenging and new aspect to teaching, and then for them to go on to develop such content in an entertaining manner for their own students, the new generation. As a factor, participants reported “novelty” as a theme which enables them to create more futuristic content, which supports the findings. The findings pointed out that the participants wanted to implement new methodologies into their own teaching, hence they were learning abilities such as blended learning and preferred to avoid traditional methods in supporting learners for a better learning experience.

Overall, the design of the courses was shaped according to the 4C/ID model, with the courses reported as being well-designed, that included compact content, and required minimal time for achievement. As Spencer (2014) reported, the key features of an effective faculty development program included well-designed courses, experiential learning, and use of a range of instructional methods; which all aligned with the current study. In terms of design characteristics, the current study corroborated the findings of other studies (Amundsen & Wilson, 2012; Steinert et al., 2006; Stes et al., 2010). The novelty of technology adoption played an important role when faculty members were introduced to a new method in the study of Welch (2011), which resembled the same situation as the current study’s findings.

Scott et al. (2017) recommended using learning objectives in the design of a course to aid health professionals’ improved engagement and experience. However, according to the results of the current study, the learning tasks were not followed thoroughly by the medical teacher participants as much as had been planned. The use and completion of specific tasks was found to be low; with the same trend observed in the literature (Langlois & Thach, 2003; McKimm & Swanwick, 2010; Paulus et al., 2010).

5.1.2. Involvement

Second, involvement of the participants was evaluated via document (artefact) analysis. The e-learning courses that were developed and the MCQs written by the participants were analyzed and scored using holistic rubrics. The analyses were carried out to find out how the medical teachers followed and completed their assigned learning tasks according to task class. According to the results, the medical teachers did not follow all of the learning tasks; rather, they were selective in working on the learning tasks and completed those that held interest for them. Besides, they felt a responsibility to do at least some of the learning tasks since there was a second f2f session later in the course, and they wanted to be prepared for the basics.

The second f2f session was a conclusion and discussion session, and social accountability influenced the medical teachers as they would encounter other course participants in that session. The theme “f2f component” confirmed that the participants mentioned such results with their own views expressed during their interviews with the researcher. In addition, Paskevicius and Bortolin (2016) reported this same behavior from the participants of their study with a quotation that read, “Oh, must do that before the F2F” (p. 611). It could be said that f2f sessions provide a sense of responsibility to the medical teachers.

On the other hand, “workload” was another theme mentioned as an influencing factor for the medical teachers. The busy workplace environment affected the participants’ learning task completion. Therefore, the medical teachers spent their limited time on a few learning tasks, and chose to follow those learning tasks which they deemed to be interesting and challenging for their skills on teaching effectiveness. However, the results of the scoring rubrics showed that their learning levels according to learning tasks were not as high. For instance, when the assessed e-learning course materials’ scores were investigated, there were two participants in three courses that completed and mastered all of the learning tasks.

A well-designed e-learning course might be hard to complete in terms of it requiring additional time commitment and involvement, especially when there is a need for higher level thinking for certain course content (Pernar et al., 2012). Paskevicius

and Bortolin (2016), and Paulus et al. (2010) also found that engagement was highly dependent on the time available.

Moreover, for the MCQs, there was only one MCQ that was written by a medical teacher that scored a perfect five points, which means that only one participant was able to write the “best question” as they were tasked. The findings showed that the medical teachers wrote MCQs that were heavily dependent on the remembering level, and therefore achieved just a score of mostly one point. Writing MCQs on the higher level of cognitive measurement is accepted to be quite demanding, and requires time and commitment (Wood, 2003). The participants’ normal faculty workload had a big impact on the low achievement levels and completion rates seen for the learning tasks. The effect of the workload on participation was also a heavily reported issue in many other studies (Hanna, 2014; Pickering, Henningsohn, DeRuiter, de Jong, & Reinders, 2017; Ratka-Krüger et al., 2018; Vaughan & Garrison, 2005; Vaughan, Reali, Stenbom, Jansen Van Vuuren, & MacDonald, 2017; Wearne et al., 2011).

In addition to the workload-related issues, blended learning was seen as a flexible learning environment by the participants (Cook, 2014; Wearne et al., 2011). Scott et al. (2017) mentioned that technology provides flexibility to healthcare professionals who can learn and follow learning objectives anytime and anywhere. The medical teachers also confirmed that blended learning presented the opportunity for “flexibility in learning,” and was a theme that influenced their experiences in their blended learning faculty development courses. The participants had the opportunity to work and learn at their own pace on the learning tasks when they were free to do so. However, although they mentioned the issue of flexibility, it was not reflected in their involvement scores. It can be said, therefore, that the difference between the self-reporting through interviews and the document analysis showed that perceived flexibility and actual flexibility did not support similar results. This finding corroborates with the argument of Bramson, VanLandingham, Heads, Paulman, and Mygdal (2007), in that actual usage does not reflect perceived usefulness. Wearne et al. (2011) defined this level of involvement as “Hit and Run Learning” (p. 1001). Moreover, flexibility and ease of access of blended learning are highly appreciated applications in higher education (Adams Becker et al., 2017).

Moreover, when their perceived flexibility was compared to their online study times, the actual study times observed favored the participants' working hours. Although the medical teachers could have studied during their free time, they preferred not to. It did not all go as expected, with the promise that the online component of blended learning would provide a ubiquitous and flexible learning opportunity. The "need for using off-time" theme emerged in relation to this result. Some of the medical teachers reported that they did not want to study during the hours when they were not working. According to the current study's findings, non-working (off) time activity by the medical teachers in the online environment was approximately one-quarter of the total study time combined. The participants expressed their views and feelings, that they preferred not to study after work for several reasons such as family and their own life philosophy. Family life was also mentioned by Wearne et al. (2011), with a need to specify study time for online activities, and to provide information about how much time should be allocated for the online learning of participants.

5.1.3. Satisfaction

Third, satisfaction of the medical teachers towards the blended learning faculty development courses was measured using a questionnaire in regard to four specific areas; the Learning Resource Center (LRC) Moodle System, Course Structure, Support of Lecturer, and Learning Tasks. According to the findings, the medical teachers were found to be relatively satisfied with blended learning. Their overall satisfaction for the items related to the LRC Moodle System was relatively lower than for other areas. It is thought that Moodle may be found by some as being complex and non-user-friendly.

The remainder of the items in other areas were rated above the score of four points. Therefore, it can be concluded that the medical teachers were satisfied with the course structure, the support of the lecturer, and the learning tasks. One of the themes that supported their satisfaction was "Duration of course." Blended learning decreased the f2f course sessions' duration. Within the heavy workload of most participants, less time spent attending f2f sessions were welcomed, and seen as an advantage to the blended learning approach by the medical teachers. Another theme

that supported the participants' satisfaction was "real world transfer," in which the medical teachers were able to construct their own course materials during the courses. Therefore, the course learning tasks provided them with the opportunity for learning and working at the same time, at their own responsibility within their roles as faculty members.

Steinert et al. (2006) reported medical teachers being satisfied with faculty development programs with regards to teaching effectiveness. There was also a similar trend seen in the results of the current study for blended learning faculty development, and also with other studies to be found in the literature (Coma del Corral, Guevara, Luquin, Peña, & Mateos Otero, 2006; Steinert et al., 2016).

5.1.4. Attainment

Fourth, change in knowledge level and skills of the participants from Case 1, in other words their attainment, was measured using a pre- and post-survey form for faculty development programs, that was structured in three dimension; Importance Level, Current Competency, and Desired Competency. All three dimensions showed an increasing trend at the end of the program. Based on the self-reporting of the medical teachers, the results show that their knowledge and skills improved throughout the course. However, their reports did not reflect their usage of the online activities and completion rates. The "online component" theme may explain a situation in which the medical teachers felt that blended learning was always there and that they could repeat and learn anytime they needed to go over the learning tasks. It also helped the more reserved group members to take a more active part in their own learning (Ladhani et al., 2011). The theme termed "personal learning preferences" also contributed to their learning experience through knowledge and skills improvement. Since the online part of the blended learning courses provided the opportunity to learn anytime and anywhere through online support, the participants may have felt more satisfied with their progress in the course (Myers et al., 2011).

Steinert et al. (2006, 2016) reviewed over one hundred published studies on teaching effectiveness in faculty development, in which various approaches were used in the interventions. According to the participants of those studies, there was

an increase in knowledge and skills seen for medical teachers; which was similar to the results of the current study. Online learning was reported to show a significant change in the participants' knowledge (Fox, O'Rourke, Roberts, & Walker, 2001; MacRae et al., 2004).

5.1.5. Perception

Finally, the views of the medical teachers on blended learning were addressed in relation to their experiences on the BL courses. All of the medical teachers were satisfied with the blended learning approach, and they reported that they would always prefer blended learning as a methodology in faculty development programs, since the new era requires them to embrace online support. The participants reported that they would not consider traditional methodology over BL if a new course was to be offered. Similar results were also reported in the literature in favor of blended learning (Schönwetter et al., 2015). However, in their preferences with regards to the design of blended learning in terms of ratio of online and f2f components, most of the medical teachers preferred the f2f sessions. Some of the medical teachers noted that the online component should only be used to complete and support f2f sessions. There was no clear pattern seen between the case study groups favoring one specific component type over another.

The findings of the study showed that medical teachers were highly satisfied and had positive attitudes toward blended learning, since it consisted of positive aspects of both the traditional and online methods. Cook (2014, p. 235) pointed out that "Blended learning, properly done, capitalizes on the strengths of both approaches and is often more effective than either approach alone" (p. 235). Therefore, the views of the medical teachers in the current study were found to be aligned with previous studies in the published literature.

Wearne et al. (2011) implemented an online course for clinical medical teachers and conducted in-depth interviews with 20 clinical medical teachers. Solely online learning in faculty development was found to be cumbersome without any form of social interaction or f2f contact by other studies (Wong, Greenhalgh, & Pawson, 2010; Zollo, Kienzle, Henshaw, Crist, & Wakefield, 1999). The medical teachers in the current study noted that blended learning was better than other approaches,

namely traditional methods. As Westover and Westover (2014) found, blended learning was seen as being slightly superior to online learning for both performance and retention, since there remains some f2f contact with the instructor. For the preferences of the medical teachers in the current study, f2f- or online-driven blended learning were not distinguishable in the findings. Welch (2011, p. 72) also reported similar results, reporting that “no clear pattern could be found related to the age or sex of a participant” (p. 72).

5.2. Discussion on RQ2: Barriers and Motivators

The second research question of the study was “How do medical teachers define the barriers and the motivators for blended learning faculty development courses?” The barriers and motivators were identified from the semi-structured interviews that the researcher conducted with the participants. A total of three barriers and eight motivators were identified.

5.2.1. Barriers

The first major barrier identified was “lack of time” that emerged from the interviews. The medical teachers reported that workload-related lack of time kept them from attending and following-up activities during blended learning faculty development courses. A busy work life within a medical faculty environment was seen as a major barrier, and the courses were seen as additional workload and therefore not prioritized (Steinert, McLeod, Conochie, & Nasmith, 2002) compared to other duties for which the medical teachers were responsible. Lack of time, workload, isolation as a result of the impact of technology, and student increases were some of the challenges pointed out in the literature (Langlois & Thach, 2003; Steinert et al., 2002; Swanwick & McKimm, 2010). The finding fits well with the published literature.

Without overcoming time-related issues, despite the introduction of BL methodology, FD programs will most probably fail since the medical teachers feel unable to or cannot concentrate on their learning due to these issues. Outcomes of the courses may therefore be left at the level of simple awareness toward the topics

if faculty developers cannot overcome the time-based challenges affecting medical teachers.

The second barrier was “beliefs and assumptions,” which consisted of three subthemes; age, change, and culture. Use of technology and adapting to new methodologies in teaching may be overwhelming for some medical teachers. All three subthemes may be seen as a barrier against blended learning faculty development. Age relates to the medical teachers being seen as digital immigrants towards new technology and its use for educational purposes. Change may create new unexpected practices, with medical teachers resisting the implementation of new methods which may bring about new or additional responsibilities, when they already report that they have too much. Moreover, blended learning was seen to be affected from a cultural barrier in faculty development programs.

Although designing and developing blended learning courses seemed promising for a medical faculty development program, access and usage of the online components were not automatic for the participants. To quote from Wearne et al. (2011), “Despite the range of age, gender, professional background, study mode or geographic region, core themes emerged on what helps and what hinders online study of clinical education for health professionals” (Wearne et al., 2011, p. 1002). The views of the current study’s participants showed that the medical teachers were not used to studying through this new approach, and revealed that their beliefs and assumptions should have been addressed up front. Shah, Knoble, Ross, and Pickering (2017) emphasized that cultural and contextual content is a key motivator.

Faculty developers might be faced with “online learning abilities” as an issue for BL faculty development course participants, which emerged as the last barrier identified in the current study. ICT skills and technology acceptance may cause the triggering of this type of barrier (Dyrbye et al., 2009; Wearne et al., 2011) and stand against a successful blended approach to faculty development. Computer literacy skills were also reported as a barrier to online learning by Lawn, Zhi, and Morello (2017). Anshu, Sharma, Burdick, and Singh (2010) mentioned that technical terminology may discourage medical teachers from actively participating in a blended learning faculty development program.

5.2.2. Motivators

The second part of the second research question considered the motivators towards blended learning faculty development courses. Eight of these motivators emerged during the participants' interviews with regard to blended learning faculty development programs. These motivators may be seen as initiators for medical teachers to apply, continue, and complete a blended faculty development program.

Personal development was a significant motivator seen by the medical teachers, with the blended learning faculty development program considered beneficial to their personal career development. Blended learning as an approach was seen as a new method which could be used in their own teaching activities, but requires personal development on their part to work on the skills and knowledge necessary to provide student-centered learning (Ryan & Beck, 2018).

Improving the teaching skills of the participants was seen as another motivator of the blended learning faculty development program, as such an approach may contribute to their teaching skills. In the study of Pernar et al. (2012), a faculty development program based on weekly e-mails with compact content to improve teaching skills failed due to a lack of instructional design. However, in a carefully designed program, medical teachers can establish a level of involvement that improves their teaching skills (Jokinen & Mikkonen, 2013).

Certification was provided to the course participants if they successfully completed the program. This motivated the junior medical teachers as they did not already hold such a certificate, and was seen as a way to help towards their promotion to the next academic level. Since there is an inherent desire to improve their academic position, and the program is a requirement, the medical teachers who did not already have certification reported their motivation in favor of this aspect of the program. Therefore, certification and recertification should take place within faculty development. Vaughan et al.(2017), and Welch (2011) also reported that 10 weeks of teaching certification is required in Sweden in order to gain tenure.

A perceived quality of the course also was reported to have motivated the medical teachers to attend the blended learning faculty development course. The novelty of

blended learning in faculty development also captured their attention. The application of new methods in their education were appreciated by some of the medical teachers, in order that they would learn more about what is coming up for the new generations. Shah et al. (2017) found that blended learning motivates learners for mentor support. As Steinert et al. (2002) also mentioned, perceived need is critical and is based on the quality of a course.

The learning climate of blended learning brought another angle to faculty development. Through providing f2f sessions and supporting courses with online content, the participants perceived that blended learning could be a way to benefit from high-end learning. Socializing in f2f sessions, as well as discussing with and observing other participants online were found to be enjoyable and raised their awareness towards peer learning. Fox et al. (2001) stated that there can be isolation in online learning where there is no supporting f2f encounter.

A decrease in the necessary time allocation for f2f sessions is one promising advantage of blended learning noted by the medical teachers. The participants reported similar concerns with regards to workload and time-based issues. Less time allocation for f2f sessions in faculty development programs was therefore mentioned as a motivating factor. Many studies (Cook & Steinert, 2013; Dyrbye et al., 2009; Steinert et al., 2016, 2002) have been designed to overcome these issues, with blended learning reducing the need for f2f encounters.

Incentives for blended faculty development were stated in order to support medical teachers as extrinsic motivation. It can be said that a system such as financial or other forms of rewards could attract the attention of medical teachers. Teaching awards were seen as incentives and highly appreciated by medical teachers according to (Brawer et al., 2006; Scott et al., 2017).

Job-related interest was reported as a motivator for the participants, with their workplace roles requiring them to improve their professional skills in their jobs. Since the medical teachers actively teach, they felt that their job requires them to attend the program. Blended learning faculty development programs should be handled with a level of institutional support in order to increase participant

motivation through job-related interest. Medical teachers who are more enthusiastic become better teachers (Vaughan et al., 2017).

Teaching medicine has not meaningfully changed over the past century, but still mostly lecture-based courses are taught (Wilkes, 2018). The current study has aimed to help medical teachers through a new approach to faculty development, with different approaches to teaching and learning. Blended learning was favored by almost all of the current study's participants. They wanted to participate in the blended learning formatted program for several reasons such as the program's flexibility, their participation, and effective learning (Cook & Steinert, 2013).

5.3. Discussion on RQ4: Suggestions

The fourth research question was “What are the suggestions of medical teachers with regards to blended learning faculty development courses?” In relation to the research question, the suggestions were put forwards by the medical teachers regarding blended learning faculty development courses, and were analyzed based on their experiences during the intervention. Six main suggestions were noted for the improvement of blended learning faculty development courses.

Suggestions related to the f2f sessions were the medical teachers' first concern. Since, as participants, they needed to be present during f2f sessions, a short course duration seemed to be the most appropriate for them. Moreover, longitudinal programs had proven to be negative experiences for some of the medical teachers in which they spent more time in f2f sessions. Therefore, the medical teachers reported that the courses should be designed in a modular way so that they can attend f2f sessions through adjustment of their faculty workload (teaching, healthcare). Steinert et al. (2016) underlined that f2f encounters can lead to other beneficial activities in the workplace such as communities of practice and new leadership positions.

Participation was another suggestion theme in which the medical teachers defined how courses should be presented to participants. The first suggestion was compulsory attendance to such courses, in which the instructor would record class attendance. Another suggested way to support participation was to set incentives so

that the medical teachers would be rewarded in some way for their participation. Moreover, participant selection could also help attendance, meaning that field or subject-specific courses could attract the attention of prospective attendees with course content more specific to the medical teachers' fields. Langlois and Thach (2003) found that voluntary programs have a low rate of participation; however, compulsory attendance could be seen as being against the principles of adult learning (Knowles, 1990; Knowles et al., 2005). Therefore, there needs to be a trade-off between flexibility and participation (Cook & Steinert, 2013). Scott et al. (2017) also suggested the selection of participants for content-specific designed courses.

The design approach to blended learning was based on the 4C/ID model in the current study. There were f2f and online sessions held within a two week period in which the medical teachers were required to complete certain learning tasks. Two weeks was seen as being too short a period by some of the medical teachers, whereas some noted that online learning tasks were a very useful way to prepare for the f2f sessions in advance. There was no clear agreement with regards to the design approach, with the medical teachers divided on their ideas as to how to use blended learning in faculty development. Scott et al. (2017) offered 10 principles to design programs. As the 4C/ID model was used in the current study, the design of the courses paralleled the principles of Scott et al. (2017).

Suggestions related with the announcements were also an important part of the themes; primarily suggesting that formal invitations be sent out to department and faculty chairs, as well as to the departments and through email notification. Besides, announcements should motivate the medical teachers with invitations to programs providing brief information about the program as a form of advertisement. Program announcements could be designed as campaigns in order to notify and attract increased participant numbers (Lewis & Baker, 2005).

Course duration was mentioned in relation to a suggestion for blended learning faculty development. Time and scheduling in the design of a course is of vital importance and affects the attendance of medical teachers. The courses of the current study were conducted at the end of the June. This was acknowledged by the

medical teachers as not the best time to schedule courses since summer holidays were just about to start, with September recommended as an alternative for new courses. Ladhani et al. (2011) also noted that planning of the program well in advance was highly recommended.

Lastly, the timetable for online learning tasks was criticized by the medical teachers, with some of them finding that the scheduled two weeks were insufficient to complete the assigned learning tasks. It could be said that the monitoring of learning task completion and the second f2f sessions could have benefitted the faculty members' progress. The second f2f session's schedule could be planned online according to the participants' progress. Acknowledging the participants' learning gains from the FD program could be more important than their satisfaction (Scott et al., 2017).

5.4. Implications for Practice

The current study' aim was to use blended learning in faculty development courses. The results of this research identified a number of implications for different stakeholders, namely faculty developers, instructional designers, and blended learning researchers.

Faculty developers may focus on implementing the blended learning approach to their programs since all of the participants mentioned the importance and effectiveness of the approach. How blended learning influences the learning process of medical teachers would be worth visiting based on the themes presented in these findings. Motivators emerged in this study, such as personal development, improving teaching skills, certification, and incentives, could be used and promoted in faculty development programs as a means to motivating medical teachers to attend such programs. Thus, faculty developers may design better courses in the most effective ways to increase levels of participant motivation and engagement.

Use of the online platform to support faculty development programs was found to be beneficial for many purposes. The medical teachers were able to revisit the content whenever they needed. Moreover, online communication through the activities can also contribute to the social learning of medical teachers, and may

lead to communities of practice in the workplace. Use of online tools to support faculty development seemed to be welcomed by the participants. Therefore, the usage of an online system's tools could be dependent on the views of the participants.

Workload and time management were seen as being vital for the completion of learning tasks. If there is no opportunity to intervene, the use of online activities in faculty development should be approached cautiously. In any case, the online platform may be used in order to distribute course content. Therefore, it would be wise to anticipate low-level or no interaction from medical teachers due to the barriers mentioned as, per the current study's findings, they tended to neglect their tasks within the online environment.

Challenging medical teachers to undertake learning tasks may achieve increased engagement and motivation since they may be more likely to choose a difficult path in order to achieve better skills and knowledge in teaching. Social accountability in the f2f sessions can motivate participants to achieve learning tasks for the instructor as well as for the other medical teachers, as most learners naturally like to brag about their achievements. In other words, it is recommended to help make medical teachers proud of their work within the community of their peers in order to create extrinsic motivation.

Providing mobile application support increased the interaction and access between the course content and the participants. They were able to use and communicate through the application easily and immediately. Therefore, it is recommended to support mobility in learning within faculty development in order to increase participant engagement and communication.

The 4C/ID design can help to improve the quality of faculty development courses. Learning tasks to part-task practices were provided within the design of the courses. Providing whole-task learning experiences at different levels of learning tasks guided the medical teachers to improve their knowledge and skills. By removing the barriers to blended learning faculty development, learning tasks might create a better learning experience. Faculty developers should focus on eliminating barriers and increased completion of learning tasks.

5.5. Recommendations for Research

Various approaches have been applied to faculty development programs over many years. The current study contributes to the blended learning approach for faculty development programs. Broad scope and context of faculty development requires further research in other settings. The findings of the current study may contribute to new research aspects for future studies.

In the current study, designing a faculty development program with blended learning resulted in positive experiences and satisfaction for the participant medical teachers. Therefore, developing and implementing new content areas with a different scope –such as research and scholarly roles, or administrative and leadership roles– of faculty development programs could be repeated using a blended learning approach.

The current study used several data sources in order to understand the usage of blended learning in a faculty development program. While some of the data sources were based on the perceptions of the medical teachers as participants, the remaining came from non-self-reporting sources such as LMS system logs and document (artefact) analysis which revealed important findings. With the results having shown that actual usage versus perceived usage differed, data from non-self-reporting may be employed in future studies in order to triangulate data.

In the current study, learning tasks were assigned to the medical teachers. Completion of the learning tasks was not compulsory, as suggested according to andragogical principles. However, future research may decide on the suitability to have compulsory learning tasks without applying principles of andragogy in the design as not all of the medical teachers completed their learning tasks. Besides, medical teachers may be motivated to complete learning tasks if they are informed about their progress. Moreover, presenting the learning tasks as being of a challenging level for the medical teachers is suggested.

Some of the barriers to blended learning faculty development programs are workload, time, and ICT skills. These barriers can have a considerable and

important impact on the implementation of any study conducting blended courses. Future research may consider how to eliminate such barriers for better results.

As the findings of the current study point out, various ratios for blending f2f and online activities have been suggested in terms of the course design. As a result, new courses could be designed with various f2f and online ratios, and the difference between the designs and the course results investigated in terms of knowledge and skill gain, as well as the satisfaction of the participants where there is any improvement or difference found.

In the current study, blended learning was applied for a course ran over a short period of time. Longitudinal programs may also be supported with online activities in which medical teachers could complete learning tasks over a longer period of time. In such a case, the impact of some of the barriers mentioned such as workload and timing may be diminished.

REFERENCES

- Adams Becker, S., Cummins, M., Davis, A., Freeman, A., Hall Giesinger, C., & Ananthanarayanan, V. (2017). *NMC Horizon Report: 2017 Higher Education Edition*. Austin, Texas: The New Media Consortium.
- Amundsen, C., & Wilson, M. (2012). Are We Asking the Right Questions?: A Conceptual Review of the Educational Development Literature in Higher Education. *Review of Educational Research*, 82(1), 90–126. <http://doi.org/10.3102/0034654312438409>
- Anshu, Sharma, M., Burdick, W. P., & Singh, T. (2010). Group dynamics and social interaction in a South Asian online learning forum for faculty development of medical teachers. *Education for Health*, 23(1), 311.
- Baepler, P., Walker, J. D., & Driessen, M. (2014). It's not about seat time: Blending, flipping, and efficiency in active learning classrooms. *Computers & Education*, 78, 227–236. <http://doi.org/10.1016/j.compedu.2014.06.006>
- Bahar-Ozvaris, S., Aslan, D., Sahin-Hodoglugil, N., & Sayek, I. (2004). A Faculty Development Program Evaluation: From Needs Assessment to Long-Term Effects, of the Teaching Skills Improvement Program. *Teaching and Learning in Medicine*, 16(4), 368–375. http://doi.org/10.1207/s15328015tlm1604_11
- Bastiaens, T. J. (2012). Design of an Authentic E-Learning Environment. In D. Holt, S. Segrave, & J. L. Cybulski (Eds.), *Professional Education Using E-Simulations: Benefits of Blended Learning Design* (pp. 57–69). Hershey, PA: IGI Global. <http://doi.org/10.4018/978-1-61350-189-4.ch004>
- Bazerley, P., & Jackson, K. (2013). *Qualitative data analysis with Nvivo* (2nd ed.). Los Angeles: SAGE Publications.
- Behar-Horenstein, L. S., Schneider-Mitchell, G., & Graff, R. (2009). Promoting the teaching of critical thinking skills through faculty development. *Journal of Dental Education*, 73(6), 665–675.
- Benor, D. E. (2000). Faculty development, teacher training and teacher accreditation in medical education: twenty years from now. *Medical Teacher*, 22(5), 503–512. <http://doi.org/10.1080/01421590050110795>

- Berger, H., Eylon, B.-S., & Bagno, E. (2008). Professional Development of Physics Teachers in an Evidence-Based Blended Learning Program. *Journal of Science Education and Technology*, 17(4), 399–409. <http://doi.org/10.1007/s10956-008-9109-3>
- Bitsch, V. (2005). Qualitative Research: A Grounded Theory Example and Evaluation Criteria. *Journal of Agribusiness*, 23(1), 75–91.
- Bramson, R., VanLandingham, A., Heads, A., Paulman, P., & Mygdal, W. (2007). Reaching and teaching preceptors: Limited success from a multifaceted faculty development program. *Family Medicine*, 39(6), 386–388.
- Brawer, J., Steinert, Y., St-Cyr, J., Watters, K., & Wood-Dauphinee, S. (2006). The significance and impact of a faculty teaching award: disparate perceptions of department chairs and award recipients. *Medical Teacher*, 28(7), 614–617. <http://doi.org/10.1080/01421590600878051>
- Brooks, C. F. (2010). Toward ‘hybridised’ faculty development for the twenty-first century: blending online communities of practice and face-to-face meetings in instructional and professional support programmes. *Innovations in Education and Teaching International*, 47(3), 261–270. <http://doi.org/10.1080/14703297.2010.498177>
- Burgess, A., van Diggele, C., & Mellis, C. (2018). Faculty development for junior health professionals. *The Clinical Teacher*, 15, 1–8. <http://doi.org/10.1111/tct.12795>
- Chan, T. M., Thoma, B., & Lin, M. (2015). Creating, Curating, and Sharing Online Faculty Development Resources. *Academic Medicine*, 90(6), 785–789. <http://doi.org/10.1097/ACM.0000000000000692>
- Chappell, K. B., Sherman, L., & Barnett, S. D. (2018). An interactive faculty development workshop designed to improve knowledge, skills (competence), attitudes, and practice in interprofessional continuing education. *Medical Teacher*, 40(9), 896–903. <http://doi.org/10.1080/0142159X.2018.1481286>
- Cole, K. A., Barker, L. R., Kolodner, K., Williamson, P., Wright, S. M., & Kern, D. E. (2004). Faculty development in teaching skills: an intensive longitudinal model. *Academic Medicine*, 79(5), 469–480.
- Coma del Corral, M. J., Guevara, J. C., Luquin, P. A., Peña, H. J., & Mateos Otero, J. J. (2006). Usefulness of an Internet-based thematic learning network: Comparison of effectiveness with traditional teaching. *Medical Informatics and the Internet in Medicine*, 31(1), 59–66. <http://doi.org/10.1080/14639230600598026>
- Cook, D. A. (2014). Faculty Development Online. In Y. Steinert (Ed.), *Faculty Development in the Health Professions* (Vol. 11, pp. 217–241). Dordrecht: Springer Netherlands. http://doi.org/10.1007/978-94-007-7612-8_11

- Cook, D. A., Garside, S., Levinson, A. J., Dupras, D. M., & Montori, V. M. (2010). What do we mean by web-based learning? A systematic review of the variability of interventions. *Medical Education*, 44(8), 765–74. <http://doi.org/10.1111/j.1365-2923.2010.03723.x>
- Cook, D. A., Levinson, A. J., Garside, S., Dupras, D. M., Erwin, P. J., & Montori, V. M. (2008). Internet-Based Learning in the Health Professions. *JAMA*, 300(10), 1181. <http://doi.org/10.1001/jama.300.10.1181>
- Cook, D. A., & Steinert, Y. (2013). Online learning for faculty development: A review of the literature. *Medical Teacher*, 35(11), 930–937. <http://doi.org/10.3109/0142159X.2013.827328>
- Creswell, J. W. (2012). *Educational research: planning, conducting, and evaluating quantitative and qualitative research*. Pearson.
- Creswell, J. W. (2013). *Qualitative inquiry and research design: choosing among five approaches* (3rd ed.). Los Angeles: SAGE Publications, 2013.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, California: Sage Publications, Inc.
- Creswell, J. W., & Miller, D. L. (2000). Determining Validity in Qualitative Inquiry. *Theory Into Practice*, 39(3), 124–130. http://doi.org/10.1207/s15430421tip3903_2
- Curran, V., Rourke, L., & Snow, P. (2010). A framework for enhancing continuing medical education for rural physicians: A summary of the literature. *Medical Teacher*, 32(11), e501–e508. <http://doi.org/10.3109/0142159X.2010.519065>
- Cutri, R. M., & Whiting, E. F. (2018). Opening Spaces for Teacher Educator Knowledge in a Faculty Development Program on Blended Learning Course Development. *Studying Teacher Education*, 14(2), 125–140. <http://doi.org/10.1080/17425964.2018.1447920>
- Daniel, M., Stojan, J., Wolff, M., Taqui, B., Glasgow, T., Forster, S., & Cassese, T. (2018). Applying four-component instructional design to develop a case presentation curriculum. *Perspectives on Medical Education*, 7(4), 276–280. <http://doi.org/10.1007/s40037-018-0443-8>
- Davis, M. H., Karunathilake, I., & Harden, R. M. (2005). AMEE Education Guide no. 28: The development and role of departments of medical education. *Medical Teacher*, 27(8), 665–675. <http://doi.org/10.1080/01421590500398788>
- de Grave, W., Zanting, A., Mansvelder-Longayroux, D. D., & Molenaar, W. M. (2014). Workshops and Seminars: Enhancing Effectiveness. In Y. Steinert (Ed.), *Faculty Development in the Health Professions* (Vol. 11, pp. 181–195). Dordrecht: Springer Netherlands. http://doi.org/10.1007/978-94-007-7612-8_9

- de Jong, N., Krumeich, J. S. M., & Verstegen, D. M. L. (2017). To what extent can PBL principles be applied in blended learning: Lessons learned from health master programs. *Medical Teacher*, 39(2), 203–211. <http://doi.org/10.1080/0142159X.2016.1248915>
- Denzin, N. K., & Lincoln, Y. S. (2011). The Discipline and Practice of Qualitative Research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE Handbook of Qualitative Research* (4th ed., pp. 1–19). Sage Publications.
- Department of Medical Education, E. U. (2011). Temel Eğitimci Gelişimi Program. Retrieved September 8, 2018, from http://tead.med.ege.edu.tr/kategori.jsp?cat_yazi=22
- Diaz, D. P. (2002). Online drop rates revisited. Retrieved from http://technologysource.org/article/online_drop_rates_revisited/
- Dyrbye, L., Cumyn, A., Day, H., & Heflin, M. (2009). A qualitative study of physicians' experiences with online learning in a masters degree program: Benefits, challenges, and proposed solutions. *Medical Teacher*, 31(2), e40–e46. <http://doi.org/10.1080/01421590802366129>
- Dziuban, C., Graham, C. R., Moskal, P. D., Norberg, A., & Sicilia, N. (2018). Blended learning: the new normal and emerging technologies. *International Journal of Educational Technology in Higher Education*, 15(1), 3. <http://doi.org/10.1186/s41239-017-0087-5>
- Ege Üniversitesi Tıp Fakültesi. (2016). *Mezuniyet Öncesi Tıp Eğitimi Ulusal Standartları Özdeğerlendirme Raporu*. İzmir. Retrieved from http://www.med.ege.edu.tr/files/med/icerik/ozdegerlendirme_raporu_29_08_16.pdf
- Ege University. (2018a). Düünden Bugüne Ege Üniversitesi. Retrieved September 7, 2018, from https://ege.edu.tr/tr-1/dunden_bugune_ege_universitesi.html
- Ege University. (2018b). Ege Üniversitesi Akademik Bilgi Sistemi. Retrieved September 7, 2018, from <https://avesis.ege.edu.tr/RaporDetay.aspx?NO=19801>
- Ege University. (2018c). Neden Ege Üniversitesi? Retrieved September 7, 2018, from https://ege.edu.tr/tr-37/neden_ege_universitesi.html
- Flick, L. B., Sadri, P., Morrell, P. D., Wainwright, C., & Schepige, A. (2009). A Cross Discipline Study of Reformed Teaching by University Science and Mathematics Faculty. *School Science and Mathematics*, 109(4), 197–211. <http://doi.org/10.1111/j.1949-8594.2009.tb18258.x>
- Fox, N., O'Rourke, A., Roberts, C., & Walker, J. (2001). Change management in primary care: design and evaluation of an internet-delivered course. *Medical Education*, 35(8), 803–805. <http://doi.org/10.1046/j.1365-2923.2001.00974.x>
- Fraenkel, J., Wallen, N., & Hyun, H. (2014). *How to Design and Evaluate Research in Education*. New York, NY: McGraw-Hill Education.

- Frerejean, J., van Strien, J. L. H., Kirschner, P. A., & Brand-Gruwel, S. (2016). Completion strategy or emphasis manipulation? Task support for teaching information problem solving. *Computers in Human Behavior*, 62, 90–104. <http://doi.org/10.1016/j.chb.2016.03.048>
- Frontera, W. R., Fuhrer, M. J., Jette, A. M., Chan, L., Cooper, R. A., Duncan, P. W., ... Tate, D. G. (2006). Rehabilitation Medicine Summit: Building research capacity. *The Journal of Spinal Cord Medicine*, 29(1), 70–81.
- Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7(2), 95–105. <http://doi.org/10.1016/j.iheduc.2004.02.001>
- Glicken, A. D., & Merenstein, G. B. (2007). Addressing the hidden curriculum: understanding educator professionalism. *Medical Teacher*, 29(1), 54–7. <http://doi.org/10.1080/01421590601182602>
- Göksu, İ., Özcan, K. V., Çakır, R., & Göktaş, Y. (2014). Türkiye’de Öğretim Tasarımı Modelleriyle İlgili Yapılmış Çalışmalar. *Elementary Education Online*, 13(2), 694–709.
- Graham, C. R. (2006). Blended Learning Systems: Definition, Current Trends, and Future Directions. In C. J. Bonk & C. R. Graham (Eds.), *The Handbook of Blended Learning: Global Perspectives, Local Designs* (pp. 3–21). San Francisco, CA: Wiley.
- Guba, E. G. (1981). Criteria for Assessing the Trustworthiness of Naturalistic Inquiries. *ECTJ*, 29(2), 75–91.
- Hamilton, G. C., & Brown, J. E. (2003). Faculty Development: What Is Faculty Development? *Academic Emergency Medicine*, 10(12), 1334–1336. [http://doi.org/10.1197/S1069-6563\(03\)00549-9](http://doi.org/10.1197/S1069-6563(03)00549-9)
- Hanna, D. (2014). Transforming Faculty Development Programs From Face-To-Face To Blended/Hybrid Environments. In L. Chova, A. Martinez, & I. Torres (Eds.), *INTED2014: 8th International Technology, Education And Development Conference* (pp. 566–569). Valencia, Spain: IATED.
- Hodges, B. (2014). Faculty Development for Research Capacity Building. In Y. Steinert (Ed.), *Faculty Development in the Health Professions* (Vol. 11, pp. 79–96). Dordrecht: Springer Netherlands. http://doi.org/10.1007/978-94-007-7612-8_4
- Hodgson, C. S., & Wilkerson, L. (2014). Faculty Development for Teaching Improvement. In Y. Steinert (Ed.), *Faculty Development in the Health Professions* (Vol. 11, pp. 29–52). Dordrecht: Springer Netherlands. http://doi.org/10.1007/978-94-007-7612-8_2

- Hueppchen, N., Dalrymple, J. L., Hammoud, M. M., Abbott, J. F., Casey, P. M., Chuang, A. W., ... Katz, N. T. (2011). To the point: medical education reviews-ongoing call for faculty development. *American Journal of Obstetrics and Gynecology*, 205(3), 171–176. <http://doi.org/10.1016/j.ajog.2011.02.070>
- Hull, P., Chaudry, A., Prasthofer, A., & Pattison, G. (2009). Optimal sequencing of bedside teaching and computer-based learning: a randomised trial. *Medical Education*, 43(2), 108–112. <http://doi.org/10.1111/j.1365-2923.2008.03261.x>
- Johansson, J., Skeff, K. M., & Stratos, G. A. (2012). A randomised controlled study of role play in a faculty development programme. *Medical Teacher*, 34(2), e123–e128. <http://doi.org/10.3109/0142159X.2012.644832>
- Johansson, J., Skeff, K., & Stratos, G. (2009). Clinical teaching improvement: The transportability of the Stanford Faculty Development Program. *Medical Teacher*, 31(8), e377–e382. <http://doi.org/10.1080/01421590802638055>
- Johansson, R. (2003). Case Study Methodology. In *International Conference "Methodologies in Housing Research"* (pp. 1–14). Stockholm, 22–24 September 2003. Retrieved from http://www.psyking.net/htmlobj-3839/case_study_methodology-_rolf_johansson_ver_2.pdf
- Jokinen, P., & Mikkonen, I. (2013). Teachers' experiences of teaching in a blended learning environment. *Nurse Education in Practice*, 13(6), 524–528. <http://doi.org/10.1016/J.NEPR.2013.03.014>
- Jolly, B. (2014). Faculty Development for Organizational Change. In Y. Steinert (Ed.), *Faculty Development in the Health Professions* (Vol. 11, pp. 119–137). Dordrecht: Springer Netherlands. http://doi.org/10.1007/978-94-007-7612-8_6
- Jonsson, A., & Svingby, G. (2007). The use of scoring rubrics: Reliability, validity and educational consequences. *Educational Research Review*, 2(2), 130–144. <http://doi.org/10.1016/j.edurev.2007.05.002>
- Jordan, K. (2015). Massive Open Online Course Completion Rates Revisited: Assessment, Length and Attrition. *International Review of Research in Open and Distributed Learning*, 16(3), 341–358. <http://doi.org/10.13140/RG.2.1.2119.6963>
- Kanter, S. L. (2011). Faculty Career Progression. *Academic Medicine*, 86(8), 919. <http://doi.org/10.1097/ACM.0b013e318222dd2a>
- Karadeniz, Ş. (2012). Harmanlanmış Öğrenmeye İlişkin Öğrenci Memnuniyeti Ölçeğinin Geliştirilmesi. *Elektronik Sosyal Bilimler Dergisi*, 11(40), 161–172. Retrieved from <http://dergipark.gov.tr/download/article-file/70366>
- Kim, D.-H., Hwang, J., Lee, S., & Shin, J.-S. (2017). Institutional factors affecting participation in national faculty development programs: a nation-wide investigation of medical schools. *BMC Medical Education*, 17(1), 48. <http://doi.org/10.1186/s12909-017-0888-1>

- Knowles, M. S. (1980). *The modern practice of adult education: from pedagogy to andragogy*. New York, NY: Cambridge, The Adult Education Company.
- Knowles, M. S. (1990). *The Adult Learner: A Neglected Species* (4th ed.). Houston, TX: Gulf Publishing Company. <http://doi.org/10.2307/1174362>
- Knowles, M. S., Holton, E. F., & Swanson, R. A. (2005). *The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development* (6th ed.). Burlington, MA: Elsevier.
- Kuhn, D., & Pease, M. (2006). Do Children and Adults Learn Differently? *Journal of Cognition and Development*, 7(3), 279–293. http://doi.org/10.1207/s15327647jcd0703_1
- Kurdak, H., Altintas, D., & Doran, F. (2008). Medical education in Turkey: Past to future. *Medical Teacher*, 30(8), 768–773. <http://doi.org/10.1080/01421590802232834>
- Laberge, A. M., Fryer-Edwards, K., Kyler, P., Lloyd-Puryear, M. A., & Burke, W. (2009). Long-term Outcomes of the “Genetics in Primary Care” Faculty Development Initiative. *Family Medicine*, 41(4), 266–270.
- Ladhani, Z., Chhatwal, J., Vyas, R., Iqbal, M., Tan, C., & Diserens, D. (2011). Online role-playing for faculty development. *The Clinical Teacher*, 8(1), 31–36. <http://doi.org/10.1111/j.1743-498X.2010.00401.x>
- Langlois, J. P., & Thach, S. B. (2003). Bringing Faculty Development to Community-based Preceptors. *Academic Medicine*, 78(2), 150–5.
- Lawn, S., Zhi, X., & Morello, A. (2017). An integrative review of e-learning in the delivery of self-management support training for health professionals. *BMC Medical Education*, 17(1), 183. <http://doi.org/10.1186/s12909-017-1022-0>
- Leslie, K. (2014). Faculty Development for Academic and Career Development. In Y. Steinert (Ed.), *Faculty Development in the Health Professions* (Vol. 11, pp. 97–118). Dordrecht: Springer Netherlands. http://doi.org/10.1007/978-94-007-7612-8_5
- Leslie, K., Baker, L., Egan-Lee, E., Esdaile, M., & Reeves, S. (2013). Advancing Faculty Development in Medical Education. *Academic Medicine*, 88(7), 1038–1045. <http://doi.org/10.1097/ACM.0b013e318294fd29>
- Lewis, K. O., & Baker, R. C. (2005). Development and Implementation of an Online Master’s Degree in Education Program for Health Care Professionals. *Academic Medicine*, 80(2), 141–146.
- Lieff, S. J. (2009). Evolving curriculum design: a novel framework for continuous, timely, and relevant curriculum adaptation in faculty development. *Academic Medicine: Journal of the Association of American Medical Colleges*, 84(1), 127–134. <http://doi.org/10.1097/ACM.0b013e3181900f4b>

- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. California: SAGE Publications.
- Liu, Q., Peng, W., Zhang, F., Hu, R., Li, Y., & Yan, W. (2016). The Effectiveness of Blended Learning in Health Professions: Systematic Review and Meta-Analysis. *Journal of Medical Internet Research*, 18(1), e2. <http://doi.org/10.2196/jmir.4807>
- Lotrecchiano, G. R., McDonald, P. L., Lyons, L., Long, T., & Zajicek-Farber, M. (2013). Blended Learning: Strengths, Challenges, and Lessons Learned in an Interprofessional Training Program. *Maternal and Child Health Journal*, 17(9), 1725–1734. <http://doi.org/10.1007/s10995-012-1175-8>
- MacRae, H. M., Regehr, G., McKenzie, M., Henteleff, H., Taylor, M., Barkun, J., ... McLeod, R. S. (2004). Teaching practicing surgeons critical appraisal skills with an Internet-based journal club: a randomized, controlled trial. *Surgery*, 136(3), 641–646. <http://doi.org/10.1016/j.surg.2004.02.003>
- Marshall, C., & Rossman, G. B. (2016). *Designing qualitative research* (6th ed.). SAGE Publications.
- Mazotti, L., Moylan, A., Murphy, E., Harper, G. M., Johnston, C. B., & Hauer, K. E. (2010). Advancing geriatrics education: An efficient faculty development program for academic hospitalists increases geriatric teaching. *Journal of Hospital Medicine*, 5(9), 541–546. <http://doi.org/10.1002/jhm.791>
- McKimm, J., & Swanwick, T. (2010). Web-based faculty development: e-learning for clinical teachers in the London Deanery. *The Clinical Teacher*, 7(1), 58–62. <http://doi.org/10.1111/j.1743-498X.2009.00344.x>
- McLean, M., Cilliers, F., & Van Wyk, J. M. (2008). Faculty development: Yesterday, today and tomorrow. *Medical Teacher*, 30(6), 555–584. <http://doi.org/10.1080/01421590802109834>
- Merriam, S. B. (2001). Andragogy and Self-Directed Learning: Pillars of Adult Learning Theory. *New Directions for Adult and Continuing Education*, 2001, 3–14. <http://doi.org/10.1002/ace.3>
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Merriam, S. B., & Bierema, L. L. (2013). *Adult Learning: Linking Theory and Practice*. Wiley.
- Merrill, M. D. (2002). First principles of instruction. *Educational Technology Research and Development*, 50(3), 43–59. <http://doi.org/10.1007/BF02505024>
- Mertler, C. A. (2001). Designing scoring rubrics for your classroom. *Practical Assessment, Research & Evaluation*, 7(25). Retrieved from <http://pareonline.net/getvn.asp?v=7&n=25>
<http://pareonline.net/getvn.asp?v=7&n=25>

- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: an expanded sourcebook* (Second). Thousand Oaks, CA: SAGE Publications, Inc.
- Moodle. (2018). About Moodle - MoodleDocs. Retrieved September 17, 2018, from https://docs.moodle.org/35/en/About_Moodle
- Moskal, B. M. (2000). Scoring Rubrics: What, When and How? *Practical Assessment, Research & Evaluation*, 7(3). Retrieved from <https://pareonline.net/getvn.asp?v=7%26n=3>
- Moskal, P., Dziuban, C., & Hartman, J. (2013). Blended learning: A dangerous idea? *The Internet and Higher Education*, 18, 15–23. <http://doi.org/10.1016/j.iheduc.2012.12.001>
- Murray, J. P. (2002). The current state of faculty development in two-year colleges. *New Directions for Community Colleges*, 202(118), 89–98. <http://doi.org/10.1002/cc.67>
- Musal, B. (2003). Eğitici Gelişim Programları: Dokuz Eylül Üniversitesi Tıp Fakültesi Deneyimi. *Ege Eğitim Dergisi*. Retrieved from <http://dergipark.ulakbim.gov.tr/egeefd/article/view/5000004080>
- Musal, B., Abacioglu, H., Dicle, O., Akalin, E., Sarioglu, S., & Esen, A. (2002). Faculty Development Program in Dokuz Eylül School of Medicine: In the process of curriculum change from traditional to PBL. *Medical Education Online*, 7(1). <http://doi.org/10.3402/meo.v7i.4533>
- Myers, C. R., Mixer, S. J., Wyatt, T. H., Paulus, T. M., & Lee, D. S. (2011). Making the Move to Blended Learning: Reflections on a Faculty Development Program. *International Journal of Nursing Education Scholarship*, 8(1). <http://doi.org/10.2202/1548-923X.2243>
- Nasmith, L., & Steinert, Y. (2001). The evaluation of a workshop to promote interactive lecturing. *Teaching and Learning in Medicine*, 13(1), 43–8. http://doi.org/10.1207/S15328015TLM1301_8
- Norberg, A., Dziuban, C. D., & Moskal, P. D. (2011). A time-based blended learning model. *On the Horizon*, 19(3), 207–216. <http://doi.org/10.1108/10748121111163913>
- Ok, O., Vatansever, K., Şener Araz, E., Agah, M. H., & Durak, H. İ. (2018). Hastane Öncesi Sağlık Profesyonellerine Yönelik Travma İleri Yaşam Desteği Eğitim Programı. *Tıp Eğitimi Dünyası*, 17(51), 60–71. <http://doi.org/10.25282/ted.334071>
- Parsad, B., & Lewis, L. (2008). *Distance Education at Degree-Granting Postsecondary Institutions: 2006–07*. Washington DC. Retrieved from www.ed.gov

- Paskevicius, M., & Bortolin, K. (2016). Blending our practice: using online and face-to-face methods to sustain community among faculty in an extended length professional development program. *Innovations in Education and Teaching International*, 53(6), 605–615. <http://doi.org/10.1080/14703297.2015.1095646>
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: integrating theory and practice*. Thousand Oaks, CA: SAGE Publications.
- Paulus, T. M., Myers, C. R., Mixer, S. J., Wyatt, T. H., Lee, D. S., & Lee, J. L. (2010). For Faculty, by Faculty: A Case Study of Learning to Teach Online. *International Journal of Nursing Education Scholarship*, 7(1). <http://doi.org/10.2202/1548-923X.1979>
- Pernar, L. I. M., Beleniski, F., Rosen, H., Lipsitz, S., Hafler, J., & Breen, E. (2012). Spaced Education Faculty Development May Not Improve Faculty Teaching Performance Ratings in a Surgery Department. *Journal of Surgical Education*, 69(1), 52–57. <http://doi.org/10.1016/j.jsurg.2011.06.013>
- Pickering, J. D., Henningsohn, L., DeRuiter, M. C., de Jong, P. G. M., & Reinders, M. E. J. (2017). Twelve tips for developing and delivering a massive open online course in medical education. *Medical Teacher*, 39(7), 691–696. <http://doi.org/10.1080/0142159X.2017.1322189>
- Pololi, L., Clay, M. C., Jr, M. L., Hewson, M., Kaplan, C., & Frankel, R. M. (2001). Reflections on integrating theories of adult education into a medical school faculty development course. *Medical Teacher*, 23(3), 276–283. <http://doi.org/10.1080/01421590120043053>
- Prideaux, D., Alexander, H., Bower, A., Dacre, J., Haist, S., Jolly, B., ... Tallett, S. (2000). Clinical teaching: maintaining an educational role for doctors in the new health care environment. *Medical Education*, 34(10), 820–826. <http://doi.org/10.1046/j.1365-2923.2000.00756.x>
- Ratka-Krüger, P., Wölber, J. P., Blank, J., Holst, K., Hörmeyer, I., & Vögele, E. (2018). MasterOnline Periodontology and Implant Therapy-revisited after seven years: A case study of the structures and outcomes in a blended learning CPD. *European Journal of Dental Education*, 22(1), e7–e13. <http://doi.org/10.1111/eje.12249>
- Roberts, K. B., & Devries, J. M. (2004). APA/HRSA National Faculty Development Scholars Program: Community-Based Teaching Track. *Ambulatory Pediatrics*, 4(1), 92–97.
- Roblyer, M. D., & Wiencke, W. R. (2003). Design and Use of a Rubric to Assess and Encourage Interactive Qualities in Distance Courses. *The American Journal of Distance Education*, 17(2), 77–98. http://doi.org/10.1207/S15389286AJDE1702_2

- Ryan, S. M., & Beck, D. E. (2018). Use of an Education Specialist Team that Collaborates with Faculty Members to Efficiently and Continuously Develop an Innovative Pharmacy Curriculum Across Multiple Campuses. *TechTrends*, 62(3), 230–238. <http://doi.org/10.1007/s11528-018-0274-9>
- Saldaña, J. (2009). *The Coding Manual for Qualitative Researchers*. London: Sage Publications. <http://doi.org/10.1017/CBO9781107415324.004>
- Sarikaya, O., Kalaca, S., Yeğen, B. Ç., & Cali, S. (2010). The impact of a faculty development program: evaluation based on the self-assessment of medical educators from preclinical and clinical disciplines. *Advances in Physiology Education*, 34(2), 35–40. <http://doi.org/10.1152/advan.00024.2010>
- Schönwetter, D. J., Hamilton, J., & Sawatzky, J.-A. V. (2015). Exploring professional development needs of educators in the health sciences professions. *Journal of Dental Education*, 79(2), 113–23. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/25640615>
- Scott, K. M., Baur, L., & Barrett, J. (2017). Evidence-Based Principles for Using Technology-Enhanced Learning in the Continuing Professional Development of Health Professionals. *Journal of Continuing Education in the Health Professions*, 37(1), 61–66. <http://doi.org/10.1097/CEH.0000000000000146>
- Sethi, A., Ajjawi, R., McAleer, S., & Schofield, S. (2017). Exploring the tensions of being and becoming a medical educator. *BMC Medical Education*, 17(1), 62. <http://doi.org/10.1186/s12909-017-0894-3>
- Sezer, B., Elcin, M., & Topbaş, E. (2018). Perceptions of Trainers on a Flipped Train-the-Trainers Course for Simulation. *Bartın Üniversitesi Eğitim Fakültesi Dergisi*, 7(3), 958–973. <http://doi.org/10.14686/buefad.405750>
- Shah, S., Knoble, S., Ross, O., & Pickering, S. (2017). A Distance Blended Learning Program to Upgrade the Clinical Competence of District Non-doctor Anesthesia Providers in Nepal. *World Journal of Surgery*, 41(12), 3006–3011. <http://doi.org/10.1007/s00268-017-4273-3>
- Sherer, P., Shea, T., & Kristensen, E. (2003). Online Communities of Practice: A Catalyst for Faculty Development. *Innovative Higher Education*, 27(3), 183–194. <http://doi.org/10.1023/A:1022355226924>
- Silver, I. (2014). Starting a Faculty Development Program. In Y. Steinert (Ed.), *Faculty Development in the Health Professions* (Vol. 11, pp. 331–349). Dordrecht: Springer Netherlands. http://doi.org/10.1007/978-94-007-7612-8_16
- Slavit, D., Sawyer, R., & Curley, J. (2003). Filling Your PLATE: A Professional Development Model for Teaching with Technology. *TechTrends*, 47(4), 35–38. Retrieved from <http://eric.ed.gov/?id=EJ676539>

- So, H.-J., & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Computers & Education*, 51(1), 318–336. <http://doi.org/10.1016/j.compedu.2007.05.009>
- Sorinola, O. O., Thistlethwaite, J., Davies, D., & Peile, E. (2015). Faculty development for educators: a realist evaluation. *Advances in Health Sciences Education*, 20(2), 385–401. <http://doi.org/10.1007/s10459-014-9534-4>
- Spencer, J. (2014). Faculty Development Research: The ‘State of the Art’ and Future Trends. In Y. Steinert (Ed.), *Faculty Development in the Health Professions* (Vol. 11, pp. 353–374). Dordrecht: Springer Netherlands. http://doi.org/10.1007/978-94-007-7612-8_17
- Spencer, J., & Jordan, R. (2001). Educational outcomes and leadership to meet the needs of modern health care. *Quality in Health Care: QHC*, 10 Suppl 2(suppl 2), ii38–45. <http://doi.org/10.1136/qhc.0100038..>
- Stake, R. E. (2010). *Qualitative research: studying how things work*. New York: Guilford Press.
- Stein, J., & Graham, C. R. (2014). *Essentials for Blended Learning A Standards-Based Guide*. New York, NY: Routledge.
- Steinert, Y. (2010). Faculty development: From workshops to communities of practice. *Medical Teacher*, 32(5), 425–428. <http://doi.org/10.3109/01421591003677897>
- Steinert, Y. (2011). Commentary: Faculty Development: The Road Less Traveled. *Academic Medicine*, 86(4), 409–411. <http://doi.org/10.1097/ACM.0b013e31820c6fd3>
- Steinert, Y. (2014a). Developing medical educators: A journey, not a destination. In T. Swanwick (Ed.), *Understanding Medical Education: Evidence, Theory and Practice* (2nd ed., pp. 455–471). Wiley-Blackwell.
- Steinert, Y. (2014b). Faculty Development: Core Concepts and Principles. In Y. Steinert (Ed.), *Faculty Development in the Health Professions* (Vol. 11, pp. 3–25). Dordrecht: Springer Netherlands. http://doi.org/10.1007/978-94-007-7612-8_1
- Steinert, Y. (2014c). Learning from Experience: From Workplace Learning to Communities of Practice. In Y. Steinert (Ed.), *Faculty Development in the Health Professions* (Vol. 11, pp. 141–158). Dordrecht: Springer Netherlands. http://doi.org/10.1007/978-94-007-7612-8_7
- Steinert, Y., Cruess, R. L., Cruess, S. R., Boudreau, J. D., & Fuks, A. (2007). Faculty Development as an Instrument of Change: A Case Study on Teaching Professionalism. *Academic Medicine*, 82(11), 1057–1064. <http://doi.org/10.1097/01.ACM.0000285346.87708.67>

- Steinert, Y., Mann, K., Anderson, B., Barnett, B. M., Centeno, A., Naismith, L., ... Dolmans, D. (2016). A systematic review of faculty development initiatives designed to enhance teaching effectiveness: A 10-year update: BEME Guide No. 40. *Medical Teacher*, 38(8), 769–786. <http://doi.org/10.1080/0142159X.2016.1181851>
- Steinert, Y., Mann, K., Centeno, A., Dolmans, D., Spencer, J., Gelula, M., & Prideaux, D. (2006). A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: BEME Guide No. 8. *Medical Teacher*, 28(6), 497–526. <http://doi.org/10.1080/01421590600902976>
- Steinert, Y., McLeod, P. J., Boillat, M., Meterissian, S., Elizov, M., & Macdonald, M. E. (2009). Faculty development: a ‘Field of Dreams’? *Medical Education*, 43(1), 42–49. <http://doi.org/10.1111/j.1365-2923.2008.03246.x>
- Steinert, Y., McLeod, P. J., Conochie, L., & Nasmith, L. (2002). An Online Discussion for Medical Faculty: An Experiment That Failed. *Academic Medicine*, 77(9). Retrieved from http://journals.lww.com/academicmedicine/Fulltext/2002/09000/An_Online_Discussion_for_Medical_Faculty__An.46.aspx
- Steinert, Y., Naismith, L., & Mann, K. (2012). Faculty development initiatives designed to promote leadership in medical education. A BEME systematic review: BEME Guide No. 19. *Medical Teacher*, 34(6), 483–503. <http://doi.org/10.3109/0142159X.2012.680937>
- Stes, A., Min-Leliveld, M., Gijbels, D., & Van Petegem, P. (2010). The impact of instructional development in higher education: The state-of-the-art of the research. *Educational Research Review*, 5(1), 25–49. <http://doi.org/10.1016/j.edurev.2009.07.001>
- Swanwick, T. (2008). See one, do one, then what? Faculty development in postgraduate medical education. *Postgraduate Medical Journal*, 84(993), 339–343. <http://doi.org/10.1136/pgmj.2008.068288>
- Swanwick, T., & McKimm, J. (2010). Professional development of medical educators. *British Journal of Hospital Medicine*, 71(3), 164–168. <http://doi.org/10.12968/hmed.2010.71.3.46982>
- Swanwick, T., & McKimm, J. (2014). Faculty Development for Leadership and Management. In Y. Steinert (Ed.), *Faculty Development in the Health Professions* (Vol. 11, pp. 53–78). Dordrecht: Springer Netherlands. http://doi.org/10.1007/978-94-007-7612-8_3
- te Pas, E. (2015). *Blended learning in continuing professional development: Studies on a blended learning intervention on EBM for GP-trainers*. Retrieved from <http://hdl.handle.net/11245/2.157985>

- Twigg, C. A. (2003). Improving Learning and Reducing Costs: New Models for Online Learning. *EDUCAUSE Review*, 38(5), 28–38. Retrieved from <http://www.editlib.org/p/97374>
- Tyler-Smith, K. (2006). Early Attrition among First Time eLearners: A Review of Factors that Contribute to Drop-out , Withdrawal and Non-completion Rates of Adult Learners undertaking eLearning Programmes. *Journal of Online Learning and Teaching*, 2(2), 73–85.
- van Merriënboer, J. J. G. (2016). How People Learn. In *The Wiley Handbook of Learning Technology* (pp. 15–34). Hoboken, NJ: John Wiley & Sons, Inc. <http://doi.org/10.1002/9781118736494.ch2>
- van Merriënboer, J. J. G., Clark, R., & de Croock, M. M. (2002). Blueprints for complex learning: The 4C/ID-model. *Educational Technology Research and Development*, 50(2), 39–61. <http://doi.org/10.1007/BF02504993>
- van Merriënboer, J. J. G., Jelsma, O., & Paas, F. W. C. (1992). Training for reflective expertise: A four-component instructional design model for complex cognitive skills. *Educational Technology Research and Development*, 40(2), 23–43. <http://doi.org/10.1007/BF02297047>
- van Merriënboer, J. J. G., & Kirschner, P. A. (2013). *Ten Steps to Complex Learning* (2nd ed.). New York, NY: Routledge. <http://doi.org/10.4324/9780203096864>
- Vandewaetere, M., Manhaeve, D., Aertgeerts, B., Clarebout, G., van Merriënboer, J. J. G., & Roex, A. (2015). 4C/ID in medical education: How to design an educational program based on whole-task learning: AMEE Guide No. 93. *Medical Teacher*, 37(1), 4–20. <http://doi.org/10.3109/0142159X.2014.928407>
- Vaughan, N. D., & Garrison, D. R. (2005). Creating cognitive presence in a blended faculty development community. *The Internet and Higher Education*, 8(1), 1–12. <http://doi.org/10.1016/j.iheduc.2004.11.001>
- Vaughan, N. D., Reali, A., Stenbom, S., Jansen Van Vuuren, M., & MacDonald, D. (2017). Blended Learning From Design to Evaluation: International Case Studies of Evidence-Based Practice. *Online Learning*, 21(3), 103–114. <http://doi.org/10.24059/olj.v21i3.1252>
- Wearne, S., Greenhill, J., Berryman, C., Sweet, L., & Tietz, L. (2011). An online course in clinical education Experiences of Australian clinicians. *Australian Family Physician*, 40(12), 1000–1003. Retrieved from <http://www.racgp.org.au/afp/2011/december/an-online-course-in-clinical-education/>
- Welch, J. (2011). *The influence of blended learning faculty development on traditional teaching practices*. ProQuest Dissertations and Theses. University of Phoenix, Ann Arbor. Retrieved from <http://search.proquest.com/docview/884197799?accountid=10699>

- Westover, J. H., & Westover, J. P. (2014). Teaching Hybrid Courses across Disciplines: Effectively Combining Traditional Learning and e-Learning Pedagogies. *International Journal of Information and Education Technology*, 4(1), 93–96. <http://doi.org/10.7763/IJiet.2014.V4.376>
- Wilbur, K. (2016). Evaluating the online platform of a blended-learning pharmacist continuing education degree program. *Medical Education Online*, 21(1), 31832. <http://doi.org/10.3402/meo.v21.31832>
- Wilkes, M. (2018). Medical school in 2029. *Medical Teacher*, 40(10), 1016–1019. <http://doi.org/10.1080/0142159X.2018.1507253>
- Wong, G., Greenhalgh, T., & Pawson, R. (2010). Internet-based medical education: a realist review of what works, for whom and in what circumstances. *BMC Medical Education*, 10(1), 12. <http://doi.org/10.1186/1472-6920-10-12>
- Wong, J. G., & Agisheva, K. (2007). Developing teaching skills for medical educators in Russia: a cross-cultural faculty development project. *Medical Education*, 41(3), 318–324. <http://doi.org/10.1111/j.1365-2929.2006.02676.x>
- Wood, E. J. (2003). What are Extended Matching Sets Questions? *Bioscience Education*, 1(1), 1–8. <http://doi.org/10.3108/beej.2003.01010002>
- Yin, R. K. (2009). *Case Study Research: Design and Methods* (4th ed.). Thousand Oaks, California: SAGE Publications.
- Yin, R. K. (2011). *Qualitative research from start to finish*. New York, NY: The Guildford Press.
- Yin, R. K. (2012). Case Study Methods. In J. L. Green, G. Camilli, & P. B. Elmore (Eds.), *Handbook of Complementary Methods in Education Research* (pp. 111–122). Lawrence Erlbaum Associates, Inc. Retrieved from <http://www.cosmoscorp.com/docs/aeradraft.pdf>
- Yıldırım, A., & Şimşek, H. (2013). *Sosyal Bilimlerde Nitel Araştırma Yöntemleri* (13th ed.). Ankara: Seçkin Yayıncılık.
- Yolsal, N., Bulut, A., Karabey, S., Ortaylı, N., Bahadır, G., & Aydın, Z. (2003). Development of training of trainers programmes and evaluation of their effectiveness in Istanbul, Turkey. *Medical Teacher*, 25(3), 319–324. <http://doi.org/10.1080/0142159031000092779>
- Zemliansky, P., & Berry, L. (2017). A Writing-Across-the-Curriculum Faculty Development Program: An Experience Report. *IEEE Transactions on Professional Communication*, 60(3), 306–316. <http://doi.org/10.1109/TPC.2017.2702041>

Zollo, S. A., Kienzle, M. G., Henshaw, Z., Crist, L. G., & Wakefield, D. S. (1999). Tele-Education in a Telemedicine Environment: Implications for Rural Health Care and Academic Medical Centers. *Journal of Medical Systems*, 23(2), 107–122. Retrieved from <https://link.springer.com/content/pdf/10.1023%2FA%3A1020589219289.pdf>



APPENDICES

APPENDIX A. Ethical Approval

UYGULAMALI ETİK ARASTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER



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17 MAYIS 2016

Sayı: 28620816 / 244

Konu: Etik Onay

Gönderilen: Prof.Dr. İ.Soner YILDIRIM

Eğitim Fakültesi

Gönderen: Prof. Dr. Canan SÜMER

İnsan Araştırmaları Etik Kurulu Başkanı

İlgi: Etik Onayı

Sayın Prof.Dr. İ.Soner YILDIRIM'ın danışmanlığını yaptığı doktora öğrencisi Yusuf YILMAZ' ın "Tıp Fakülteleri için Eğitici Gelişimi Modeli: Ege Üniversitesi Örneği" başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek gerekli onay **2016-FEN-033** protokol numarası ile **18.05.2016-30.12.2016** tarihleri arasında geçerli olmak üzere verilmiştir.

Bilgilerinize saygılarımla sunarım.

Prof. Dr. Canan SÜMER

İnsan Araştırmaları Etik Kurulu Başkanı

Prof. Dr. Meliha ALTUNİŞİK

İAEK Üyesi

Prof. Dr. Mehmet UTKU

İAEK Üyesi

Yrd. Doç. Dr. Pınar KAYGAN

İAEK Üyesi

Prof. Dr. Ayhan SOLU

İAEK Üyesi

Prof. Dr. Ayhan Gürbüz DEMİR

İAEK Üyesi

Yrd. Doç. Dr. Emre SELÇUK

İAEK Üyesi



APPENDIX B. E-Learning Course Designs

[illegible]



Dersleri ara

Benim sayfam > Diğer > Örnek Ders

Düzenlemeyi aç

Eğitici Gelişimi Örnek e-Ders

İlerlememizi

Eğitici Gelişimi Örnek e-Ders

Bu dersin Temel Eğitici Gelişimi Programı'na katılan öğretmenlerimize örnek oluşturması amacıyla hazırlanmıştır.

e-Öğrenme Dersine Geri Dön



Ders Duyuruları

Bu dersten beklentileriniz

Öğrenme Hedefleri

- Bu ders sonunda katılımcılar Moodle kullanarak kaynak paylaşımı yapabilecek
- Bu ders ile katılımcılar etkileşimli öğrenim araçlarını kullanabilecek

Örgün Derslere Destek Aracı Olarak e-Öğrenme

Sunum Paylaşımı

Ek Kaynak

Öğretim Tasarımı Nedir?

Eğitim Videosu

PubMed Araması Yapın

Bu sayfayı kullanarak literatür taraması yapabilirsiniz.

Makale

Ek Kaynak

Baş Ağrısı

5. sınıf

Çevrimiçi Etkileşim Araçları

SCORM destekli İçerik

Ödev

Tartışma Ortamı

Sözlük Kullanım

Her hafta Salı 11.00'de buradayız.

Bu dersin içeriği...

Forumları Ara

Gelişmiş arama

Son Haberler

Yeni konu ekle...

e-Dersle hoş geldiniz

22 Jun, 10:15 Yusuf Yılmaz

Dersle Başlıyoruz

14 Jun, 11:19 Yusuf Yılmaz

Daha eski konular...

Yaklaşan olaylar

Yakın zamanda olay yok

Takvime git...

Yeni Olay...

Son Etkinlikler

10 December 2016, Saturday, 15:06'den beri etkinlikler

Son etkinliklerin tüm raporları...

Son girişinizden beri yeni bir şey yok



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Eğit

EÜTF

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ÖKM

BİZE ULAŞIN

☎ Telefon:

✉ E-posta:

SOSYAL AĞ



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APPENDIX C. Sample Participant Course Design

ANASAYFA

DERSLER

ÖÇM ÖLÇÜMLERİ

BAĞLANTILAR

TÜRKÇE (TR)

Biyoistatistik

Kontrol paneli / Dersler / EÜTF Eğitim Gelişimi Programı / TEGEP 2016 / e-Öğrenme Dersler / Biostat

BIYOİSTATİSTİK



Dersin Amacı:
Bu dersle, Tıp Fakültesi lisans öğrencilerine, Temel Biyoistatistik konularında bilgi verme ve bu alanda uygulama yapabilme becerisi kazandırmak amaçlanmaktadır.

Öğrenme Çıktıları:

1. Biyoistatistik ile ilgili temel kavramları tanımlayabilmek
2. Verilerin analizi yapabilme becerisini kazanma
3. İstatistiksel verilerden tablo ve grafik yapabilme
4. Sağlık alanında yaygın olarak kullanılan istatistiksel hipotez testlerini uygulayabilmek

Ders Öğretim Planı:

HAFTA	KONULAR
1	Biyoistatistik Giriş
2	Sağlık Alanında Kullanılan Araştırma Tipleri
3	Veri Tipleri ve Sayısal Ölçümleme
4	Merkezi Eğilim ve Dağılım Ölçümleri
5	Tablo Hazırlama ve Grafikler
6	Örneklem ve Örneklem Yöntemleri
7	Ölçümlerin Temel Kavramları ve Rapor Çıkartma Dağılımları
8	Ara Sınav
9	Sağlık Alanında Özet İstatistiksel Yöntemler
10	İstatistiksel Tanımlama ve Hipotez Testlerine Giriş
11	Test Örnekleme ile Örneklem Hipotez Testleri
12	İki Grup Örnekleme için Hipotez Testleri (Yarıyıl Analizi-ANOVA)
13	Korrelasyon ve Regresyon Analizi
14	Kategorik Veri Analizi
15	Parametrik Olmayan Yöntemler
16	Final Sınavı

Haber forumu

Ders ile ilgili genel haberler ve duyurulara burada yer verilecektir.

Yrd. Doç. Dr. SORUN

Dönem boyunca her gün **10:00-12:00 arası** buradan sorularınızı yanıtlayabilm.

1. Hafta Ders Notu

Dersle ilgili konulara bu sınıftan ulaşabilirsiniz.

Çalışma Soruları-1

Bu çalışma sorularının cevaplarını, doğru yanıtları **sayadınız.BIOTAT00dev1.doc** (örneğin suner_BIOTAT00DEV1.doc) şeklinde kaydederek 28 Haziran 2026 tarihine kadar sisteme yükleyiniz.

Biyoistatistik Terimler Sözlüğü

Buraya çalıştığınız ders notlarından öğrendiğiniz kelimeleri girebilir, derse ilişkin terimler sözlüğü oluşturabilirsiniz.

Derse ilişkin kaynaklar

Bu sayfada yer alan linklerde ders kitaplarının tam metnini bulabilirsiniz.

- Fundamentals of Biostatistics
- Statistical Methods for Health Care Research
- Biostatistik Giriş

Geribildirim

Dersle ilişkin görüşlerinizi burada paylaşırsanız seviniriz.

UYGULAMALAR için

Bu dosyada ZF-UYGULAMALAR için hazırladığım sunum yer almaktadır.

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APPENDIX D. Multiple-Choice Question Course Design

Gelişimci ara

Benim sayfam » EÜTF Eğitimi Gelişim Programı » SoruBank
Düzenlemeyi aç

Gözleme

Benim sayfam

- » Ana sayfa
- » Site sayfaları
- » Mevcut ders
 - SoruBank**
 - Katılımcılar
 - Kurallarıma Uygun Soru Yazmak
- Derslerim

Çoktan Seçmeli Sorular ve EÜTF SoruBank

Yönetim

- » Kurs yönetimi
 - ✓ Düzenlemeyi aç
 - Ayarları düzenle
 - Kurs tamamlama
 - Kullanıcılar
 - SoruBank dersinden kaydımlı sı
 - Filtreler
 - Raporlar
 - Hesap
 - Gradebook setup
 - Hedefler
 - Yetkiler
 - Geri yükle
 - AI
 - Yayımla
 - Temelle
 - Soru bankası
 - Competencies
- » Rol değiştir
- » Site yönetimi

Ege Üniversitesi Tıp Fakültesi SoruBank'a Hoşgeldiniz.

EÜTF SoruBank'ta size sağladığımız özellikler:

- **Rolünüzden kaynaklı EÜTF ile EÜTF'e erişim ve EÜTF'e**
- **EÜTF SoruBank'ta size sağladığımız özellikler:**

SoruBank Kullanıcı Bilgileri

SoruBank sisteme daha önce girmediyseiz ve kaydınız ilk defa yapıldıysa kullanıcı adınızı **e-posta adresiniz**, şifrenizi ise **tcgsp2016** olarak belirlemiştir.

SoruBank Sistemi

Kurallarına Uygun Soru Yazmak

Ege Üniversitesi Tıp Fakültesi öğretim elemanı olarak mezunuyet öncesi eğitime katkida bulunmaktasınız. Eğitimi verdığınız derslere yönelik her soruları gelişim sürecinde sorularla ilgili sorular her bir dersten için en az 3 adet soru istemektedir. e-Eğitimde otomatizada değerlendirilme hakkınızda sorulara yönelik üper adet soruyu EÜTF SoruBank sisteme kaydedmeniz gerekmektedir. Çoktan seçmeli soru kurallarına göre hazırlanmış bilgi, haberleşme ve problem çözme düzeylerinde sorularınız SoruBank sistemine olmaktadır.

Not: Sorularınızı sisteme girerken lütfen WGS (WGS Workshop) sınav formatını seçiniz.

Forumları Ara

Gelişimci arama

Yaklaşık olaylar

"Yakın zamanda olay yok"

Takvime git...

Yeni Olay...

Duyuru ve Haberler

Yardım

SoruBank Kullanıcı Bilgileri

SoruBank sisteme daha önce girmediyseiz ve kaydınız ilk defa yapıldıysa kullanıcı adınızı **e-posta adresiniz**, şifrenizi ise **tcgsp2016** olarak belirlemiştir.

SoruBank Sistemi

Kurallarına Uygun Soru Yazmak

Ege Üniversitesi Tıp Fakültesi öğretim elemanı olarak mezunuyet öncesi eğitime katkida bulunmaktasınız. Eğitimi verdığınız derslere yönelik her soruları gelişim sürecinde sorularla ilgili sorular her bir dersten için en az 3 adet soru istemektedir. e-Eğitimde otomatizada değerlendirilme hakkınızda sorulara yönelik üper adet soruyu EÜTF SoruBank sisteme kaydedmeniz gerekmektedir. Çoktan seçmeli soru kurallarına göre hazırlanmış bilgi, haberleşme ve problem çözme düzeylerinde sorularınız SoruBank sistemine olmaktadır.

Not: Sorularınızı sisteme girerken lütfen WGS (WGS Workshop) sınav formatını seçiniz.

SoruBank Sistemi Soru Girişi Nasıl Yapılır?

Çoktan Seçmeli Soru Kontrol Listesi

Çoktan Seçmeli Sorular

☒

☐

☐

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APPENDIX E. MCQ Rubric

SoruID: _____

Öğretim Üyesi Adı Soyadı: _____

Olgu: ☐ Yok ☐ Var

Bilişsel Düzey: ☐ Bilgi ☐ Uygulama ☐ Problem Çözme

Soru Tipi: ☐ Tek Doğru ☐ En Doğru

Teknik Hata: ☐ Var ☐ Yok

Teknik Hata Nedenleri:

- ☐ 01. Soru kökü tek başına anlamlı değil,
- ☐ 02. Soru kökünde, yanıt için gerekmeyen bilgi var,
- ☐ 03. Soru kökünde olumsuz ifade yer alıyor, (Soru kökü olumlu biçime dönüştürülebilir mi?)
- ☐ 03a. Seçeneklerden bazıları da olumsuz ifade içeriyor. Bu biçimi ile yanıtlamak güçleşiyor.
- ☐ 04. Soruda kişisel fikir soruluyor,
- ☐ 05. Seçenekler arası bilgi alanı bütünlüğü yok,
- ☐ 06. Seçeneklerde gereksiz tekrarlar var,
- ☐ 07. Seçeneklerdeki sayısal değer sıralaması / ağırlığı sorunlu,
- ☐ 08. Zıt seçenekler kullanılmış,
- ☐ 09. Hiçbiri-hepsi seçeneği kullanılmış,
- ☐ 10. Görece uzun ifade edilmiş seçenek (doğru ya da yanlış),
- ☐ 11. Seçeneklerde gruptama hatası var,
- ☐ 12. Etkisiz seçenek içeriyor,
- ☐ 13. Mutlak / muğlak ifade(ler) kullanılmış (genellikle, sıklıkla, hiçbir zaman vb.),
- ☐ 14. Kök ve seçenekler arası anlam/gramer uyumsuzluğu var,
- ☐ 15. İstenmeyen ipucu barındırıyor,

Açıklama: _____

Çoktan Seçmeli Soru Kalite Değerlendirme Matrisi

Olgu	Bilişsel Düzey	Soru Tipi	Teknik Hata
Yok (0)	Bilgi (1)	Tek doğru (0)	Var (0)
Var (1)	Uygulama (2)	En doğru (1)	Yok (1)
	Problem Çözme (3)		

Bileşik indeks = (Olgu + Bilişsel Düzey + Soru Tipi) x Teknik Hata



APPENDIX F. E-Learning Rubric

Öğretim Üyesi Adı:

Dersin Adı:

Toplam istenen ders sayısı:

Toplam Materyal Sayısı:

Kaynak Sayısı:

Etkinlik Sayısı:

Puanlama	Kriterler
0	Ders isteği yapılmadı. Öğretim üyesi, öğrenme taskı karşılığında örnek ders isteğinde bulunmadı.
1	Sadece ders istendi Öğretim üyesi örnek ders talebinde bulundu ancak ders içeriği eklemedi.
2	Tek kaynak eklendi. Öğretim üyesi dersine sadece tek bir kaynak (resource) ekledi.
3	Çeşitli kaynaklar eklendi. Öğretim üyesi örnek dersine birden fazla kaynak ekledi.
4	Etkinlik (activity) ve kaynak eklendi. Öğretim üyesi örnek dersine ders kaynaklarının yanı sıra en az bir tane öğrenci katılımına imkan verebilecek bir etkinlik tasarladı (forum, ödev, workshop vb.)
5	Ders içeriği öğrenme hedefleri gibi öğeler kullanılarak syllabus ile desteklendi. Öğretim üyesi dersine kaynaklar ve kullanıcı etkileşimine izin veren etkinliklerle destekledi.
6	Öğretim üyesi dersi daha açıklayıcı hale getirerek, e-öğrenme ortamını dersin etkinlikleri ile öğrenme hedefleri ve/veya yetkinlik hedefleriyle birleştirdi. Ders tasarımı haftalık, konu, tema veya modül gibi bileşenler üzerinden tasarlandı.



APPENDIX G. Demographic Information

TIP FAKÜLTESİNDE EĞİTİCİ GELİŞİMİNE KARMA ÖĞRENMEYLE BİR YAKLAŞIM: EGE ÜNİVERSİTESİ ÖRNEĞİ

Eğitici Gelişiminde Karma Öğrenmeye Yönelik Öğretim Elemanı Demografik Bilgi Formu

Sayın Katılımcı,

Bu veri toplama aracı, Tıp Fakültesinde uygulanan Eğitici Gelişimi programında kullanılacak yeni bir eğitim modeli hakkında görüşlerinizi almak için hazırlanmıştır. Bu amaçla sizlerin görüş ve bilgilerinize ihtiyaç duyulmaktadır. Anketlerden elde edilen bilgiler, araştırma kapsamında kullanılacak ve kişisel bilgilerinizle örtüşmeyecek şekilde rapor edilecektir. Verdiğiniz bilgiler tamamen gizli olup, araştırma dışında kullanılmayacaktır. İş birliğiniz için teşekkür ederiz.

Yusuf Yılmaz

Prof. Dr. İ. Soner Yıldırım

Prof. Dr. Halil İbrahim Durak

Ege Üniversitesi TEAD

ODTÜ BÖTE

Ege Üniversitesi TEAD

1. Adınız Soyadınız:.....

2. Cinsiyetiniz: [] Kadın [] Erkek

3. Anabilim Dalınız:.....

4. Yaşınız:.....

5. Bilgisayar okur-yazarlık düzeyinizi 1-5 arasında puanlayınız:

6. Daha önce karma (harmanlanmış, blended) öğrenmenin kullanıldığı bir eğitim aldınız mı ya da verdiniz mi?

[] Evet [] Hayır

7. Daha önce eğitici gelişimi programına katıldınız mı?

[] Evet Nerde ve ne zaman?:.....

[] Hayır



APPENDIX H. Satisfaction on Blended Learning

TIP FAKÜLTESİNDE EĞİTİCİ GELİŞİMİNE KARMA ÖĞRENMEYLE BİR YAKLAŞIM: EGE ÜNİVERSİTESİ ÖRNEĞİ

Eğitici Gelişiminde Karma Öğrenmeye Yönelik Öğretim Elemanı Görüş Anketi

Sayın Katılımcı,

Bu veri toplama aracı, fakültemizde uygulanan eğitici gelişimi programında kullanılan karma öğrenme modeline yönelik görüşlerinizi almak için hazırlanmıştır. Bu amaçla sizlerin görüş ve bilgilerinize ihtiyaç duyulmaktadır. Anketlerden elde edilen bilgiler, araştırma kapsamında kullanılacak ve kişisel bilgilerinizle örtüşmeyecek şekilde rapor edilecektir. Verdiğiniz bilgiler tamamen gizli olup, araştırma dışında kullanılmayacaktır. İş birliğiniz için teşekkür ederiz.

Yusuf Yılmaz

Prof. Dr. İ. Soner Yıldırım

Prof. Dr. Halil İbrahim Durak

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	(1) Hiç Katılmıyorum	(2) Katılmıyorum	(3) Biraz Katılmıyorum	(4) Katılıyorum	(5) Tamamen Katılıyorum
ÖKM Moodle Sistemi					
ÖKM Moodle sisteminin kullanımı kolaydır.					
ÖKM Moodle sisteminin tasarımı kullanıcı dostudur.					
ÖKM Moodle sistemindeki içeriği (mesaj, takvim vb. içeren menü veya ders içerik listesi gibi elemanları) anlamak kolaydır.					
ÖKM Moodle sistemi istikrarlı çalışmaktadır.					
ÖKM Moodle sistemi, ihtiyacım olan içeriği bulmamı					

kolaylaştırıyor.					
Ders Yapısı					
Konuların bütüncül yapıda sunulması faydalıdır.					
Ders anlatımlarındaki videolar, öğrenmemi kolaylaştırıyor.					
Ders anlatımlarındaki materyallerden memnunum.					
Ders slaytlarının sunulması faydalıdır.					
Sisteme yüklenen ek ders materyalleri faydalıdır.					
Ders duyurularına sistemden rahatlıkla ulaşabiliyorum.					
Derslerin yüz-yüze oturumlarla desteklenmesinden memnunum.					
Öğretim Elemanı Desteği					
Eğitim boyunca öğretim elemanı ile yapılan yüz yüze uygulamalar yararlı oluyor.					
Moodle sistemindeki “Mesajlar” aracını kullanarak öğretim elemanı ile kolay iletişim kuruyorum.					
Öğretim elemanına yönelttiğim sorularıma zamanında yanıt alıyorum.					
Öğretim elemanı, derste konuları öğrenmeye yardımcı oluyor.					
Öğretim elemanından faydalı geribildirimler alıyorum.					
Öğrenme Görevleri					
Öğrenme görevleri seviyeme uygundu.					
Öğrenme görevlerinin sayısı yeterliydi					
Öğrenme görevlerini uygulamak kolaydı.					
Öğrenme görevlerini tamamlarken yeterli fırsatlar sağlandı.					
Uygulama sayısını arttırarak öğrenme görevlerini tekrarlamak faydalıydı.					

APPENDIX İ. Semi-structured Interview Form

1. Eğitici gelişimi programı geleneksel, internet üzerinden ya da karma yöntemlerin hangisinin uygun olduğunu düşünüyorsunuz? Bu konuda düşünceleriniz nelerdir?

Katıldığınız eğitici gelişimi programını düşünerek yüz-yüze ve internetin ağırlığı ne olmalıdır? Hangi ortamdan ne şekilde faydalanılmalıdır?

Siz hangi yöntemi tercih edersiniz? Neden? Örneklerle tercih ettiğiniz yöntemi anlatır mısınız?

2. Katılmış olduğunuz eğitici gelişimi programına karma öğrenme ortamının eğitici gelişimi programına fayda sağladığını düşünüyor musunuz?

Ne yönden fayda sağlar? Örneklerle açıkla mısınız?

Avantajları olarak görebilir miyiz?

3. Katılmış olduğunuz eğitici gelişimi programına karma öğrenme zorluklar getirdiğini düşünüyor musunuz?

Ne yönden zorluklar yaşadınız? Örnekleri nelerdir?

Böyle bir öğrenme ortamının önündeki engeller nelerdir?

Dezavantajlar gibi vurgulayabilir miyiz?

Uygulama boyunca nerelerde hangi sorunları yaşadınız?

4. Karma öğrenmenin kullanıldığı eğitici gelişimi programını iyileştirmek ve daha etkili bir program haline getirmek için önerileriniz nelerdir?

Katılımı artırma yönünden

Memnuniyeti artırma yönünden

5. Karma öğrenmenin kullanıldığı eğitici gelişimine katılımınızı arttırmak için ne tür motivasyonlara ihtiyaç duydunuz?

Bu yönde olumlu bir düşünce anlayış ya da tutum geliştirmek için neler beklersiniz?

Eğitime olan ilginizin artması için beklentileriniz nelerdir? Ne yapılırsa eğitime olan ilginiz artar?

6. Eğitimin karma yöntemle olması başka bir eğitici gelişimi programına katılımınızı değiştirir mi? Böyle bir eğitimden neler beklersiniz?

7. e-Öğrenme ortamından ne sıklıkla faydalandınız?

8. e-öğrenme ve çss boyunca sizden öğrenme görevlerini tamamlamanız istendi bu öğrenme görevleri hakkında ne düşünüyorsunuz? Sizin için yeterli miydi?

9. öğrenme görevlerini tamamlamaya yönelik verilen destek bilgilerinin sunulması sizin için ne kadar önemliydi? Bu bilgilere ne sıklıkla ihtiyacınız oldu?

10. ÇSS ve e-öğrenme’de birden fazla ders hazırlamak ve soru hazırlamak öğrenmenize yardımcı oldu mu? Nasıl bir katkı yaptığını düşünüyorsunuz?

11. Bu görevleri tamamlarken yardıma ihtiyacınız oldu mu?

Hangi kaynaklara?

Akran öğrenmesi?

Öğretim Elemanı desteği?

Sistemdeki materyaller

12. Ekleme İstedikleriniz?

APPENDIX J. Faculty Development Program Pre- and Post-Survey Form

Program Öncesi Anketi

(Bu anket tamamen sizin katkı ve katılımınızı sağlamak ve programı değerlendirmek için hazırlanmıştır.)
Programda yer alan beceri başlıklar için A sütununda becerinin size göre şu anki önem düzeyini, B ve C sütunlarında verilen sorularda ise size uygun gelen yeterlik düzeyini işaretleyiniz.

HEDEFLenen BECERİLER	A) Sizin için önem düzeyi (fy) fikrim yok (0) tamamen önemsiz (1) kısmen önemli (2) önemli (3) çok önemli	B) Mevcut yeterlik düzeyiniz ?	C) Ulaşmak istediğiniz yeterlik düzeyi ?
		(1) çok kısıtlı (2) kısıtlı (3) yeterli (4) iyi (5) usta	
1. Konunuzla ilgili, kurallarına uygun beş seçenekli tek doğru yanıtı çoktan seçmeli soru yazmak	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
2. Çoktan seçmeli soruların madde analizi sonuçlarını doğru yorumlamak	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
3. E-öğrenme ortamını kendi dersine entegre edebilmek	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
4. Moodle kullanarak e-öğrenme ortamında kaynak (sunum, pdf dosyası gibi) paylaşmak	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
5. Moodle kullanarak ek kaynaklara bağlantılar verebilmek	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
6. Moodle'nin etkinlikler özelliklerini kullanarak tek soruluk anket hazırlamak	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
7. Moodle'deki ders içeriğinin planlanmasında ve görselleştirilmesinde etiket özelliğini kullanmak	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
8. Moodle'de zengin içerikli ve hipertext metin özelliklerini kullanarak bağlantılı sayfalar oluşturulabilir	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)

9. Öğrencilerle tartışma, soru-cevap, görüş alış-verişi amacıyla Moodle forum etkinliğini kullanabilmek	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
10. Moodle'da ödev etkinliğini ekleyebilmek ve bunlar üzerinden geribildirim verebilmek	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)



Program Sonrası Durum Anketi

Programda yer alan beceri başlıklar için A sütununda becerinin size göre şu anki önem düzeyini, B ve C sütunlarında verilen sorularda ise size uygun gelen yeterlik düzeyini işaretleyiniz.

BECERİ BAŞLIKLARI	A) Sizin için önem düzeyi (fy) fikrim yok (0) tamamen önemsiz (1) kısmen önemli (2) önemli (3) çok önemli	B) Kurs sonrası yeterlik düzeyiniz	C) Şu an ulaşmak istediğiniz yeterlik düzeyi
		(1) çok kısıtlı (2) kısıtlı (3) yeterli (4) iyi (5) usta	
1. Konunuzla ilgili, kurallarına uygun beş seçenekli tek doğru yanıtı çoktan seçmeli soru yazmak	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
2. Çoktan seçmeli soruların madde analizi sonuçlarını doğru yorumlamak	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
3. E-öğrenme ortamını kendi dersine entegre edebilmek	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
4. Moodle kullanarak e-öğrenme ortamında kaynak (sunum, pdf dosyası gibi) paylaşmak	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
5. Moodle kullanarak ek kaynaklara bağlantılar verebilmek	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
6. Moodle'nin etkinlikler özelliklerini kullanarak tek soruluk anket hazırlamak	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
7. Moodle'deki ders içeriğinin planlanmasında ve görselleştirilmesinde etiket özelliğini kullanmak	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
8. Moodle'de zengin içerikli ve hipertext metin özelliklerini kullanarak bağlantılı sayfalar oluşturulabilir	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
9. Öğrencilerle tartışma, soru-cevap, görüş alış-verişi amacıyla Moodle forum etkinliğini kullanabilmek	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
10. Moodle'da ödev etkinliğini ekleyebilmek ve bunlar üzerinden geribildirim verebilmek	(fy) (0) (1) (2) (3)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)



APPENDIX K. Informed Consent Form

Araştırmaya Gönüllü Katılım Formu

Bu araştırma, ODTÜ Bilgisayar ve Öğretim Teknolojileri Eğitimi Bölümü Doktora öğrencisi Yusuf Yılmaz tarafından Prof. Dr. İ. Soner Yıldırım ve Prof. Dr. Halil İbrahim Durak danışmanlığındaki doktora tezi kapsamında yürütülmektedir. Bu form sizi araştırma koşulları hakkında bilgilendirmek için hazırlanmıştır.

Çalışmanın Amacı Nedir? Bu çalışmanın amacı tıp fakültesi öğretim elemanları için eğitici gelişimi programına dahil edilmek üzere karma etkinlikler tasarlamak, geliştirmek ve değerlendirmek; katılım, algı ve memnuniyetlerini incelemek ve tanımlamak; bu etkinlikler kapsamında öğrenilen bilgi ve becerilerin öğretimde nasıl kullandıklarını araştırmaktır.

Bize Nasıl Yardımcı Olmanızı İsteyeceğiz? Araştırmaya katılmayı kabul ederseniz, sizden beklenen, eğitici gelişimi programı kapsamında yürütülen “Çoktan Seçmeli Soru Yazma” ve “E-Öğrenme Nedir Moodle ile Örnek Uygulamalar” eğitimlerine hem yüz-yüze hem de çevrimiçi ortamda katılmanız beklenmekte ve bu süreçte sizden anket, görüşme ve materyal incelemesi yoluyla veri toplanacaktır. Bu çalışmaya katılım, her bir ders için ortalama olarak 2 saatlik çevrimiçi ve 2 saatlik yüz-yüze olmak üzere toplam 4 saat sürmektedir. Çevrimiçi ortam sisteme kullanıcı adı ve şifrenizle girdikten sonra eğitim etkinliklerini incelemeniz, size atanan görevleri yerine getirmeniz ve etkileşimli uygulamaları tamamlamanız beklenmektedir. Yüz-yüze oturumlarda ise, çevrimiçi ortamda yaptığınız etkinlikleri gerçek hayata uyarlayacağınız senaryolarda tamamlamanız ve uygulama yapmanız beklenmektedir.

Sizden Topladığımız Bilgileri Nasıl Kullanacağız? Araştırmaya katılımınız tamamen gönüllülük temelinde olmalıdır. Ankette, sizden kimlik veya kurum belirleyici hiçbir bilgi istenmemektedir. Cevaplarınız tamamıyla gizli tutulacak, sadece araştırmacılar tarafından değerlendirilecektir. Katılımcılardan elde edilecek bilgiler toplu halde değerlendirilecek ve bilimsel yayımlarda kullanılacaktır. Sağladığınız veriler gönüllü katılım formlarında toplanan kimlik bilgileri ile eşleştirilmeyecektir.

Katılımınızla ilgili bilmeniz gerekenler: Çalışma, genel olarak kişisel rahatsızlık verecek sorular içermemektedir. Ancak, katılım sırasında sorulardan ya da herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz cevaplama işini yarıda bırakıp çıkmakta serbestsiniz. Böyle bir durumda çalışmayı uygulayan kişiye, çalışmadan çıkmak istediğinizi

söylemek yeterli olacaktır. Çalışma sonunda, bu araştırmayla ilgili sorularınız cevaplanacaktır. Bu çalışmaya katıldıktan sonra kendinize ait en az bir dersi e-öğrenme ortamıyla destekleyebileceksiniz. Bu sayede derslerinize yönelik içerikleri öğrencilerinizle çevrimiçi ortamda paylaşabilecek, onlarla sınıf dışı eğitim etkileşimlerini de yerine getirebileceksiniz. Ayrıca, bu çalışmaya katılarak kendinize ait kaliteli çoktan seçmeli sorular hazırlayabilecek, Blok Yazılı Sınavı (BYS), Staj BYS (SBYS) veya Gelişim Sınavlarında kullanılabilecek hazır sorulara sahip olacaksınız.

Araştırmayla ilgili daha fazla bilgi almak isterseniz: Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz. Araştırma hakkında daha fazla bilgi almak için Tıp Eğitimi anabilim dalı öğretim elemanlarından Prof. Dr. Halil İbrahim Durak (e-posta: halil.ibrahim.durak@ege.edu.tr) ya da Yusuf Yılmaz (E-posta: yusuf.yilmaz@ege.edu.tr) ile iletişim kurabilirsiniz.

Yukarıdaki bilgileri okudum ve bu çalışmaya tamamen gönüllü olarak katılıyorum.

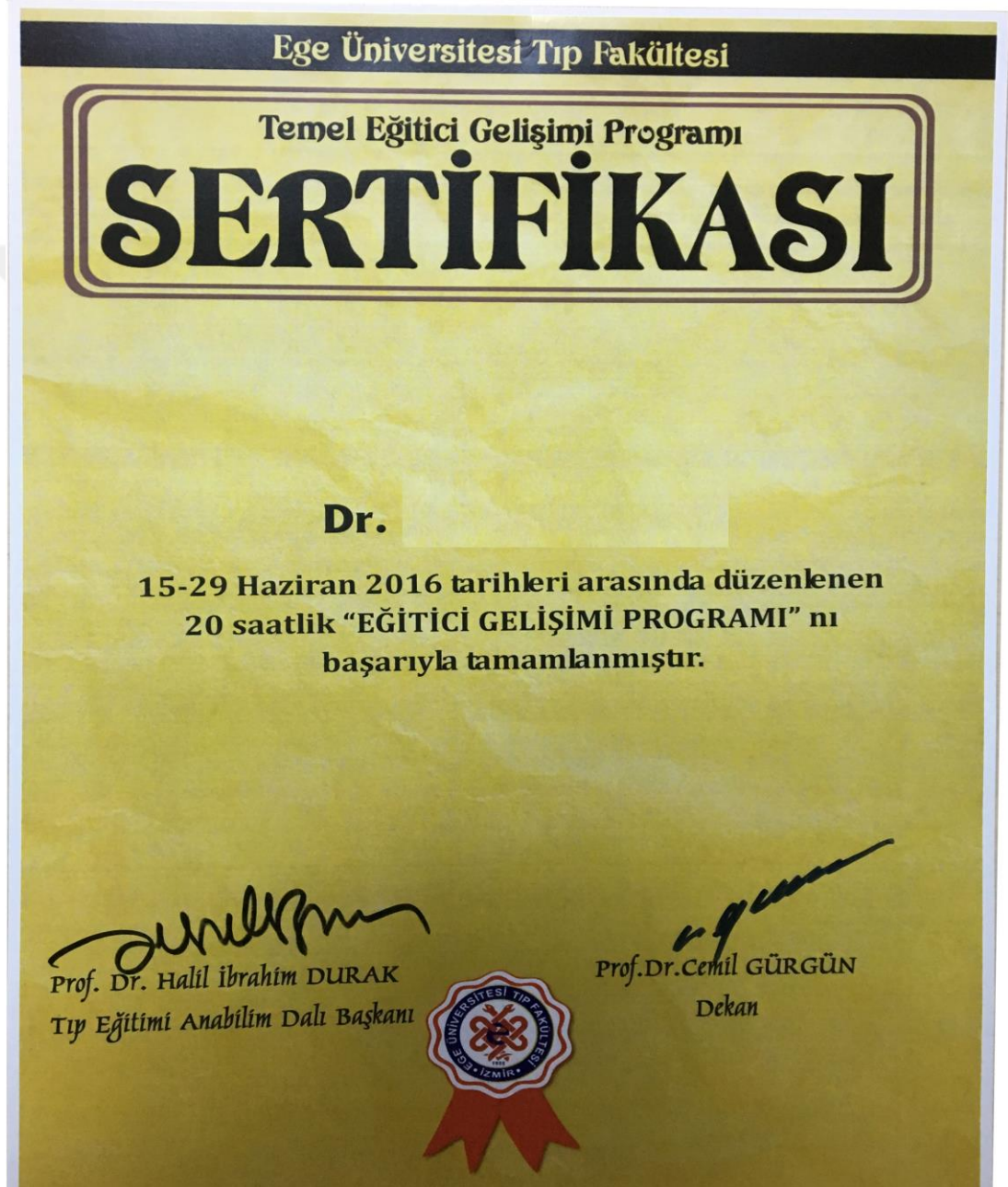
(Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

İsim Soyad

Tarih

İmza

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CURRICULUM VITAE

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EDUCATION

Degree	Institution	Year of Graduation
M.S.	Dokuz Eylül University. Comp. Edu. and Inst. Tech. Dept.	2011
B.S.	Dokuz Eylül University. Comp. Edu. and Inst. Tech. Dept.	2008

WORK EXPERIENCE

Year	Place	Enrolment
2012-present	Ege University, Faculty of Medicine, Medical Education Department	Lecturer
2009-2012	Adnan Menderes University. Comp. Edu. and Inst. Tech. Dept.	Research Assistant
2008-2009	Dokuz Eylül University Comp. Edu. and Inst. Tech. Dept.	Lecturer

FOREIGN LANGUAGES

English

PUBLICATIONS

1. Sarioğlu Büke Akile, Karabilgin Öztürkçü Özlem Sürel, **Yılmaz Yusuf**, & Sayek İskender (2018). Core Professionalism Education in Surgery: A Systematic Review. Balkan Medical Journal

2. Sarsar Fırat & **Yilmaz Yusuf** (2018). Designing Flipped Learning for Digital Workplace Learning. In Digital Workplace Learning (pp. 93-106). Springer, Cham.
3. **Yilmaz Yusuf**, Suner Karak lah Asli, & Yilmaz  zlem (2018). Tıp Fak ltesi  ğrencilerine Y nelik Bir Mobil  ğrenme Tasarımı Modelinin Geliştirilmesi. 3. Uluslararası Lisans st  Eğitim Kongresi
4. **Yilmaz Yusuf** (2017). Tıp Eğitiminde Moodle Kullanımı: Ege  niversitesi Tıp Fak ltesi  rneęi. International Instructional Technologies Teacher Education Symposium
5. **Yilmaz Yusuf** (2017). B TE Mezunlarına Yeni İş Olanakları İ in Entegre Ders Tasarımı  nerisi: Moodle Geliştiricilięi ve İ erik  reticilięi. International Instructional Technologies Teacher Education Symposium
6. **Yilmaz Yusuf**, & Sarsar Fırat (2017). B TE  ğrencilerinin Yetersizlik Duygusu, B T Yeterlięi ve Meslek Kaygıları Arasındaki İlişkinin İncelenmesi. International Computer and Instructional Technologies Symposium.
7. **Yilmaz Yusuf** (2017). Ulusal  ekirdek Eğitim Programı  ıktılarının Deęerlendirmesinde e- ğrenme Kullanımına Y nelik Model  nerisi: Moodle ile Yeterlięe Dayalı Eğitim Etkinlikleri. Ulusal Tıp Eğitimi Sempozyumu 2017
8. **Yilmaz Yusuf** (2016). Tıp ve Saęlık Bilimleri Eğitiminde E- ğrenme Uygulamaları. T rkiye Klinikleri Journal of Medical Education - Special Topics, 1(1), 59-66.
9. **Yilmaz Yusuf** (2016). Kaynak a Y netim Yazılımı Kullanımına Y nelik  ğretim  yesi ve Lisans st   ğrenci G r şleri. UTEK 2016: IX. Ulusal Tıp Eğitimi Kongresi Dokuz Eyl l  niversitesi
10. Ak Şerife, Koruklu Nermin, **Yilmaz Yusuf** (2013). A Study on Turkish Adolescents Internet Use Possible Predictors of Internet Addiction. Cyberpsychology Behavior and Social Networking, 16(3), 205-209.
11. **Yilmaz Y**, Akpınar E (2013) A framework for awareness of mobile learning Views of academics and graduate students. EDULEARN13
12. Durak. H İ,  alışkan. S A, **Yilmaz Y**, Karabilgin,   S, T r n, S E (2013) Ege  niversitesi Tıp Fak ltesi Tıp Eğitimi Anabilim Dalı  l me Deęerlendirme Merkezi Online Soru Bankası Sistemi  DEM. Mezuniyet Sonrası Tıp Eğitimi Sempozyumu.
13.  i ek M,  i ek F, **Yilmaz Y**, Tuzlu, M, Yıldırım, S (2013) The FATİH project through the lens of computer teachers and classroom teachers. 7th International Computer and Instructional Technologies Symposium.
14. Durak. H İ, Vatansever. K, **Yilmaz. Y**,  alışkan, S A, Karabilgin,   S, T r n, S E, DemiralYılmaz, N, Batı, H, Şahin, H, Erdin , M (2012) Ege  niversitesi Tıp Fak ltesi Tıp Eğitimi AD  ğrenme Kaynakları Merkezi. VII. Ulusal Tıp Eğitimi Kongresi.

15. **Yilmaz Y**, Akpınar E (2011) Mobile Technologies and Mobile Activities Used by Prospective Teachers. Mobile Learning 2011 - IADIS International Conference
16. Özsoy Nermin, Ak Serife, Özen Deniz, **Yilmaz Yusuf** (2011). The Effect of Online Collaboration Environment on Prospective Teachers Attitude and the Evaluation of Their Opinions. International Journal of E-Adoption (IJEa)
17. Akpınar Ercan, Küçükçankurtaran E, ÜnalÇoban Gül, Yıldız-Feyzioğlu E., Öztürk, C., **Yilmaz, Y.**, Karadeniz, A., & Ergin, Ö. (2011). SU OKULU Fen ve Teknoloji Dersi Öğretmenlerinde Su Farkındalığı Oluşturmaya Yönelik Bir Uygulama. Milli Eğitim Dergisi (192), 174-192.
18. Ak Şerife, **Yilmaz Yusuf** (2010). Çevrimiçi İşbirlikli Öğrenme Araçlarında Yeni Bir Dalga Wave. Eğitim Teknolojileri Araştırmaları Dergisi, 1(4)
19. Özen Ünal Deniz, Özsoy Nesrin, **Yilmaz Yusuf** (2010). Öğretmen Yetiştirmede E-Öğrenme Ortamlarının Yeri ve Önemi. Akademik Bilisim 2010
20. **Yilmaz Yusuf**, Karadeniz Abdulkadir, Akpınar Ercan (2009). A Study on Prospective Teachers Attitudes towards Internet. International Science Education Conference 2009 (ISEC 2009)

AWARDS

1. Best Poster Award, Akdeniz University, Faculty of Medicine & Association of The Medical Education Development, 2017
2. Best Poster Award, Dokuz Eylül University, Faculty of Medicine & Association of The Medical Education Development, 2016