A SURVEY ABOUT THE OPINIONS OF STUDENT PHYSICS TEACHERS, SUPERVISORS AND MENTORS ON PRACTICE TEACHING COURSE

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Approval of the Graduate School of Natural and Applied Sciences

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To my family,

...for always encouraging me

with love

ABSTRACT

A SURVEY ABOUT THE OPINIONS OF STUDENT PHYSICS TEACHERS, SUPERVISORS AND MENTORS ON PRACTICE TEACHING COURSE

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The purpose of this survey is to describe the opinions of student physics teachers registered in the Practice Teaching Course, supervisors giving that course for physics education students in the Secondary Science and Maths Education Departments of Education Faculties in Turkey and the mentors of student physics teachers at co-ordinating schools on practice teaching course. After reviewing the related literature, three prallel questionnaires were developed depending on the formal directive of Ministry of National Education (MEB) and the handbook of Higher Education Council (YÖK) about practice teaching. The research was conducted on 142 student physics teachers registered in the Practice Teaching Course in 2004- 2005 spring semester and 14 supervisors giving this course in 7 Secondary Science and Maths Education Departments of Education Faculties and 10 mentors in 7 co-ordinating schools in Turkey.. The analysis of data was made by using SPSS 10. According to the findings from the study, the formally stated responsibilities and procedures related with practice teaching in the directive do not overlap with the actual ones completely, participants do not carry out all their responsibilities as stated in

the directive, physical conditions of co-ordinating schools are not adequate for teacher education, and insufficient number of supervisors in the faculties and lacking of co-ordination among the units in practice teaching cause many problems.

Keywords: *practice teaching, teacher education, student teacher, supervisor, mentor*

ÖZ

ÖĞRETMENLİK UYGULAMASI DERSİNE İLİŞKİN FİZİK ÖĞRETMENİ ADAYLARININ, ÖĞRETİM ELEMANLARININ VE UYGULAMA ÖĞRETMENLERİNİN GÖRÜŞLERİ ÜZERİNE BİR ARAŞTIRMA

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Bu anketleme çalışmasının amacı, Türkiye'deki eğitim fakültelerinin Ortaöğretim Fen ve Matematik Alanları Eğitimi bölümündeki 2004- 2005 bahar döneminde Öğretmenlik Uygulaması dersine kayıtlı Fizik öğretmeni adayları ile bu dersi veren öğretim elemanlarının ve bu öğretmen adaylarının uygulama okullarındaki uygulama öğretmenlerinin Öğretmenlik Uygulaması dersi hakkındaki görüşlerini araştırmaktır. Ilgili literatür tarandıktan sonra, Milli Eğiitm Bakanlığı'nın Öğretmenlik Uygulaması hakkındaki yönergesi ve Yüksek Öğretim Kurulu'nun uygulama klavuzuna dayanarak üç paralel anket hazırlanmıştır. Araştırma, Türkiye'deki 7 eğitim fakültesinin Ortaöğretim Fen ve Matematik Alanları Eğitimi bölümündeki 2004- 2005 bahar döneminde Öğretmenlik Uygulaması dersine kayıtlı 142 Fizik öğretmeni adayı ile bu dersi veren 14 öğretim elemanı ve 7 uygulama okulundaki 10 uygulama öğretmeni üzerinde uygulanmıştır.

Veri analizi SPSS 10 bilgisayar programında yapılmıştır. Bulgulara göre, yönergede resmi olarak belirtilen sorumluluk ve prosedürlerin gerçektekiyle tam olarak örtüşmediği, tarafların sorumluluklarını yönergede

belirtildiği şekilde yerine getirmediği, uygulama okullarındaki fiziksel koşulların öğretmen eğitimi için yeterli olmadığı, fakültelerdeki öğretim elemanı yetersizliğinin ve öğretmenlik uygulamasında sorumlu birimler arasındaki koordinasyon eksikliğinin birçok probleme neden olduğu görülmüştür.

Anahtar kelimeler: *öğretmenlik uygulaması, öğretmen eğitimi, öğretmen adayı, uygulama öğretim görevlisi, uygulama öğretmeni*

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Thanks to all the participants who gathered in the study, for spending their time and sharing information with the answers to the questionnaires.

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LIST OF ABBREVIATIONS

STQ	Student Teacher Questionnaire
SQ	Supervisor Questionnaire
MQ	Mentor Questionnaire

CHAPTER 1

INTRODUCTION

An educated population is a vital resource for national growth. Improvement in standards demands increasing need for qualified human resources, which in turn requires improvement in the quality of education.

A fundamental component of education is the teacher. Achieving the National Educational Goals depend on the teachers' abilities to meet great challenges, use effective teaching strategies and work with many partners to enable all children to meet their full potential. The preparation of new teachers and the ongoing professional development of those in the current teaching force is the key to educational development.

Teaching profession, the importance of the teacher training and the roles of the teachers are the concepts which has become current issues almost in every society. The basic reason for this issue becoming more important these days is that, the traditional role of teachers in the teaching and learning environment has changed from presenting students available knowledge to guiding them to gain the desired behaviours. Teacher training is more than having courses of education and having a teaching certificate. Increasing academic requirements for higher levels of learning and changing roles and qualifications expected from teachers have implications on teacher education curricula. In the last decade, most of the developed countries started to re-examine the concept of teaching and the teacher training system and they initiated some reform movements. This trend influenced the teacher education programs to be restructured in Turkey. By the new program which was started to be implemented in the fall semester of 1998, the duration of training for physics teachers has been increased from 4 years

to 5 years and the school practice through student teaching experiences has gained prominence.

The practice teaching course, which is given to student teachers at the end of their undergraduate study, is designed to facilitate the transition from the role of student to that of teacher. The active participants in the practice teaching are the student teachers, the principal or headmaster, the members of staff, the co-operating teacher, the college or university supervisor and the pupils. Each of the participants has rights and responsibilities related to practice teaching. The university supervisor serves as the co-ordinating unit between the school where student teaching is taking place and the university that is sponsoring experience. Furthermore, the university supervisor is responsible for interpretation of the university program to student teachers by visiting the student teachers in schools, conducting seminars and communicating with principals and co-operating teachers. The co-operating teacher is the key facilitator in training of a student teacher since he is the one who helps student teacher in fitting all the pieces taught in faculty together to form a complete picture for professional development.

A responsible student teacher can gain a great many values by way of practice teaching, such as improvement in confidence, putting theories into practice, learning about student behaviour, testing subject knowledge and discovering teaching weaknesses or strengths. However those gains can only be achieved and student teachers can be introduced with their future working conditions if the practices are held in suitable school settings and under effective supervision. Each class in every school is unique in characteristics and problems involved due to the variance in ethnicity, socio-economic status, involvement and education level of parents and geographical conditions of location. Most of us do not have the chance to choose the school or conditions for working as a teacher in Turkey. However, most of the beginning teachers are alone when started their teaching career in different provinces of our country. This increases the need for the efficiency of practice teaching course given in the faculties of

education. Thus, student teachers should be trained so that they are able to gain sufficient experience about school and class related problems during their practice teaching experience.

As is the case in all teacher training areas, it is known that student teachers in physics education face with many problems in their practice teaching period. Those problems may source from inadequate planning of practice teaching activities, insufficient guidance and mentoring activities, inadequacy of teaching materials and physical conditions, ineffective supervision and not obeying the standards about the course.

1.1. The Purpose of the Study

The major purpose of this study is to search about the current situation about practice teaching in terms of specific facts, course content, faculty and school administrations, physical conditions, responsibilities and performances of participants related to practice teaching course by viewing the opinions of student physics teachers, supervisors and mentors in Turkey.

Since practice teaching is a course conducted in institutions of both Ministry of National Education (MEB) and Higher Education, there has been a formal protocol called “Faculty- School Coordination” which serves for improving the partnerships and coordination between schools and colleges of education; a directive called "Öğretmenlik Uygulaması Yönergesi" (See Appendix A) which outlines a systematic set of procedures about practice teaching, and an instruction book called “Okullarda Uygulama Çalışmaları”. This study also aims to reveal whether the formal procedures presented in those publications are carried out by the participants in actual practice teaching courses.

Hence, the study aims to be helpful to participants and institutions in carrying out the practice teaching more effectively by looking into the issues about the practice teaching course.

1.2. The Main Problem and Subproblems

1.2.1. Main Problem

What are the opinions of student physics teachers registered in the Practice Teaching Course, supervisors giving that course in the Secondary Science and Maths Education Departments of Education Faculties and the mentors of student physics teachers at co-ordinating schools in Turkey on practice teaching?

1.2.2. Sub Problems

Five general dimensions were suggested for the main problem in order to structure relevant subproblems. These dimensions are specific facts about practice teaching course, content of practice teaching course, faculty and school administrations, physical conditions of faculty and school, and responsibilities of participants related to practice teaching and communications among them in practice teaching. The following subproblems were developed in those five dimensions:

a) Subproblems about specific facts in practice teaching

1. Is there any formal directions to obey about the practice teaching course?
2. What do the student physics teachers, mentors and supervisors think about the period of practice teaching course?
3. How are mentors assigned for student physics teachers in the co-ordinating schools?
4. How are the student physics evaluated in practice teaching by their supervisors?
5. What kind of schools are selected for co-ordinating in practice teaching?
6. What are the issues affecting the efficiency of the course?

b) Subproblems about content of practice teaching course

1. Does the content of the practice teaching course involve adequate teaching and learning activities to provide the assessed teacher qualifications for the student physics teachers?
2. Are the activities carried out in practice teaching generally common in different faculties?

c) Subproblems about faculty and school administrations related to practice teaching

1. Is there any formal directions for the administrations of co-ordinating schools and faculties to obey about practice teaching?
2. What do the supervisors think about "Faculty – School Coordination Program" ?
3. What do student physics teachers, mentors and supervisors think about the administrations of faculties and schools related to practice teaching?

d) Subproblems about physical conditions of co-ordinating schools and faculties related to practice teaching

1. What are the allowances to the student physics teachers in using the equipment and building of faculties in practice teaching?
2. What are the allowances to the student physics teachers in using the equipment and building of the co-ordinating school during practice teaching?
3. Are physical conditions of co-ordinating schools suitable for effective practice teaching?
4. Are physical conditions of faculties suitable for effective practice teaching?
5. What do student physics teachers, mentors and supervisors think about the physical conditions of faculties and schools related to practice teaching?

e) Subproblems about responsibilities of participants in practice teaching and communication among them related to practice teaching

1. Do the participants (student physics teachers, mentors, supervisors, faculty and co-ordinating school administrations) carry out their responsibilities related to practice teaching?
2. How often do supervisors, mentors and student physics teachers communicate with each other related to practice teaching?
3. What do supervisors, mentors and student physics teachers feel about each other related to practice teaching?
4. Are there any other performances of participants additional to the formally stated responsibilities in practice teaching?

1.3. Significance of the Study

Public criticism of teachers has put more pressure on teacher educators to prepare their students better. Practice teaching is a critical period to decide whether to become a teacher or not. It serves the opportunity for synthesis and application of theoretical learning provided through the undergraduate program. However, its effectiveness from the side of physics student teachers, their mentors and supervisors needs to be searched. Any process to strengthen teacher education programs must include a careful study of student teaching since it is usually the final education course taken by student teachers and the most influential field experience in a teacher education program.

The question of how valuable the practice teaching program is to the student teachers of physics when the contextual factors in co-ordinating schools and supervisory settings are concerned stands still without answer. There is a gap in the research area which is directly related to physics student teachers, their mentors, supervisors and co-ordinating school environment about the practice teaching course. It is believed that this

survey turns out some realities about the quality of practice teaching program provided by the training institutions for student physics teachers in Turkey. The results of the study will be helpful for seeking solutions to the problems in order to reach the ideal practice teaching model for physics education students and will help in carrying out the practice teaching courses more effectively.

1.4. Definitions

Because of the varieties in terminology, I consider it essential to define certain terms that will be used in my study.

- *Practice Teaching:* The course given to student teachers in the last semester of teacher education program; based on presentations and training in real classroom and school settings in co-ordinating schools and providing them supervisory in faculty for acquiring required skills to become a teacher.
- *Student teacher:* The individual who is registered to practice teaching course in education faculty and assigned to a certain co-ordinating school to carry out the work of student teaching under the direction of a mentor.
- *Supervisor (Supervising Teacher):* A member of the higher education staff specializing within a defined subject area of the curriculum, giving practice teaching course in the faculty and providing the student teachers models of teaching and learning in the subject area beyond their school specific experiences.
- *Mentor (coordinating teacher):* An experienced teacher who is employed by the school system and takes an agreed responsibility over a particular duration in practice teaching course for a limited number of student teachers in their area of specialization.

CHAPTER 2

REVIEW OF RELATED LITERATURE

2.1. What is Practice Teaching?

Theory and practice are interrelated very closely. What we do in practice is influenced by theory. We need to know some basic arguments held by researchers on teacher training and practice teaching in the world. While considering the primacy of teacher training and the theory underlying it; there are two major issues to explore at the beginning of the study: what it means to learn something practical, and what it means to learn something professional in view of teacher training. Learning something practical involves gaining insight into that practice by means of investigating it and theorising about it to improve future practice. On the other hand, learning professional practice consists of understanding inherited traditions of a profession and considering critically and practically their present relevance (Fish, 1995, p.75). In this sense practice teaching experience provides learning something practical, but years in service may provide learning professional practice.

Olaitan and Agusiobo (1981, p.4) define practice teaching as the first opportunity for the student teacher to participate in activities involved in teaching in actual situations. It is also recognised as an experience of guided teaching in which the student teacher assumes increasing responsibility for directing the learning of a group of pupils over a specific period of time. Trowbridge and Bybee (1986, p.347) state that the practice teaching experience is designed to smooth the transition from the role of student to that of teacher.

In the directive published by Ministry of National Education about practice teaching, it is defined as a course which is given to student teachers in their subject area and teaching level; makes student teachers to gain teaching skills in classroom on their own, provides them to teach a lesson in a planned way and in which practice activities are discussed and evaluated. (See Appendix A)

The preparation of competent teachers involves a combination of roles of many participants. Olaitan and Agusiobo (1981, p.72) state the active participants in the practice teaching as follows:

- The student teacher
- The principal or headmaster
- The members of staff
- The co-operating teacher
- The college or university supervisor
- The external examiner
- The pupils

In the directive published by MEB (1998) about practice teaching, the principles of practice teaching are given as co-operation and co-ordination among institutions, implementation in school environment, active participation, spreading the practice process over time, common evaluation, comprehension and variety, continuous development of practice process and staff, practice at right place and under control (MEB, 1998).

Wentz (2001, p.73) says that student teaching experience consists of three phases which are orientation and observation, assisting and assuming responsibility in the total school program.

Olaitan and Agusiobo (1981, p.8) state that practice teaching has some unique characteristics which include:

a) Purposefullness: Student teachers have the opportunity to choose whether to continue teaching or not;

b) Adequate professional preparation: Teaching at school enables student teacher to put into practice the knowledge he has acquired about teaching and to make judgements about the suitability of skills to his career and to establish successful relationships with pupils.

c) Application of knowledge of subject matter to actual teaching situations: Practice teaching provides student teacher the opportunity to identify the strengths and weaknesses of his knowledge in the subject matter.

d) Being outside the university or campus: Student teachers have the opportunity to interact with people outside their own immediate environment,

e) Self discipline: Knowledge and development of professional qualities during practice teaching helps student teachers to improve their own behaviours and to influence the behaviour of those who come into contact with them.

Olaitan and Agusiobo (1981, p.18) claim that experience in practice teaching passes through those stages respectively:

- Awareness
- Orientation
- Preparation
- Participation
- Responsibility
- Initiating ideas
- Evaluation
- Satisfaction.

They say that these stages overlap, student teachers pass through them without notice and each stage is crucial to success in practice teaching.

Devor (1965, p.20) suggests in his book to administer a pretest at the beginning of the period of practice teaching in order to determine the progress that student teachers make as a result of their studies at schools. He

says the pretests may be standardized tests that are provided by commercial test companies, by publishing companies or made up by the teachers. Improvement of the context of practice teaching in school is one of the most important factors for moving teacher education to the forefront of professional education.

For a successful practice teaching; motivation, a stimulating school environment, co-operation among people involved in practice teaching, clearly defined goals, efforts to learn and achieve, active guidance and effective communication are the essential factors. (Olaitan & Agusiobo, 1981, p.11)

Practice teaching can be affected by many factors. Organisers should be familiar with those factors and their implications for the success of practice teaching. Olaitan and Agusiobo (1981, p.25) list the factors that may affect the programme as follows:

- Availability of participating schools
- Availability of qualified co-operating teachers
- Availability of adequate facilities
- The college or university policy on practice teaching
- Entry qualification of the student teacher
- Community response to practice teaching
- Co-operation of the principal and staff of participating school

2.2. The Value of Practice Teaching

Researches which have been made about the practice teaching program have showed that new teachers rate the practice teaching as the most valuable part of their training since it enables the transition between theory and practice (Hanson & Herrington, 1976, p.20). Practice teaching is a time for experiment. It is one of the few opportunities a student teacher may have for trying out a new idea and having one or more critical but supportive observers (Gover, Philips & Walters, 1995, p.2).

Trowbridge and Bybee (1986, p.347) state that student teachers gain the following values from practice teaching experience:

- Improvement in confidence
- Putting theories into practice
- Learning about student behaviour
- Testing knowledge of subject matter
- Receiving constructive criticism
- Discovering teaching strengths and weaknesses

Practice teaching is as valuable to the co-operating school, its staff, mentor and even pupils as it is to student teachers. Olaitan and Agusiobo (1981, p.7) say that practice teaching provides opportunities for co-operating teachers to develop or improve their supervisory skills, provides the staff with contacts with teacher education experts from university, brings to the on-going programme of instruction new ideas for improving the school curriculum, provides opportunities for the pupils to experience new strategies and improved methods and materials for effective teaching.

The interaction between the supervisors, student teachers and co-operating schools are also very beneficial to the participating universities. Olaitan and Agusiobo (1981, p.7) state the following benefits from practice teaching:

a) It assists training institutions to evaluate the effectiveness of the entire pre-service teacher education programme and this evaluation will extend to subject matter content and professional as well as general education content and methods

b) It helps the participating college or university as well as the co-operating schools to identify problems both of the school and the student teacher which require investigation and solution

c) Practice teaching creates a favourable environment for educators or teacher trainers to conduct research as well as to apply research findings to actual school situations through student teachers

d) Practice teaching serves as a vehicle for developing mutually beneficial relationships between the participating colleges or universities and the co-operating schools so that theory is checked by practice, and vice versa.

2.3. An International Comparison of Practice Teaching

Practical teaching is an integral part of all teacher training programs, although its duration and timing differ widely and appears to be influenced by teaching level and sometimes the nature of the teacher education program. Most often, practice teaching occurs following coursework near the end of the teacher education program; however, increasingly it is being spread throughout the entire teacher education program. Candidates are asked to observe classrooms, tutor young people, and to serve as teacher aides prior to actual practice teaching.

As declared by Cobb (1999), teachers preparing in Germany face two full years of internship that include seminar and classroom experiences. College and school-based faculties observe and evaluate at least 25 lessons. At the end of this period candidates go through a variety of portfolio and paper assessments prior to teaching.

In the U.S., student teaching ranges from eight weeks to two full semesters with most programs averaging 12-15 weeks. Newer graduate-level programs have begun requiring year-long intensive practice teaching or internship experiences that are school-based, often in professional development schools (Cobb, 1999).

In New Zealand and Australia, the co-operating teacher, associate teacher, or tutoring teacher is responsible for mentoring and evaluating student teachers. In Germany, the U.S., Canada, and Singapore both school- and college/university-based faculty assess students. The trend towards establishing specific school and college/university partnerships that create

linkages between teacher education coursework and clinical practice is gaining (Cobb, 1999).

In England, 2/3 of the teacher training program is carried out in the co-ordinating schools. Student teachers start their clinical period in their first year of training. An amount of the university budget is given to co-ordinating schools accepting student teachers (Yıldırım, 2000).

In France, secondary education teachers attend to the two year courses in the teacher training institutions to be trained as to become teachers after their licence degree. In the first year of training, approximately a quarter of the time is devoted to practical experience, the analysis of this experience and studying for the exam paper based on one's qualifications. The remaining time is devoted to learning the syllabus itself. At the end of the completion of the first year they are certificated through the competitive exams and they start to receive salary as novice teachers. The second year comprises a practical experience in a position of responsibility and additional lessons which are both subject-specific and general as well as practical experience in a company for technical and vocational *Lycee* teachers. It is also during the second year that trainee-teachers write their vocational paper which is like a brief thesis in their subject area. Moreover the trainee-teacher has to spend at least two days a week for non practical teaching activities such as additional subject-specific courses mainly directed at the syllabus to be taught in second level schools, constituting studies for writing the vocational paper ([Eurodice], 2001).

In Japan, teacher education curriculum includes practical training in which student teacher visits schools, writes lesson plans and spend time on supervised student teaching. All prospective teachers spend 2 or 4 weeks in a school as a part of their college training. To receive a certification for elementary school; 4 weeks of practical training is required. For the certification to teach at lower or upper secondary level 2 weeks of practical training is required (Nohara, 1997). The school in which they do this student

teaching is usually decided by their college or university or it is one from which the student is graduated (Case Study Findings, 1998).

In Nigeria, secondary school teachers prepared in the universities specialise in at least two teaching subjects. The period of study ranges from two to four years for a Bachelor's degree depending on entry qualifications. Practice teaching lasts for six weeks at co-operating schools (Olaitan & Agusiobo, 1981, p.141).

In Gambia, after a college entrance examination one can attend to a three year teacher training course which leads to Qualified Teacher's Certificate. During training in the college, student teachers go on practice teaching three times before completing the teacher preparation programme. A student teacher takes a three-month practice teaching in each of 1st, 2nd and 3rd years. After completing the last practice teaching, he goes back to the college for final examinations. So practice teaching is mainly school oriented (Olaitan & Agusiobo, 1981, p.144).

In Pakistan, teacher training courses are covered in one academic year which is of 9 months duration. It is an extremely loaded programme and raises issue of improving teacher competence. The practice teaching period is mentioned as 6 weeks divided into short term (2 weeks) and long term (4 weeks). The short term practice teaching is supposed to commence at the end of first term, while long term follows the second term (Khalid, 1996, p.84).

Effective practice teaching in most developing countries has been faced with many barriers. Olaitan and Agusiobo (1981, p.139) outlines the most common barriers as follows:

- Obtaining suitable periods for teaching;
- Providing adequate length of time for teaching;
- Obtaining qualified co-operating teachers;
- Obtaining good accommodation and enough co-operating schools for student teachers;
- Poor access roads to practising schools for supervision.

2.4. Practice Teaching in Turkey

Practice teaching was firstly involved in teacher training schools in Turkey in 1911 by Satı Bey. Between 1915 and 1950 practice teaching took 9 hours a week. In 1953, student teachers in Primary Teacher Schools had to experience practice teaching in both of the city and village schools due to the fact that they could be trained as to be a teacher for both of them (Özyar, 2002). Terzi (2003) stated in his article that physics teacher training was firstly started in 1927 in his article which tells about the history of teacher training in Turkey (Öğretmen Yetiştirme ve Eğitimi Genel Müdürlüğü [ÖYEGM], 2002). All high school teacher training institutes have been including practice teaching programs from then up to now (Özyar, 2002).

In catalogue description, practice teaching course in secondary education is explained as practice teaching in a classroom environment for acquiring required skills in becoming an effective science or maths teacher one day or two days a week (lasting minimum 12 weeks); for teaching of a course in a planned way to improve teaching skills in the real classroom environment and it is held with seminars for two hours a week including evaluation of practice teaching and sharing experiences with other students (METU, 2004).

In the directive of MEB about practice teaching, it is stated that practice teaching course is given to student teachers in the last semester as one full day or two half days a week and also it is claimed that student teachers make use of this period by teaching on their own (MEB, 1998). Student teachers are advised to have at least half of the work load of teachers during practice teaching (YÖK, 1998d) Furthermore, by the decision of the Turkish Council of Higher Education General Assembly, "The National Committee of Teacher Education" was set up to supervise, evaluate and develop the programs implemented in colleges of education (YÖK, 1998a, 1998b). The committee consists of representatives from the Turkish Ministry of National Education, the Turkish Council of Higher

Education, and colleges of education. It is responsible for modelling and carrying out procedures about faculty- school co-ordination (YÖK, 1998a).

Özyar (2002) states troubles faced with about practice teaching programs implemented by education faculties at schools in Turkey. Among the critics he develops the most striking ones are ignorance of education faculties the practising part of training, insufficient knowing of student teachers the school environment and the need for standardisation of practice teaching and the selected schools for this all over the country. In order to solve the problems about practice teaching, General Directory of Teacher training and Education and YÖK signed a protocol called "Öğretmenlik Uygulaması Yönergesi" in 1998 and enforced it at the same time (see Appendix A). By this way a systematic set of procedures has been met for practice teaching programs to be applied. However, troubles do not come to an end and seem to continue as Özyar mentions in 2002, three years after the protocol.

In the findings of the research made by Azar (2003, p.187); supervisors and mentors agree that there isn't a strong co-ordination between school and faculty . For a more regular co-ordination between school- faculty and directory of National Education, mentors suggest that practice teaching program should be made before schools are opened and Directory of National Education should consider about the physical conditions, capacity, workloads of teachers and content carefully (Köroğlu, Başer, &Yavuz, 2000, p. 94).

Student teachers, mentors and supervisors claim that the duration of the practice teaching is not enough and demanded increasing of it (Azar, 2003, p. 188). Student teachers should have more teaching experience not only to teach their subject effectively but to feel more confident in their teaching profession, involvement in teaching and learning activities since it offers the opportunity of communication with students as well (Bulut & Demircioğlu, 2000, p. 197).

2.5. Faculty of Education- Co-ordinating School Co-ordination

In order to increase quality of teacher education programs in colleges of education after the reorganisation, the resources and activities of YÖK/World Bank Pre-service Teacher Education Project were channelled to assist them in the process. YÖK signed a protocol with the Ministry of National Education (MEB) in 1998 called "Faculty of Education- Co-ordinating School Co-ordination" that looked for improving the partnerships and co-ordination between schools and colleges of education for three practice teaching courses: "School Experience I," "School Experience II," and "Practice Teaching." Figure 2.1. explains the relationships among the participants in Faculty of Education- Co-ordinating School Co-ordination.

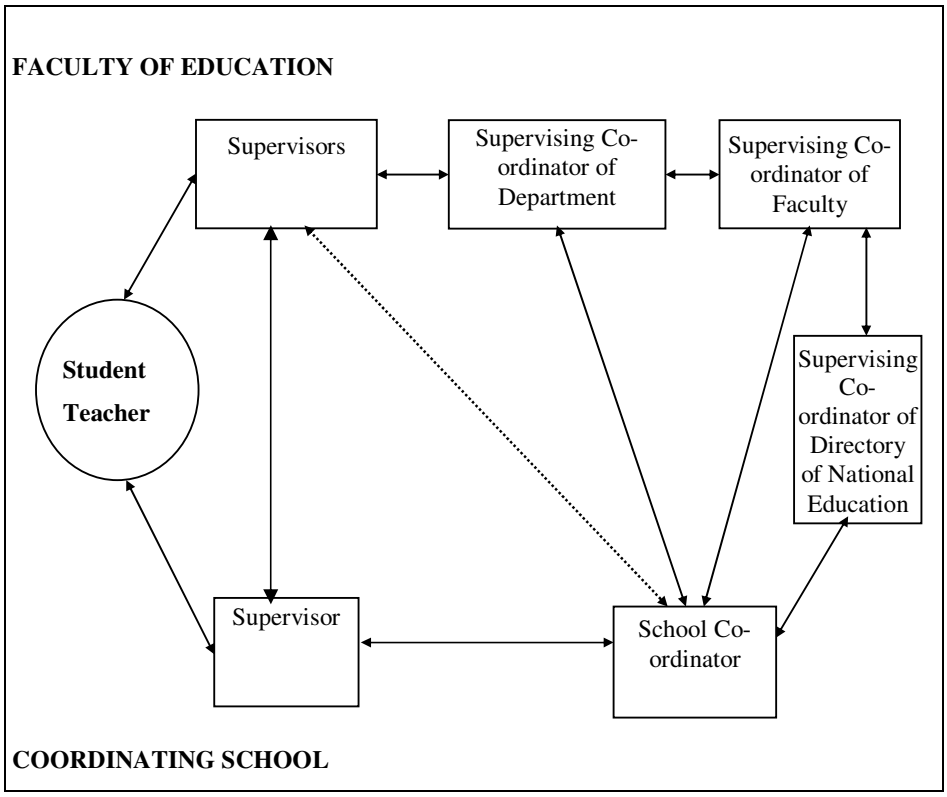

Figure 2.1. Faculty of Education- Co-ordinating School Co-ordination (YÖK, 1998c)

According to the protocol, the partnership groups should consist of faculty members from colleges of education, teachers from practice teaching schools, and personnel from the Turkish Ministry of National Education. Training courses were held for those teachers and faculty members who were involved with practice teaching courses (Bulut, 1999, p.31). In this co-ordination, faculty side consists of supervising co-ordinator of department, supervising co-ordinator of faculty and supervisors. Supervising co-ordinator of faculty is assigned by the dean's office of faculty and is usually carried out by a dean's assistant. Every department chairmanship assigns a

supervising co-ordinator of department. Supervising co-ordinator of the department assigns together with the supervisors the co-ordinating schools which the student teachers will have their practice teaching experience and announces them to department chairmanship. On the other hand, co-ordinating school side consists of school co-ordinator of practice teaching and mentors. Mentors who are determined by school co-ordinator of practice teaching and supervising co-ordinators of the faculty, work in co-ordination with the supervisors. At last, Directory of National Education carries out the administrative procedures in order to facilitate the co-ordination between faculty of education and co-ordinating schools. Student teachers should perform their responsibilities and duties in co-ordination with their supervisors and mentors in order to make use of the opportunities offered by this co-ordination most effectively. (YÖK, 1998c)

Faculty-School co-ordination is not only sending student teachers to co-ordinating schools, but it is a process for serving the developments of both school and faculty as well. Faculties of Education need to know schools and need to make use of experiences of working teachers about teacher training and education. On the other side, schools also need to communicate with faculties in order to follow the new trends in education and improve themselves. When those demands of both sides are considered, it comes to the reality that school and faculty have to work in co-ordination (YÖK, 1998c).

2.6. Mentors in Practice Teaching

The relationship between the student teacher and the mentor at school is another issue to be considered from the view of quality of practice teaching. In facilitating developments, student teachers conceptualise three models of mentoring: the apprenticeship model, the competency model and the reflective model. (Hawkey, 1997, p.47).

Teachers who act as mentors need to be familiar with the issues and debates associated professionalism and being a member of profession (Fish, 1995, p.85). Hence, broad competency statements are needed to be identified in order to focus the attention on student and mentor alike (Furlong & Maynord, 2000, p.17).

Tomlinson (1995, p.39) defines the responsibilities of mentors as the following:

- Contributing to provision of a suitable program of classroom experiences in the subject area.
- Discussion and coaching of the student teacher learning in the teaching of the specialist subject, through observation, own teaching and progressively collaborative teaching.
- Co-assessing the acquisition of competencies
- Counselling and target setting
- Liasing with other key personnel.

Student teachers and supervisors mention that no criteria is held in assignment of mentors, in the case that mentors are selected by the director of the school they are selected from the ones who are close to the director. Furthermore; mentors consider having student teachers as an extra work for them and since payment of this work is very little, they do not want to take part in practice teaching activities (Azar, 2003, p.187). But, student teachers can only learn the essentials of their profession at schools. Thus, mentors who will be made use of in practice teaching should be trained by the education faculties and this work should become satisfactory for them (YÖK, 1998d). However some mentors claim that they do not need such a training (Köroğlu, Başer, & Yavuz, 2000, p.88) while some of them demanded training from education faculties about the work in practice teaching (Azar, 2003, p. 189)

Mentors also suggest that, the number of student teachers they have should be limited with two or three since as the number of student teachers increases motivation of students in classroom decreases, the presentation of

the lesson affected badly. Thus, they propose that the number of co-ordinating schools can be increased to solve this problem. However, supervisors say that increasing the number of co-ordinating schools will cause difficulties in inspecting (Köroğlu, Başer, & Yavuz, 2000, p. 89).

Mentors are criticised by assigning high marks to student teachers in evaluation in order to make them love the profession, thus marks do not have a distinctive property. The evaluation of student teachers should be objective (Köroğlu, Başer & Yavuz, 2000, p.88).

2.7. Supervisors in Practice Teaching

Tomlinson (1995, p. 40) states the roles and responsibilities of supervisors as below:

- Student teachers' introduction to pedagogy and practice relevant to the teaching of the teaching of the subject, including principles, research and practice in the teaching of the subject, including catering for common learning difficulties, class management, assessment and recording pupils' progress, applications to the "world of work", safety issues, professional support networks,
- Linking with and contextualising any other course inputs, for example educational studies programmes dealing with issues of learning and class management,
- Co-assessing the acquisition of competencies by interns,
- Initiating, co-ordinating and reviewing the work of mentors in the curriculum area
- Lialising with other key personnel

In the instructions of MEB about practice teaching, which can be seen in the appendix of this study, among the responsibilities of the supervisor there stated also watching and inspecting the studies of student teachers regularly with the mentor, evaluation of the student teacher together with the

mentor, assignment of the mark and telling it to the administration of the faculty (MEB ,1998).

Usually the student teachers are expected to imitate the mentor teachers. If the mentor is highly experienced and skilled he can offer a set valuable skills and attitudes. However, this approach does not allow the student teacher to go beyond the teaching observed (Stones, 1984, p. 55)

The relation between the supervisor and the student teacher is an important matter to be searched. One of the major issues arising from supervision is the passive role or infrequent contact with the student teachers. Özyar (2002) states in his paper that the most striking critique they receive about practice teaching at schools is that supervisors just leave the students to the mentors and then they come to grade them at the end of the program.

In the research made by Azar (2003, p.188), student teachers state that they are not observed and evaluated regularly by their mentors about their studies during practice teaching experience. Also, student teachers criticise about supervisors by examining the portfolios they have prepared during the practice teaching casually.

2.8. Student Physics Teachers in Practice Teaching

In the book called "Okullarda Uygulama Çalışmaları" (YÖK, 1998d) student teachers who have completed their practice teaching are expected to gain the following qualities:

- To comprehend the curriculum, studying methods, textbooks, student files, marking booklets, measurement and evaluation procedures of the subject matter,
- To experience in organising students in a classroom, to control them, to communicate with them and to have them actively involve in teaching and learning process,

- To develop techniques about informing students, making to gain skills and motivating to learn and to gain the power of making use of those techniques,
- To integrate with the school society and to have worked as a member of teacher group,
- To evaluate their efficacy in teaching; to improve strengths and to correct weaknesses
- To become such a member that people can make use of his theoretical knowledge.

Teacher Competencies which student teachers should gain throughout their training and practice teaching in teacher education programs are listed nation-wide and this list can be seen in the Appendix B of the study.

For the student teachers to develop the qualities mentioned above, student teachers have several rights. These rights are stated by YÖK (1998d) as the following:

- To be provided the opportunity of studying at a school which they can gain teaching skills, improve those skills by exercise and take all the responsibilities of teaching profession temporarily,
- To have a well prepared studying plan showing practising activities at school,
- To be provided the support and guidance of supervisors in the faculty and mentors,
- To be provided the opportunity of well planned and regular discussions and feedback.

The relationship of the teacher training program to the ongoing activities of the cooperating school is essential for the quality of the practice teaching. Best experience is the one which is more comprehensive, so it is important that the student teachers have the opportunities to participate in all of the ongoing activities of the cooperating school (Devor, 1965, p. 23).

In the study made with physics student teachers, mentors and supervisors by Karamustafaoğlu and Akdeniz (2002), it has been revealed that enough possibility was not given the to the physics student teachers to show their behaviours related with using laboratory and instructional technologies, evaluation, preparation of materials and developing simple materials by the mentors and co-ordinating schools and less than half amount of the ones who have found the opportunity to show their talents are observed not to reflect these behaviours in the desired level. However, almost all of the physics student teachers are observed to reflect the desired level in explaining the basic principles and concepts in physics, exhibiting the roles and behaviours of the teaching profession and planning activities. Moreover, mentors claim that although student physics teachers show great effort to do everything demanded in the implementation period, they cannot hide their hesitations and fears about not being appointed to the profession and so sometimes reflect this problem. Mentors also report that student physics teachers have difficulties in explaining the concepts about induction current, magnetism, circular motion, atom model and nucleus and vectors that they have to be good at graphics analysis and drawing (Karamustafaoğlu & Akdeniz, 2002).

In order to solve those problems about student physics teachers and make them effective to reflect what they have learned in faculty, it is recommended that student teachers should concentrate on the profession, consider themselves as teachers, work in accordance with mentors; there should be given more time and importance to the concepts in physics curricula of secondary school; administrative units in co-ordinating schools should provide student teachers more opportunities to make use of materials and laboratory equipment (Karamustafaoğlu & Akdeniz, 2002).

2.9. Physical Conditions in Practice Teaching Course

Appropriate physical conditions in both faculty and co-ordinating school is essential for the effectiveness of the practice teaching course since they directly affect the gaining skills and experience of student teachers. Best practice in one school may be unworkable in the other (Brooks & Sikes, 1997, p.53).

The qualities of a school to be a co-ordinating school are outlined by YÖK (1998d) as the following:

- To accept providing professional and personal support for student teachers.
- To have a suitable environment and sources for the education of student teachers
- To have the means that can provide the teaching experience about adequate age level and subject matter for student teachers
- To have teaching staff that is experienced about working with student teachers and interested in their needs
- To be established in an easily reached place
- To have an administration staff that can work in whole co-ordination with the education faculty about planning, implementing and evaluating processes of practice teaching activities of student teachers.

Student teachers mention that the choice of co-ordinating schools is wrong since only the schools in the city centre having better conditions are included in this co-ordination (Azar, 2003, p.194).

In another study physics student teachers propose that attending to co-ordinating schools which serve technologically well-developed opportunities and offering good conditions is valuable for their better reflection of desired behaviours in the school environment. Student physics teachers have reported that they will reflect behaviours and abilities more effectively if they have practice teaching in co-ordinating schools which

have enough materials in laboratories, a technology classroom equipped with overhead projector, computer and data-show and posters about physical concepts on the walls, have the most 25-30 pupils in each classroom and have a rich library (Karamustafaoğlu & Akdeniz, 2002).

2.10. Evaluation in Practice Teaching

Supervisors and mentors are responsible for the evaluation of student teachers in practice teaching course. They are involved in two kinds of evaluation of the student teachers; these are formative evaluation which is the oral or written evaluation of on-going programme at different stages and summative evaluation which is the cumulative evaluation of the practice teaching experience of the student teachers (Olaitan & Agusiobo, 1981, p. 100).

Evaluation should be viewed as an activity to be engaged in co-operatively by the student teacher, supervisor and mentor. It should be used as a means of helping the student teacher to identify his strengths and weaknesses, to capitalise on his strengths and improve his weaknesses and not as a means of failing him (Olaitan & Agusiobo, 1981,p.117).

Student teachers should be involved actively in evaluation of the observed presentations. The strengths should be stated to encourage the student teacher and the weaknesses should be emphasised in a positive, constructive manner as well (YÖK, 1998d). Mentors can do it at the end of each teaching lesson or during a short break by inviting student teacher to the staff room for a conference. The mentor should observe the implementation of the suggested improvements in future lessons. He should continue to emphasise the approved practices to student teacher even if former practices are being repeated by the student teacher (Olaitan & Agusiobo, 1981). For the case of inappropriate behaviours of student teachers at co-ordinating schools during practice, the faculty should have clearly defined policies (YÖK, 1998d). Although the mentor should be

present at many of the lessons given by student teachers, student teachers may sometimes be left alone with the pupils to gain skills in controlling a class on his own (Olaitan & Agusiobo, 1981, p.101).

Evaluation activities should not be concentrated on the student teacher's personality or qualities alone, but his skills in providing for learning of the pupils, counselling and guiding pupils wisely through laboratory and/or classroom activities, aiding pupils to apply and appreciate acquired knowledge and solving immediate problems and participating effectively in school activities should also be considered. Evaluation activities should take into consideration the cultural background and the experiences he brings with him to the practice teaching. (Olaitan & Agusiobo, 1981, p.135).

It is worth keeping a practice teaching file even where the mentor or supervisor doesn't require one to be handed at the end of the course. It could include lesson plans, reflections, copies of supervisor's comments, examples of materials used, reports and instructions about teaching profession. Practice teaching file can be used as a guide for the meetings between student teacher and supervisor and an evaluation instrument for the success of student teacher in practice teaching as well (YÖK, 1998d).

2.11. Summary of the Literature Review

Teacher is the most effective factor in order to achieve the National Education Goals. The performance of teachers in classrooms is directly related with their preservice education. Practice Teaching is a course given in the last semester of teacher education programs and serves as a means of providing opportunities to student teachers, under typical school conditions in selected co-operating schools, to gain experience in observing and participating actively in all the diverse educational activities of teachers at school. It is during practice teaching that the student teacher brings together educational theory and actual teaching practices and procedures under

supervision and moreover actually meets with different types of learners and works with them through well organised and meaningful experience (Gower, Philips, & Walters, 1995, p.2).

Achieving the expected outcomes from practice teaching depends on the effectiveness of instruction in practice studies, appropriate physical conditions and strong co-ordination among responsible units. Olaitan and Agusiobo (1981, p.11) list the essential factors for a successful practice as: motivation, a stimulating school environment, co-operation among people involved in practice teaching, clearly defined goals, efforts to learn and achieve, active guidance and effective communication.

After the reconstruction of teacher education programs in Turkey in 1998, practice teaching experience of student teachers has gained more importance. Since practice teaching is a course conducted in institutions of both Ministry of National Education and Higher Education, a protocol improving the partnerships and co-ordination between schools and colleges of education called “Faculty- School Co-ordination” was signed. Also, in order to form a systematic set of procedures about practice teaching, General Directory of Teacher Training and Education prepared a directive "Öğretmenlik Uygulaması Yönergesi" and YÖK prepared an instruction book called “Okullarda Uygulama Çalışmaları” in 1998 and enforced them at the same time (Bulut, 1999).

Although there are many studies abroad about practice teaching of student teachers, we have very few researches about it in Turkey. Özyar (2002) states some of the troubles faced with about practice teaching programs implemented by education faculties at schools in Turkey. The most striking critics he states about practice teaching are ignorance of education faculties the practising part of training, insufficient knowing of student teachers the school environment, the need for standardisation of practice teaching and the selected schools for this all over the country and, insufficient performance of supervisors.

There are problems stated about the number of student teachers given to mentors for practice teaching. In the research of Köroğlu, Başer and Yavuz (2000, p. 89) mentors suggest that, the number of student teachers they have should be limited with two or three since as the number of student teachers increases motivation of students in classroom decreases, the presentation of the lesson is affected badly. Thus, they propose that the number of co-ordinating schools can be increased to solve this problem. However, supervisors say that increasing the number of co-ordinating schools will cause difficulties in inspecting the schools.

Communication among participants in practice teaching is a major issue about the effectiveness of the course. According to the findings of the research made by Azar (2003); supervisors and mentors agree that there isn't a strong co-ordination between school and faculty . Student teachers, mentors and supervisors claim that the duration of the practice teaching is not enough and demanded increasing of it.

The quality of the performance of student teachers at coordinating schools is essential for the development and improvement of their skills. In the study made with physics student teachers, mentors and supervisors by Karamustafaoğlu and Akdeniz (2002), it has been revealed that enough possibility was not given the to the physics student teachers to show their behaviours related with using laboratory and instructional technologies, evaluation, preparation of materials and developing simple materials by the mentors and co-ordinating schools. It was also found out in the research of Köroğlu, Başer and Yavuz (2000, p. 89) that mentors usuallly prefer to make student teachers use their (mentors' own) teaching methods in practice teaching.

There is a gap in the literature for practice teaching conducted in Physics Education Programs in Turkey. Research is needed to search about the current situation of practice teaching held in Five Years Physics Education Programs in Education Faculties in Turkey. This study mainly aims to view the opinions of student physics teachers registered in the

Practice Teaching Course, their mentors and supervisors giving that course in the Secondary Science and Maths Education Departments of Education Faculties in Turkey on practice teaching, their performances through the course; to search about the issues about practice teaching in terms of course content, faculty and school administrations, physical conditions and communications among participants and hence to help researchers and institutions in carrying out the practice teaching courses more effectively by the results of the study.

CHAPTER 3

METHOD

3.1. Overall Design of the Study

This study is a survey research. Survey research is one of the most common forms of research used by the researchers who are interested in the opinions of a large group of people. It involves researchers asking usually a large group of people questions about a particular topic or issue and aims to describe characteristics of a population. Fraenkel and Wallen (1996, p.367) states that most surveys have those three major characteristics: a) information is collected from a group of people in order to describe some aspects or characteristics (such as abilities, opinions, attitudes, beliefs, and/ or knowledge) of the population of which that group is a part, b) the main way in which the information is collected is through asking questions; the answers to those questions by the members of the group constitute the data of the study, c) information is collected from a sample rather than from every member of the population.

There are two major types of surveys that can be conducted: cross-sectional surveys and longitudinal surveys. A cross-sectional survey collects information from a sample that has been drawn from a predetermined population and the information is collected at just one point in time, although the time it takes to collect all of the data desired may take anywhere from a day to a few weeks or more while in a longitudinal survey information is collected at different points in time in order to study changes over time (Fraenkel & Wallen, 1996, p.368). This study is a cross-sectional survey since interest groups were surveyed at approximately the same point in time.

This survey aims to describe the opinions of student physics teachers registered in the Practice Teaching Course in 2004- 2005 spring semester, their mentors at co-ordinating schools and supervisors giving that course in the Secondary Science and Maths Education Departments of Education Faculties in Turkey on practice teaching course.

3.2. Population and Sample

There are three types of populations to be surveyed in this study. The first target population is student physics teachers registered to Practice Teaching Course in 2004- 2005 spring semester in the Secondary Science and Maths Education Departments of Education Faculties in Turkey. The second is supervisors giving practice teaching course for physics education students in the Secondary Science and Maths Education Departments of Education Faculties in Turkey and the third population consists of the mentors of those student physics teachers in co-ordinating schools.

The entire population for student physics teachers supervisors groups was decided to be surveyed and. There are 12 Education Faculties which trains physics teachers in Turkey and the names of them are the following:

1. Atatürk University, Kazım Karabekir Education Faculty
2. Balıkesir University, Necatibey Education Faculty
3. Boğaziçi University, Education Faculty
4. Dicle University, Education Faculty
5. Dokuz Eylül University, Buca Education Faculty
6. Gazi University, Education Faculty
7. Hacettepe University, Education Faculty
8. Karadeniz Technical University, Fatih Education Faculty
9. Marmara University, Atatürk Education Faculty
10. METU, Education Faculty
11. Selçuk University, Education Faculty
12. Yüzüncü Yıl University, Education Faculty

7 of those 12 faculties with Physics Education Programmes in Turkey gathered in the survey. Thus, 58.3 % of the target population for student physics teachers and supervisors were reached in the sample. The gathering number of student physics teachers and supervisors to the survey from universities are given in Table 3.1.

Table 3.1. Distribution of student physics teachers and supervisors gathered in the survey according to universities

#	Name of the University	Number of Student physics teachers registered to practice teaching course	Number of Student physics teachers gathered in the survey	Number of Supervisors gathered in the survey
1.	Balıkesir University	23	22	3
2.	Boğaziçi University	15	13	2
3.	Dokuz Eylül University	22	21	1
4.	Gazi University	22	18	4
5.	Hacettepe University	18	16	1
6.	Marmara University	46	39	2
7.	Middle East Technical University	16	13	1
	Total	162	142	14

The third target population group consists of mentors of student physics teachers in high schools in Turkey. It was hard to reach all of the mentors of student physics teachers, so an accessible population of mentors was chosen as the mentors of student physics teachers in Ankara. Due to formal permission problem, the study was conducted on a sample of ten mentors representing the accessible population. Since there were 56 student

physics teachers registered to the practice teaching course in Ankara; a sample of 10 mentors representing the accessible mentor population would be satisfying. The mentors in the sample were the ones whom the researcher could get in touch with by way of personal relations. The distribution of mentors according to the types of schools they are working is shown in Table 3.2.

Table 3.2. Distribution of mentors in the survey according to the types of schools they work

Type of school	Number of Mentors in the Survey
Lycee	4
Anatolian High School	3
Private School	3
Total	10

3.3. Instrumentation

3.3.1. Data Collection Instruments

Three different but parallel questionnaires were decided to be developed for student physics teachers mentors, and supervisors. Firstly, objectives for the questionnaires were written (See Appendix C).

After development of objectives in general for the questionnaires, objectives for each group of participants were arranged. Depending on the the directive of MEB and handbook of Higher Education Council (YÖK) about practice teaching, parallel questions of three types of questionnaires; for student physics teachers, supervisors, and mentors, were written. Then tables of specification for each questionnaire group were prepared. The

questionnaires are given in Appendix D. Since the questions in the questionnaires were prepared with respect to the articles in the formal directive of MEB about practice teaching, the content validity of the instrument was provided.

Student teacher questionnaire consisted of 51 closed ended questions of which 7 are multiple choice type and the rest 44 are graded category rating scales demanding answers “Yes”, “Not Sure”, and “ No”.

Supervisor questionnaire includes 41 closed ended and 2 open ended questions. 9 of the closed ended questions are multiple choice type and the rest 32 are graded category rating scales demanding answers “Yes”, “Not Sure”, and “ No”. The open ended questions are of essay type.

Mentor questionnaire includes 39 questions in total. 37 of them are closed ended and 2 of them are open ended questions. 9 of the closed ended questions are multiple choice type and the rest 28 are graded category rating scales demanding answers “Yes”, “Not Sure”, and “ No”. The open ended questions are of essay type.

3.3.2. Data Collection Procedures and Scoring

After dealing with the official permission documents for administration in the universities (See Appendix E), the number of student physics teachers and supervisors in each faculty was learned from the annual record book of ÖSYM (2001) and enough photocopies of questionnaires were taken.

The questionnaires were implemented in METU, Gazi and Hacettepe Universities in Ankara by direct administration. For administration of the instruments at the universities out of Ankara, a guideline for administration was prepared by the researcher and the student teacher and supervisor questionnaires were sent with the required official permission forms to the Chairmen of the education faculties of Atatürk, Balıkesir, Boğaziçi, Dicle,

Dokuz Eylül, Karadeniz Technical University, Marmara, Selçuk, Yüzüncü Yıl Universities via cargo.

After a few days of sending the questionnaires the chairmen and some supervisors in those universities were called by the supervisor by telephone and three months later e-mails were sent to some of them by the researcher. However, despite the efforts four of the nine universities out of Ankara sent the questionnaires back. So 58.3 % of the target population for student teachers and supervisors could be reached as shown in Table 3.1 in the previous section.

The answers to the questions in multiple choice format are in increasing form, and the questions in graded scale are in the order: Yes/ Not Sure/ No, and all the questions were written positively. Since frequencies in each question was interested in, the data is of categorical type. So, to code the categorical data collected by the instruments ordinal scale of measurement were preferred. For the questions in graded scale, 1 point for a "Yes", 2 points for a "Not sure" and 3 points for "No" was coded. SPSS 10 computer program were used while coding data and scoring results. Tables were used to summarise the data. For the essay type questions the answers were grouped and transfered to a table.

3.4. Data Analysis

The analysis of data were made by using the computer program SPSS 10. In the analysis, frequencies and percentages of answers of participants for each question were searched. Also frequency and percentage distribution of each alternative under each multiple choice type questions were calculated and analysed. The answers to parallel questions in three instruments were discussed.

Since this study aims to sum up the actual situation and deals with factual factors but not performance or achievement on a subject, reliability

does not seem to be an issue. Item reliability was controlled by asking similar questions in different ways and comparing the answers. Because the study is a survey and is lacking of a hypothesis, statistical power is not dealt with.

3.5. Ethics

Protection of subjects did not seem to be an issue since there was nothing to cause physical or psycological harm on the subjects while having opinions. The possibility of any problem of confidentiality seems to be the following: There might have occured problems in any of the relationships between student physics teachers, mentors, co-ordinating schools or supervisors. Thus, names were not demanded for data collection instruments and while coding data, numbers were assigned instead of the names of subjects. Also it was assured for the subjects that any data collected from them would be held in confidence. For any possibility of deception problem, the purpose of the study was explained on the top of questionnaires.

3.6. Assumptions and Limitations

The study is limited with the answers of the student physics teachers, mentors and supervisors who gathered in the survey. Because of time restriction, no piloting could be done, which was a limitation.

Not being able to ask about the reasons of opinions of the participants on the questions after the completion of questionnaires was another limitation for the results of the study. Only short answers could be obtained but the reasons of those answers still stay hidden since this study was a survey.

Since instruments were sent to the universities by cargo, administration of the instrument could not be held constant everywhere and

this may affect the results. Completion time might have cause boredom for the participants who are not interested in the topic.

The information collected via the instruments is assumed to be true. The participants involved in the study were assumed to give their answers to the instruments honestly.

CHAPTER 4

RESULTS

The results after data analysis are described and discussion of the findings are given in this section.

4.1. Description of the findings and their discussion

Related to the sub-problems and objectives, the results of the study can be analysed in the same five general dimensions: specific facts about participants in practice teaching; content of practice teaching course; physical conditions of faculties and co-ordinating schools; faculty and co-ordinating school administrations; responsibilities of student physics teachers, supervisors and mentors and communications among them in practice teaching.

a) Specific facts about participants in practice teaching

Faculty coordinators decide about the coordinating schools for practice teaching. The qualities of a school for being a co-ordinating school are outlined by YÖK (1998d). To learn about the types of co-ordinating schools and their frequency of being chosen for practice teaching, Question 1 in the Student Teacher Questionnaire [STQ] was asked. The results were shown in Table 4.1.

Table 4.1. The types of co-ordinating schools and their frequency of being chosen

Type of school	f	%
Lyceé	47	33.1
Super Lyceé	29	20.4
Anatolian High School	54	38.0
Science Lyceé	-	-
Private School	5	3.5
Vocational School	2	1.4
Technical School	1	0.7
Other	4	2.8
Total	142	100

The data show that Lyceés and Anatolian High Schools are usually preferred as co-ordinating schools for practice teaching experience. Since the biggest employer of teachers is the state schools, it is consistent that nearly 97 % of student physics teachers are sent to state schools for practice teaching. However, it is surprising that none of the 142 student physics teachers were assigned to Science Lyceés for practice teaching course although Science Lyceés are very qualified schools of Turkey with both their staff and pupils. Faculty co-ordinators should be asked why they do not choose them for practice teaching of student physics teachers. About the "other" alternative, Anatolian Vocational and Anatolian Technical Schools were noted by student teachers as their coordinating schools. There are also Anatolian Teacher High Schools which are again very qualified institutions, but not preferred to be coordinating schools. This should be because of the fact that they are usually established far away from the city centre.

For enough interest in practice teaching course, course load of student physics teachers including practice teaching in the faculty was another issue to be searched. Question 2 in the STQ was asked to learn about it. Table 4.2 shows the course load of student teachers in the semester they had practice teaching experience.

Table 4.2. Course load of student physics teachers in the faculty

Course load	f	%
1-3 courses	26	18.3
4-5 courses	65	45.8
6 courses	10	7.0
7 courses	9	6.3
8 courses and more	32	22.5
Total	142	100

In Five Years Physics Education Program, regular course load of student physics teachers for the last semester is 5 courses including Practice Teaching Course. The major objective of the practice teaching is to help student physics teachers gain the adequate teacher competencies, so student physics teachers are advised to have at least half of the work load of teachers in co-ordinating schools during practice teaching (YÖK, 1998d). However, the data show that 22.5 % of the student physics teachers have taken 8 and/ or more courses. Student physics teachers having 6 or 7 courses might have exceptional causes and they are only 13.3 % of the sample, but 8 and more courses are too loaded for the student physics teachers to carry out their responsibilities in both co-ordinating schools and faculty related to the requirements of practice teaching course. Advisors of student teachers

should pay more attention to the course load of student teachers in the term they have their practice teaching.

Supervisors are the educators of tomorrow's teachers. Having worked as a teacher is very essential for their concept of teaching profession in reality and discriminating between theory and practice. In interviews with the mentors in the study, many of the mentors were usually complaining about the supervisors that they do not know the problems in practice and so demand a lot from them and student physics teachers. Supervisors were asked whether they have worked as a teacher in elementary or high schools by Question 1 in the Supervisor Questionnaire [SQ]. The results showed that out of 14 supervisors in the survey, 9 of them have had working experience at elementary or secondary schools while the rest 4 have not. Thus, almost 2/ 3 of the supervisors in the sample have worked as a teacher. So most of them must know the problems in practice and must be aware of the issues at schools.

In the directive of MEB (1998), it is stated that mentors have to be experienced teachers with pedagogical formation. Supervisors were asked whether they had declared co-ordinating school administrations any criteria about selection of mentors in Question 28 of the SQ. The findings revealed that 28 % of the supervisors declared administrations of co-ordinating schools criteria about selection of mentors, 28 % were not sure and 44 % claimed that they did not. Then, almost half of the supervisors do not demand any criteria for mentors. In the interviews with supervisors, a few of them said that they are requesting school co-ordinators to accept their student physics teachers so they can not declare any criteria although highly motivated mentors are needed for practice teaching.

Mentors have to be experienced teachers according to the directive. Mentors were asked about their year of experience in teaching profession by Question 1 in the Mentor Questionnaire [MQ]. Their experience in teaching profession in terms of years were found out to be more than 5 years for all

of the mentors. Since the mentors in the sample work in city centre, the findings were not unusual.

The opinions of student physics teachers and supervisors on the adequacy of mentors' experience or knowledge in training student physics teachers were explored by Question 51 in the STQ and Question 40 in the SQ. The results are shown in Table 4.3.

Table 4.3. Opinions of student physics teachers and supervisors on the adequacy of mentors' experience or knowledge in training student physics teachers

	Student physics teachers		Supervisors	
Answers	f	%	f	%
Yes	99	71	4	29
Not sure	29	21	8	27
No	11	8	2	14

Results showed that there is a great difference between the satisfaction of student physics teachers and supervisors about the issue. Since the state does not employ new physics teachers who are very qualified and graduated from new training programs in recent years, the physics teachers in high schools are usually the ones who graduated from old teacher training programs and are far from new teaching techniques and teacher education programmes. Some of those old and experienced teachers are not open to innovation in education. Dissatisfaction of participants might cause from this point.

In the directive of MEB (1998), each student teacher has to teach at least 24 hours in the classroom on his own in co-ordinating school during

practice teaching. 24 hours of teaching for each student teacher is too difficult. To learn the frequency of teaching by student physics teachers on their own in co-ordinating schools; student physics teachers were asked Question 3 in the STQ and mentors were asked Question 3 in the MQ. The answers of participants are given in Table 4.4.

Table 4.4. Frequency of teaching by student physics teachers at co-ordinating schools

	Student physics teachers		Mentors	
Teaching frequency	f	%	f	%
1 hour	10	7	5	50
2- 4 hours	65	46	3	30
5- 10 hours	38	27	2	20
11- 15 hours	12	9	-	-
16- 20 hours	10	7	-	-
21- 24 hours	4	3	-	-
24 hours and over	3	2	-	-
total	142	100	10	100

According to the results, student physics teachers usually have 2-4 hours of teaching experience at co-ordinating schools although the directive of MEB (1998) tells to teach at least 24 hours. Answers of the mentors also prove that there is a drastic situation at this point. In fact, it is impossible for a mentor to give each one of student physics teachers 24 hours of his lessons in 12 weeks time. Because of preparation to university entrance examination, student physics teachers are usually not assigned to third

grades in co-ordinating schools. On the other side, mentors usually have more than one student physics teachers and 4 hours of physics lesson in each class and can have maximum 30 hours of work load in a week but teachers usually have less than 30 hours of classes in a week.

In the directive of MEB (1998), it is stated that a mentor can not be given more than 6 student physics teachers. In order to learn about the number of student physics teachers given to the responsibility of each mentor, mentors were asked Question 2 in the MQ and supervisors were asked Question 3 in the SQ. The answers of the mentors and supervisors are shown in Table 4.5.

Table 4.5. The number of student physics teachers given per mentor

	Mentors		Supervisors	
Number of student physics teachers	f	%	f	%
1- 3 student physics teachers	8	80	2	21
4- 6 student physics teachers	2	20	7	50
7 student physics teachers and more	-	-	4	29
Total	10	100	14	100

Answers of mentors show that the formal procedure about the number of student physics teachers per mentor in the directive is obeyed. Although the questions are in parallel in both questionnaires, the inconsistency between the answers of supervisors and mentors were caused from a lacking in the question of the SQ. Since the statement “for practice teaching” is absent in the question of supervisors, they might consider it as the total number of student physics teachers given per mentor for three of the lessons

(School Experience I, School Experience II and Practice Teaching) conducted in co-ordinating schools. At this point; it should be noted that mentors also have student physics teachers for School Experience I and School Experience II courses in addition to Practice teaching. Then, here stands another striking fact about the workload of mentors in addition to their crowded classrooms. One of the supervisors said in the interview that the corridors of schools were full of student physics teachers as well as pupils.

That's why the number of student physics teachers accepted per lesson in co-ordinating schools was another problem to be searched. The directive of MEB (1998) limits the number as maximum 2 student physics teachers in a class in the same teaching hour. Student physics teachers were asked Question 5 in the SQ and mentors were asked Question 5 in the MQ. The answers of participants are given in Table 4.6.

Table 4.6. Number of student physics teachers accepted per lesson in co-ordinating schools

Number of student physics teachers	Student Physics Teachers		Mentors	
	f	%	f	%
1- 2 student physics teachers	98	70	8	80
3- 4 student physics teachers	41	29	2	20
5 student physics teachers and more	2	1	-	-
Total	142	100	10	100

It can be seen that the article in the directive of MEB (1998) is obeyed at this point by 70 % and the rest 30 % is not small to ignore or to consider as exceptional. This may cause ineffectiveness in carrying out the objectives of the practice teaching course.

The number of student physics teachers given per supervisors must have also been looked into. In the directive of MEB (1998) it is stated that faculty co-ordinator cannot assign more than 15 student physics teachers to a supervisor for practice teaching course. To define the number of student physics teachers per supervisor in practice teaching course, supervisors were asked Question 2 in the their questionnaire. Table 4.7. outlines the number of student physics teachers per supervisor in practice teaching course.

Table 4.7. The number of student physics teachers per supervisor in practice teaching course

Number of student physics teachers	Supervisors	
	f	%
1- 10 student physics teachers	6	43
10- 15 student physics teachers	3	21
16 student physics teachers and more	5	36
Total	14	100

The exceed of the limit number of student teachers per supervisor should be because of the insufficient number of supervisors in Secondary Science and Mathematics departments of education faculties. The insufficient number of supervisors can cause problems both in the observation of student physics teachers in co-ordinating schools and

discussion of experiences in seminar lessons in the faculty during practice teaching.

The directive of MEB (1998) says that supervisors must observe and control student physics teachers regularly with the mentors about practice teaching studies. With insufficient number of supervisors in the faculties, this point was open to question. Student physics teachers were asked Question 4 in the STQ and supervisors were asked Question 4 in the SQ in order to learn about how often the student physics teachers had been observed by supervisors in co-ordinating schools. Table 4.8 shows observation frequency of student physics teachers by their supervisors at co-ordinating schools during practice teaching.

Table 4.8. Observation frequency of student physics teachers by supervisors at co-ordinating schools during practice teaching

	Student Physics Teachers		Supervisors	
Observation frequency	f	%	f	%
1 hour	90	70	9	75
2- 3 hours	19	15	4	25
4 hours and more	8	5	-	-
Total answers	117	91	12	100
Missing answers	12	9	-	-

The missing answers result from a lacking in the alternative statements. There wasn't an alternative about "none" or "0 (zero) " among the alternatives. Most of the student physics teachers with missing answers had put notes near the alternatives about this lacking claiming that they were

not observed. It was surprising to me since I had not thought of not being observed even once by the supervisor while preparing the instrument. Observing student teachers only once during the term by most of the supervisors might again be due to the insufficient number of supervisors in the faculties and also reveals one of the causes about ineffectiveness of practice teaching course. It is hard for a supervisor to discuss and decide about weak and strong points of a student teacher by giving only one chance to student teacher. In fact, a supervisor should have the time and opportunity to observe each student at least three times during the course; first at the beginning of the term, second in the middle and third at the end, in order to give valuable feedback to the student teacher and control to what extent he/ she improved himself at the end.

Also mentors were asked how many times they observe each student physics teacher during practice teaching by Question 6 in their questionnaire. The results are shown in Table 4.9.

Table 4.9. Observation frequency of student physics teachers by mentors in co-ordinating schools during practice teaching

	Mentors	
Observation frequency	f	%
1 hour	8	80
2- 3 hours	2	20
4 hours and more	-	-

Although practice teaching depends on presentation of student teachers and giving them feedback about their teaching qualifications, observation of student teachers by their mentors and supervisors do not

seem enough to provide them feedback and help them improve their weak points about teaching. Perhaps, supervisors are leaving observing student teachers and dealing with their outcomes from teaching experience to the mentors and also mentors leave this work to supervisors as well.

The three groups were asked about the period of practice teaching course at faculty, which is 2 hours a week, by the same multiple choice Question 7 in the STQ, 9 in the SQ and 9 in the MQ. The results are given in Table 4.10.

Table 4.10. Opinions of student physics teachers, supervisors and mentors on the period of practice teaching course at faculty

Answers	Student Physics Teachers		Supervisors		Mentors	
	f	%	f	%	f	%
It should be decreased.	13	19	1	8	6	60
It is enough.	118	66	8	67	4	40
It should be increased.	11	15	3	25	-	-
Total	142	100	14	100	10	100

The high rate of mentors demanding decrease in the period might be because of the fact that teachers usually think teaching profession can just be learned by doing. Although the period is usually found to be enough, the higher rate in supervisor answers with respect to mentors about increasing the period might have caused from dissatisfaction of supervisors about the efforts of student teachers and that student teachers need more micro-teaching experience at faculty.

The three groups were asked about the period of practice teaching course at co-ordinating schools, which is 4 hours a week, by the same

multiple choice Question 6 in the STQ, Question 8 in the SQ and Question 8 in the MQ. Table 4.11 shows the opinions of student physics teachers, supervisors and mentors on the period of practice teaching course at co-ordinating schools.

Table 4.11. Opinions of student physics teachers, supervisors and mentors on the period of practice teaching course at co-ordinating schools

Answers	Student Physics Teachers		Supervisors		Mentors	
	f	%	f	%	f	%
It should be decreased.	27	19	-	-	4	40
It is enough.	99	66	11	79	6	60
It should be increased.	21	15	3	21	-	-
Total answers	142	100	14	100	10	100

The higher rate in the answers of mentors demanding decreasing of the period, might stem from considering their workload and also believing that teaching profession can only be learned by doing. The answers of each group are consistent with each other about the adequacy of the period, however none of the mentors wanted it to be increased. The high rate in the answers of supervisors demanding increase in the period of practice teaching at coordinating school might be because of the fact that their expectations from the course and student teachers are not provided fully so more time is needed for improvement of skills.

Mentors were asked whether they could recognise the teaching strengths and weaknesses of student physics teachers during practice teaching period by Question 29 in the MQ. Only 50 % of mentors stated that

they could recognise the teaching strengths and weaknesses of student physics teachers during practice teaching period. Negative and unsure responses might be due to the high number of student teachers given to the responsibility of the mentors. Actually, the answers of mentors are not satisfying for giving enough and suitable feedback and evaluating a student teacher.

Mentors were asked whether experience of mentoring contributed their professional growth by Question 39 in MQ. However, out of 10 mentors none of them gave positive answers and 6 mentors left it as non-response. Some of them said, it was just a formal procedure for them and they are trying to perform it. One of them said that professional growth is related with better communications with pupils and not learning about new technologies in teaching since teaching profession demands acting on the brains and hearts of pupils together.

Mentors were asked an essay type question about problems hindering the efficiency of the practice teaching course and their recommended solutions to those problems by Question 38 in the MQ. 6 mentors out of 10 gave answers. Answers of mentors are listed on Table 4.12 from the mostly claimed problem to the least one. The first problem and solution was stated by 5 of the 6 mentors, the second and third ones were stated by 3 of the mentors and the rest fourth and fifth ones were stated once by 2 mentors.

Table 4.12. Opinions of mentors about problems in practice teaching course and their recommended solutions to the problems

Problems	Recommended solutions
Giving high numbers of student teachers to mentors	Each mentor should be given 2-3 student teachers
Not giving enough time to the student teachers for presentation due to excessive number of topics to cover in the lessons	-

Table 4.12. Opinions of mentors about problems in practice teaching course and their recommended solutions to the problems (continued)

Problems	Recommended solutions
Extreme expectations of the supervisors from the student teachers about using instructional technologies in the presentations	Student physics teachers should be given the good feeling of physics teaching more than using materials
Low motivation of student teachers	The course load of student teachers should be not too much while taking practice teaching
Insufficient communication with the supervisors due to workload of both supervisors and mentors	-

The number of student teachers given to each mentor is stated as the most common problem. One of the mentors who was complaining about the expectations of supervisors said in the interview that supervisors expect too much from student teachers about usage of materials. He claimed that student teachers do not realise their teaching abilities because of the worry of using materials and different teaching methods.

The same open ended, essay type question about problems hindering the efficiency of the practice teaching course and their solution advice to those were asked to the supervisors at the end of the SQ. 8 out of 14 supervisors answered the question. The problems stated and solutions recommended by the supervisors are outlined in the order of mostly declared one to the least claimed one in Table 4.13. The first problem was declared by 6 of the 8 supervisors, the second and third ones were declared by 2 of 8 supervisors and the rest were claimed by once by 8 supervisors.

Table 4.13. Opinions of supervisors about problems in practice teaching course and their recommended solutions to the problems

Problems	Recommended solutions
Giving 5-6 student teachers to mentors	Each mentors should be given 2-3 student teachers
Selection of mentors by co-ordinating school administration	Selection of mentors should be done by faculty and co-ordinating school administration together considering several criteria
Motivation of the supervisors and mentors	Highly motivated supervisors and mentors should give practice teaching course
Overlapping of some activities in School Experience I and II with the ones in practice teaching	-
Inadequate visits of supervisors to co-ordinating schools	-
Low fees paid to mentors and not giving the payment on time	Regulations should be made about payment of mentors
Not reaching of student teachers to the minimum number of presentations required due to the high number of student teachers given to mentors	-
Low motivation and worry of the student teachers about not doing physics teaching after graduation	Regulations are needed in teacher training and employment policies
Inadequacies about the physical conditions of co-ordinating schools	-
Negative attitudes of co-ordinating schools towards practice teaching	Importance of practice teaching should be told to co-ordinating schools and they should be informed about new approaches in teacher training
Observation of the same classes or grade levels during the term and not gaining enough experience by student teachers	-
Unequal delivery of student teachers to mentors at schools	-
Not paying enough attention to the course and student teachers by supervisors due to extreme course load and workload of supervisors	Increasing the number of instructors in charge, constructing each department individually and thus forming sub- units
Construction disorder (charging instructors for courses about which they do not have any education)	
Insufficient number of academic personnel	

b) Content of practice teaching course

Since there is only catalogue description for university courses and no other plans in common, the activities to be involved in the content is defined by the supervisors. The major aim of the practice teaching course for student physics teachers is to gain required skills to become a teacher in real schools settings. So the outcomes of the activities included in the program should be in parallel with this aim. The skills that student physics teachers must acquire at the end of practice teaching are stated in the handbook of YÖK (YÖK, 1998d).

In order to learn about what kind of activities are carried out in the faculty about practice teaching courses to gain the required skills, a set of questions (Questions 8- 16 in STQ and Questions 10- 18 in SQ) were asked to supervisors and student physics teachers in the questionnaires. Table 4.14 outlines the activities in seminar lessons of practice teaching course and the answers of student physics teachers and supervisors.

Table 4.14. Activities held by supervisors in practice teaching courses

Activity	Student physics teachers f (%)			total	Supervisors f (%)			total
	Yes	Not sure	No		Yes	Not sure	No	
Learning about secondary school physics teaching program	105 (74)	16 (11)	21 (15)	142	13 (93)	- -	1 (7)	14
Giving examples from daily life about secondary school physics	124 (88)	9 (6)	9 (6)	142	12 (86)	- -	2 (14)	14
Explaining theories, principles concepts in sec. school physics in various ways	108 (76)	17 (12)	17 (12)	142	12 (86)	- -	2 (14)	14

Table 4.14. Activities held by supervisors in practice teaching courses (continued)

Activity	Student physics teachers f (%)			total	Supervisors f (%)			total
	Yes	Not sure	No		Yes	Not sure	No	
Preparing physics questions at secondary school level	128 (90)	8 (6)	6 (4)	142	13 (93)	- -	1 (7)	14
Preparing diverse activities arousing interest of pupils in physics subjects and making them think	119 (84)	6 (4)	17 (12)	142	13 (93)	- -	1 (7)	14
Evaluating sources to teach secondary school physics	102 (72)	16 (11)	24 (17)	142	8 (58)	3 (21)	3 (21)	14
Encouraging to learn about activities at school	78 (55)	20 (14)	44 (31)	142	10 (72)	2 (14)	2 (14)	14
Encouraging to learn about laws and regulations about teaching profession	85 (60)	29 (20)	28 (20)	142	11 (79)	1 (7)	2 (14)	14
Encouraging to learn about opportunities to improve as a teacher	65 (46)	32 (22)	45 (32)	142	8 (57)	2 (14)	4 (29)	14

Encouragement of supervisors about learning secondary school physics curriculum was asked to student teachers by Question 8 in the STQ and to supervisors by Question 10 in the SQ. Although 93 % of supervisors claimed that they had encouraged student physics teachers to learn about the secondary school physics curriculum, student physics teachers prove this by 74 % and 11 % of them were not sure about such an encouragement. Then

activities performed in content of practice teaching course as encouragement for student physics teachers to learn the secondary school physics curriculum should be searched. Supervisors might either remind it orally or carry out activities for student teachers about it. Only one of the supervisors declared in another question that he had given student physics teachers examination about secondary school physics in addition to other procedures he used in evaluation. One of the supervisors claimed that he did not orient student physics teachers to learn about secondary school physics curriculum.

Physics is the fundamental of all sciences since physical principles are always around you in everyday life. It is important to have functional knowledge of what you teach in the lessons so that pupils have better understanding of the subject. Such a performance in presentations can be provided by experience, knowledge and investigation and a good understanding of pupils' level. Practice teaching should provide the basis for this qualification. That's why student physics teachers and supervisors were asked about orientation in giving examples from daily life related to secondary school physics in practice teaching course. The answers of both groups are in consistency with each other since nearly 88 % of student teachers and 86 % of supervisors in the sample said that they did.

The relatively low rate of positive responses about the evaluation of sources to teach physics might stem from the fact that this activity is included in "Analysis of Secondary Education Textbooks" course which is given in the last semester of student physics teachers.

Schools are institutions of society. So they are places to socialise for pupils besides having education. Teachers are responsible for activities out of teaching at schools. When student physics teachers were asked about whether they had any encouragement to learn about the activities or duties of teachers different from teaching in classrooms, it was seen that there is discrimination between the answers of supervisors and student teachers. Supervisors might have left this activity to the mentors of student physics

teachers since mentors are responsible for the events at school. However, due to the workload of mentors or their lacking of a plan to follow in practice teaching; student physics teachers might have been left alone to learn about them.

There are important laws and regulations for teachers. While 79 % of the supervisors claimed that they directed student physics teachers to learn about laws and regulations about teaching profession; only 60 % of student physics teachers gave positive answers. In fact; the laws and regulations and directives about teaching profession must be included in the file students teachers should arrange during practice teaching.

Teaching profession demands being open to innovation and continuous development. Student physics teachers should be made aware of the opportunities to improve themselves. When student physics teachers were asked about orientation in learning opportunities to develop as a physics teacher; nearly half of the student physics teachers said that they had been encouraged about this. For the parallel question in the SQ, again 57 % of supervisors claimed that they oriented student physics teachers to learn about the development opportunities. Then this activity is not carried out frequently in practice teaching lessons and should be paid attention that teaching is an ongoing process of learning.

Since practice teaching is a means for student physics teachers to transform their theoretical knowledge into practice, student physics teachers and supervisors were asked whether student physics teachers could display the skills they gained with pedagogical courses in practice teaching by the Question 26 in the SQ and Question 41 in the STQ. According to the results, a relatively high proportion of the student physics teachers (78 %) feel confident that they could show the skills they gained through their training in their practice teaching experience. Attitudes of school administrations and mentors toward student teachers and their effort to make student teachers feel like real teachers should have great effects on the behaviours of student teachers.

Evaluation of student physics teachers was another issue in practice teaching and thus for the study. Informing student physics teachers about evaluation of them in the course were asked by the parallel questions, Question 23 and 24 in the STQ to student physics teachers and Question 22 and 23 in the SQ to supervisors. Table 4.15 gives informing rates of supervisors.

Table 4.15. Informing student teachers about evaluation by supervisors

Activity	Student physics teachers f (%)			total	Supervisors f (%)			total
	Yes	Not sure	No		Yes	Not sure	No	
Learning about secondary school physics teaching program	106 (76)	10 (7)	24 (17)	142	14 -	- -	- -	14
Giving examples from daily life related to secondary school physics knowledge	92 (66)	21 (15)	26 (19)	142	13 (93)	1 (7)	- -	14

It is seen that answers of student teachers and supervisors are consistent with each other. The difference between the answers of two groups might be because of the fact that supervisors did not deliver a written course outline including course requirements and did not concretise everything about the course.

Supervisors were asked about the evaluation instruments they used in practice teaching by Question 7 in the SQ. The alternatives were stated as practice teaching file, observation results during practice, observation forms

filled during presentations, evaluation results of mentors, studies in seminar lessons of practice teaching and other. Supervisors were allowed to choose more than one alternatives and to write whether there was any other instrument or way while evaluating. Evaluation instruments used by supervisors in practice teaching are outlined in Table 4.16.

Table 4.16. Evaluation instruments used by supervisors in practice teaching

Evaluation instruments	Supervisors	
	f	%
Practice teaching file	13	93
Observation during practice	12	86
Observation forms filled during presentations	13	86
Evaluation results of mentors	13	93
Studies in seminar lessons of practice teaching	10	71
Other	4	29

Supervisors use the evaluation instruments in various combinations. However there isn't a common evaluation procedure among supervisors. Although Practice Teaching File is a must for practice teaching, 8 % of the supervisors do not use it. As seen from the findings, one of the supervisors do not use evaluation results of mentors. As other evaluation instruments, results of physics examination at secondary school level were stated to be used by a supervisor and another supervisor stated that he used observation forms filled for each student teachers by other student physics teachers

observing the presentation. Self evaluation forms and micro-teaching grades were also stated to be as other evaluation instruments by one of them.

Student physics teachers, supervisors and mentors were asked about submitting supervisors a file by student physics teachers, including lesson plans, reports, laws and instructions they have developed about teaching profession during practice teaching at the end of the course in it by the parallel questions 30 in the STQ and 25 in the SQ and 19 in the MQ. Table 4.17 shows the answers of student teachers, supervisors and mentors to the question.

Table 4.17. Arranging practice teaching file

Answers	Student Physics Teachers		Supervisors		Mentors	
	f	%	f	%	f	%
Yes	125	89	12	86	9	90
Not sure	6	4	2	14	1	10
No	9	6	-	-	-	-
total	140	100	14	100	10	100

Since there wasn't any supervisor with negative answer to the question, the uncertainty of some of the participants might be because student teachers were required a file with different content but not the ones (lesson plans, reports, laws and instructions they have developed about teaching profession) stated in the question. 2 of the student teachers left the question as non-response. Then the content of practice teaching file is another fact which demands research.

Mentors were also asked some additional questions about their performances in practice teaching. All of the mentors stated that they had informed the pupils about coming of student physics teachers. However,

when the mentors were asked whether they encouraged or invited student physics teachers to attend teachers meetings or activities apart from teaching at school, only 30 % of them approved that they helped student teachers participate in meetings and activities, but 70 % of mentors stated that they did not. 80 % of mentors stated that they shared experiences about planning with student physics teachers and 70 % of mentors claimed they gave advice to student physics teachers about class management. It was revealed that charging student physics teachers with administrative works at school was carried out by 50 % of mentors.

Student teachers are advised to take part in as much activities as teachers do at schools during practice teaching and feel themselves as real teachers. In handbook of YÖK (YÖKd, 1998) it is stated that student physics teachers should have at least half of the workload of teachers at co-ordinating schools. By Questions 34, 38 and 42 in STQ, student physics teachers were asked about their performances at co-ordinating schools during practice teaching. Student teachers who participated out of teaching activities at co-ordinating schools were the 38 % of the sample. 53 % of them claimed that they didn't take part in such activities and 9 % were not sure. 56 % of the student teachers stated that they had the opportunity to make presentations alone in the classroom at co-ordinating schools, but 43 % of them did not have that chance. When student teachers were asked whether they had felt themselves like real teachers at co-ordinating schools during practice teaching; 75 % of them gave positive answers, 10 % gave negative answers and 15 % of them stated that they were not sure of this. Attitude of school administrations and mentors should have role on the negative and unsure answers.

When mentors were asked about whether they had given student physics teachers duties about out of teaching activities at school by Question 33, whether they had allowed student physics teachers to present lesson without them in the classroom by Question 27 and whether the pupils in classroom had taken them seriously by Question 31 in MQ , the results were

found out as the following: while half of the mentors gave student physics teachers duties about out of teaching activities, other half claimed that they didn't. 30 % of mentors let the student teachers to present the lesson alone in the classroom, but the rest 70 % said that they didn't allow presentations without them inside the classroom. When mentors were asked whether pupils took the student teachers seriously, they were again in two halves of different idea groups, one positive by 50 % and the other negative by 50 %.

c) Physical conditions of faculties and co-ordinating schools

Adequacy of physical conditions is important for effectiveness of practice teaching experience. Since practice teaching is carried out in two different institutions: co-ordinating schools and faculty, the availability of required conditions for teacher training in both of them must be searched. To search about the conditions provided to the student physics teachers by faculties, student physics teachers were asked Questions 17 and 47 in the STQ and supervisors were asked Questions 35 and 38 in the SQ. Table 4.18 shows the results.

Table 4.18. Conditions provided to the student physics teachers by faculties

Statement	Student physics teachers f (%)			total	Supervisors f (%)			total
	Yes	Not sure	No		Yes	Not sure	No	
Allowance to use labs, instructional technologies in the faculty for practice teaching studies	113 (80)	18 (12)	11 (8)	142	11 (79)	3 (21)	- -	14
The avalability of appropriate physical conditions in the faculty	91 (65)	33 (24)	15 (11)	139	11 (79)	2 (14)	1 (7)	14

The results showed that answers of student physics teachers and supervisors are in consistent with each other about allowance in usage of labs or available instructional technologies by student physics teachers in the faculty for practice teaching studies. The student physics teachers who were not sure on the issue might be the ones that never demanded using labs or instructional technologies for their studies. However, when student physics teachers and supervisors were asked about adequacy of the physical conditions of their faculties for teacher training by the second statement, it is seen that the physical conditions of some teacher training faculties are not found appropriate by two groups. The uncertainty of the participants who were not sure on the issue, might stem from that although the faculty has basic standards for teacher training, they want more for better training. When the importance of teacher education is considered, the conditions of education faculties should also be improved according to the new technologies in education.

Faculty co-ordinators are responsible for the determination of co-ordinating schools. However, they should take opinions of supervisors on the issue. Supervisors were asked whether they had examined appropriateness or conditions of co-ordinating schools before sending student physics teachers for practice teaching in Question 29 in the SQ. Findings revealed that 58 % of the supervisors examined the co-ordinating schools before sending student physics teachers for practice teaching, 17 % were not sure and 12 % didn't. For the supervisors who did not examine the schools, without knowing the conditions of schools, how activity plan for practice teaching can be developed is open to question. Opinions of supervisors on the adequacy of physical conditions of co-ordinating schools for training student physics teachers was searched by question 37 in the SQ. Just 42 % of supervisors found the conditions of co-ordinating schools enough; 50 % were not sure on the issue and 8 % found it inadequate.

To search about the conditions provided to the student physics teachers by co-ordinating schools, student physics teachers were asked

Questions 19, 20, 28 and 49 in the STQ and mentors were asked Questions 10, 11, 12 and 21 in the MQ.

Table 4.19. Conditions provided to the student physics teachers by co-ordinating schools

Question Statement	Student physics teachers f (%)			total	Mentors f (%)			total
	Yes	Not sure	No		Yes	Not sure	No	
Are there materials you need for physics lessons in the lab of of school?	86 (61)	24 (17)	32 (22)	142	6 (60)	- -	4 (40)	10
Are there instructional technologies (PC, overhead projector, ...) you need for physics lessons at school?	94 (66)	23 (16)	25 (18)	142	4 (40)	- -	6 (60)	10
Are student teachers allowed to use the available equipment in labs or instructional technologies at school for practice teaching studies?	85 (61)	29 (21)	26 (18)	140	6 (60)	- -	4 (40)	10
Does the school have appropriate physical conditions for teacher training?	100 (72)	26 (19)	13 (9)	139	10 100	- -	- -	10

The answers of student physics teachers and mentors were consistent with each other on the three questions up to the last question. A surprising result was encountered about the opinions of two groups of participants on the question about appropriateness of physical conditions of co-ordinating schools for teacher training. While all of the mentors (100 %) find the available physical conditions of their schools appropriate for teacher

training, 71 % of student physics teachers claim that they didn't find the conditions suitable enough for their training. The difference between the opinions might result from the difference in teaching techniques and expectations of old and new teachers since old teachers usually use lecturing with chalk and board while new teachers are taught to use a variety of techniques for presentations in lessons. Also, mentors used in the sample were the ones in Ankara while the student teachers were from 6 universities in four different cities.

Mentors were asked whether they use instructional technologies for presentations in physics classrooms by Question 13 in MQ. The findings showed that 40 % of mentors make use of instructional technologies while the rest 60 % did not. Thus, it is obvious that mentors are not accustomed to instructional technologies in classrooms yet and still prefer classical ways of presentations.

d) Faculty and co-ordinating school administrations

Faculty and co-ordinating school administrations are other two participants in practice teaching and they also have definite responsibilities related to the course. Administration of co-ordinating school has to introduce school to student physics teachers and inform them about duties and responsibilities. Student physics teachers were asked whether their co-ordinating school administration has performed those responsibilities by Questions 26 and 27 in the STQ. 57 % of student physics teachers stated that schools were not introduced and 42 % of them claimed that they were not informed about duties and responsibilities by the administration at co-ordinating schools. The low rate of positive responses and high rate of negative ones to both questions show that administrations of co-ordinating schools do not carry out their responsibilities completely.

Student physics teachers, supervisors and mentors were asked whether they believe that administrations of co-ordinating schools fulfil their

responsibilities related to practice teaching by parallel Questions 48 in the STQ, 36 in the SQ and 34 in the MQ in each questionnaires. Table 4.20 shows the results.

Table 4.20. Believing in co-ordinating school administrations about fulfilment of responsibilities related to practice teaching

Answers	Student Physics Teachers		Supervisors		Mentors	
	f	%	f	%	f	%
Yes	74	53	6	43	8	80
Not sure	41	30	6	43	2	20
No	24	17	2	14	-	-
total	142	100	14	100	10	100

According to the findings, supervisors were the least and mentors were the most satisfied with the fulfilment of responsibilities by the co-ordinating schools. While 17 % of student physics teachers and 14 % of supervisors believed that co-ordinating schools did not carry out their responsibilities related to practice teaching, none of the mentors agreed with them. This inconsistency might be because of not knowing of the mentors the procedures to be held by schools.

Mentors were also asked whether they found their school administrations willing to work with student physics teachers in question 15 in the MQ. 60 % of mentors hesitated on the willingness of their school administrations about working with student physics teachers, 20 % of them gave positive answers while 20 % said that they did not find their administrations willing about practice teaching. In fact, the workload of administrators increase by dealing with student physics teachers.

The major responsibility of faculty administrations related to practice teaching, besides determining supervisors and co-ordinating schools, is to arrange meetings, courses and seminars to provide "Faculty- School Co-ordination" at certain times every year (MEB, 1998). Supervisors were asked whether there has been arranged such a meeting in their faculties in Question 27 in the SQ. From the answers of the supervisors, it was revealed that 59 % of faculty administrations fulfil their responsibility by arranging meetings, courses and seminars at certain times every year to provide "Faculty- School Co-ordination". However, 8 % of the supervisors were not sure and 33 % of them claimed that their faculty didn't perform such a training for mentors. To prove the responses of supervisors, mentors were asked whether they have gathered in such a meeting arranged by the faculty in Question 14 in the MQ. According to the answers of the mentors, 60 % of mentors had gathered to arrangements of faculties about practice teaching, while 40 % claimed that they did not. Hence, mentors' answers proved the previous situation about arrangement of meetings, courses or seminars by the faculty related to practice teaching.

Supervisors were asked to explain about the realisation of "Faculty-School Co-ordination"; by the open ended question 42 in the SQ. 4 of the 12 supervisors did not answer this question, 7 supervisors from the rest 8 supervisors explained how it was performed in their faculties and defined the reasons of adequacies in co-ordination. The explanations of the supervisors about how it was performed in their faculties are outlined in Table 4.21, and reasons of adequacies in co-ordination are given in Table 4.22.

Table 4.21. Explanations of supervisors about how "Faculty- School Co-ordination" was performed in their faculties

Explanation	Supervisors f
Meeting with administrators of co-ordinating schools and giving them necessary explanations about practice teaching at the beginning of the course	2
Giving co-ordinating school staff seminars about practice teaching and development of it by supervisors	1
Talking with mentors about new approaches to training teachers when met	1
Going to talk with mentors and solve any problem on time	1
Communication with co-ordinating schools at times when supervisors go to observe student physics teachers	1
Sharing sources, materials and knowledge demanded by co-ordinating schools and sometimes mentors by way of student physics teachers	1
Total answers	7
Missing answers	7
Total participants	14

Table 4.22. Explanations of supervisors about hinders to provide "Faculty- School Co-ordination"

Reason	Supervisors f
Extreme workload of supervisors	3
Attitude of co-ordinating school administrations	1
Not full time working of mentors	1
Extreme workload of mentors	2
Not presenting co-ordinating schools the promises given for co-ordination	1
Total answers	8
Missing answers	6
Total participants	14

One of the supervisors stated that coordinating schools are not awarded for accepting student teachers. There are promises given to the coordinating schools for co-ordination but they are not presented. Since schools are already busy with their work and dealing with student teachers is an additional workload for them, they are not willing to accept student teachers if there is nothing to gain. The supervisor might have emphasised mainly payment and training of mentors by his/ her answer.

Student physics teachers and mentors were asked about the faculty administrations, whether they believe in that faculty administrations fulfil their responsibilities related to practice teaching by parallel Questions 46 in the STQ and 36 in the MQ. Table 4.23 shows the results.

Table 4.23. Satisfaction with faculty administrations about fulfilment of responsibilities related to practice teaching by student teachers and mentors

Answers	Student Physics Teachers		Mentors	
	f	%	f	%
Yes	92	66	2	20
Not sure	34	25	3	30
No	13	9	5	50
total	142	100	10	100

There is a discrimination about the satisfaction with faculty administrations between student teachers and mentors. This could be because of the fact that mentors are more aware of the formal procedures of faculties about practice teaching. The low rate about satisfaction of mentors shows that they might have problems with the faculty administrations, such as in arrangement of student teachers, practice teaching hours, activities

about the course and payment of them. If this study had been a qualitative one, the reasons for dissatisfaction could have been asked and the answers could have been made more clear about what is not carried out by them.

e) Responsibilities of supervisors , student physics teachers and mentors related to practice teaching and communications among them during the course

Responsibilities of each participant related to practice teaching has been defined in the directive of MEB (1998) and handbook of YÖK (YÖK, 1998d).

In order to learn whether the defined responsibilities are carried out by supervisors related to practice teaching, student physics teachers were asked Question 18, 21, 22, 25, 29, 31 in the STQ and supervisors were asked Question 19, 20, 21, 24, 34 in the SQ. In Table 4.24, the formally stated responsibilities of supervisors and the answers of student teachers and supervisors about fulfilment of them are given.

Table 4.24. Fulfilment of responsibilities by supervisors

Responsibility	Student physics teachers f (%)			total	Supervisors f (%)			total
	Yes	Not sure	No		Yes	Not sure	No	
To give information about principles of practice teaching	128 (90)	8 (6)	6 (4)	142	13 (93)	1 (7)	- -	14
To give a plan about activities included in practice teaching	118 (83)	8 (6)	16 (11)	142	12 (86)	1 (7)	1 (7)	14
To evaluate practice teaching studies weekly and giving feedback	70 (50)	21 (15)	49 (35)	140	10 (72)	3 (21)	1 (7)	14

Table 4.24. Fulfilment of responsibilities by supervisors (continued)

Responsibility	Student physics teachers f (%)			total	Supervisors f (%)			total
	Yes	Not sure	No		Yes	Not sure	No	
To give student teachers feedback about the presentations observed	76 (54)	30 (22)	34 (24)	140	13 (93)	1 (7)	- -	14
To plan activities in practice teaching together with student teachers and mentors	91 (65)	16 (11)	33 (24)	140	6 (44)	4 (28)	4 (28)	14
To take student physics teachers to co-ordinating schools, and meet them with administrators and mentors	77 (55)	15 (11)	48 (34)	140	- -	- -	- -	- -

Answers of student physics teachers and supervisors are consistent about the responsibility of supervisors giving information about principles of practice teaching and giving a plan about activities included in practice teaching course. The uncertainty of the participants about giving a plan might be due to lacking of a written outline. However; weekly evaluation of practice teaching studies of student physics teachers by supervisors is very low as confirmed by both groups. The content of seminar lessons should be looked into since it could cause this. Although it is stated in the catalog description that seminar lessons consists of evaluation of practice teaching and sharing experiences with other student teachers, seminar classes might be held with micro-teaching activities like in the old system of teacher education by some of the supervisors.

When student physics teachers were asked whether they were given feedback about the presentations observed, difference between the answers

of student physics teachers and supervisors is not small to ignore. The low rate of positive responses of student teachers might stem from dissatisfaction of student physics teachers about the feedback given.

According to the directive of MEB (1998), supervisors have to plan activities in practice teaching together with student physics teachers and mentors. When supervisors were asked about their performance about this; the rate of positive answers of student teachers and supervisors is too low. The responsibility of supervisors to plan activities in practice teaching together with student physics teachers and mentors was also asked to the mentors by question 16 in the MQ. None of the mentors claimed about any co-ordination in planning, 20 % were not sure and 80 % stated that they didn't plan the activities in practice teaching together with supervisors and student physics teachers. This shows lacking of co-ordination among participants and it is the duty of supervisor to provide it. The activities included in the course should be planned considering the conditions of coordinating schools and this can be done by the help of mentors. By such a co-ordination mentors can be made more involved in the practice teaching course and the outcomes of it for student teachers.

In the directive of MEB (1998) it is stated that supervisor takes the student physics teachers to co-ordinating schools and meets them with administrators and mentors. Although it is stated as the duty of supervisor, sometimes student teachers from each department are grouped according to the coordinating schools and are taken by any one of the supervisors to schools. Uncertain answers might have caused from this point.

Student physics teachers and mentors were asked their satisfaction about supervisors' performance and interest in practice teaching. By Question 44 in the STQ and Question 37 in the MQ, participants were asked whether supervisors carry out their responsibilities related to the course. The opinions of student physics teachers were searched about supervisors' experience/ knowledge in training teachers by Question 45 in the STQ. Mentors were asked whether they find the interest of supervisors in practice

studies enough by Question 18 in the MQ. Table 4.25 outlines the rates of satisfaction with supervisors by mentors and supervisors.

Table 4.25. Satisfaction with supervisors related to practice teaching

Subject of statement	Student physics teachers f (%)			total	Mentors f (%)			total
	Yes	Not sure	No		Yes	Not sure	No	
Satisfaction about carrying out responsibilities	112 (80)	19 (14)	8 (6)	142	4 (40)	4 (40)	2 (20)	10
Satisfaction of student teachers with the experience/ knowledge of supervisors	122 (88)	13 (9)	4 (3)	139	- -	- -	- -	- -
Satisfaction of mentors with the interest of supervisors in practice teaching studies at coordinating school	- -	- -	- -	- -	2 (20)	- -	8 (80)	10

Student teachers are more satisfied with their supervisors about fulfilment of their responsibilities related to practice teaching also most of them find their supervisors experienced enough to train student teachers. Dissatisfaction of mentors with the supervisors reflect their need of help in training about practice teaching course. Since mentors are also responsible for practice teaching course as much as supervisors, supervisors leave student teachers to mentors for training in the profession. However, mentors are not aware of their responsibilities and are not very knowledgable about teacher training and expect supervisors to inform and direct them on the issue. The high rate of negative responses from mentors about the interest of supervisors in practice teaching studies at co-ordinating schools can be

again a matter of not having adequate training of mentors about educating students and their expectations of help from supervisors at this point.

Student teachers have responsibilities in their practice teaching. They are defined as to show enough effort for improvement in professional competencies, to work in co-ordination with the supervisor and mentor during practice teaching, to work regularly in order to carry out the requirements of the course and to submit supervisor a file at the end of the course. Student physics teachers were asked whether they have spent effort for development in teaching profession during practice teaching by Question 32 and whether they were to submit a practice teaching file by Question 30 in the STQ. 92 % of student physics teachers claimed that they spent effort for development in teaching profession during practice teaching, and 89 % of them submitted supervisors a practice teaching file. This was also proved by by another question in the SQ before, since one of the supervisors declared not demanding student teachers practice teaching files in evaluation.

Supervisors were asked about whether student physics teachers had shown individual effort to develop their professional competencies in practice teaching course by Question 33 in the SQ. 79 % of the supervisors claimed that most of the student physics teachers spent individual effort to develop their professional competencies in practice teaching course while the rest 21 % did not think so. The course load of some student teachers might have affected their performance in practice teaching.

Supervisors and mentors were asked about their satisfaction of the student physics teachers' attention to practice teaching. They were asked the same question: "Do you believe that most of the student physics teachers have paid required attention to practice teaching course?" by Question 35 in the MQ and 41 in the SQ. Student physics teachers were also asked whether they had paid enough attention to practice teaching studies by Question 43 in the STQ. Table 4.26 shows the answers of three groups of participants on the issue.

Table 4.26. Satisfaction with the attention of student physics teachers to practice teaching

Answers	Student Physics Teachers		Supervisors		Mentors	
	f	%	f	%	f	%
Yes	103	74	7	50	7	70
Not sure	30	22	6	43	3	30
No	6	4	1	7	-	-
total	139	100	14	100	10	100

The lower rate about positive answers of supervisors might have caused from the different and more expectations of them from student teachers about the teaching methods in presentations and performance at coordinating schools.

Fulfilment of the responsibilities by mentors was searched by Questions 35, 36, 37, 39 and 40 in the STQ by answers of student physics teachers and in parallel Questions 22, 25 , 28, 30 and 32 in the MQ by answers of mentors. Table 4.27 shows the responsibilities of mentors and their fulfilment.

Table 4.27. Fulfilment of the responsibilities by mentors

Responsibility	Student physics teachers f (%)			n (%)	Mentors f (%)			
	Yes	Not sure	No		Yes	Not sure	No	
To give student teachers information about course materials, curricula, students, ...	93 (67)	27 (19)	20 (14)	140	8 (80)	2 (20)	- -	10
To evaluate observed lessons with student teachers	103 (74)	13 (9)	24 (17)	140	7 (70)	- -	3 (30)	10

Table 4.27. Fulfilment of the responsibilities by mentors (continued)

Responsibility	Student physics teachers f (%)			n (%)	Mentors f (%)			
	Yes	Not sure	No		Yes	Not sure	No	
To evaluate professional competencies of student teachers in general	103 (74)	16 (12)	20 (14)	139	8 (80)	- -	2 (20)	10
To encourage or allow student teachers in using different or new teaching techniques	84 (61)	19 (14)	35 (25)	138	5 (50)	3 (30)	2 (20)	10
To encourage or make student teachers to observe different classes at school	120 (86)	3 (2)	16 (12)	139	7 (70)	- -	3 (30)	10

Although the answers of student physics teachers and mentors are in consistent with each other, it is seen that encouragement of mentors in using different teaching techniques is carried out rarely. If mentors demand student teachers to imitate what they do, then student teacher and mentor relationship becomes apprenticeship. This result also shows that mentors are not very open to innovation. Faculty school co-ordination is essential for training mentors and making them aware of the new methods in education.

Student physics teachers and supervisors were asked whether they believe that mentors fulfil their responsibilities by Question 50 in the STQ and Question 39 in the SQ. Supervisors were also asked about whether they find mentors willing to work with student physics teachers by Question 30 in the SQ. Satisfaction of student teachers and supervisors with the performance of mentors are given in Table 4.28.

Table 4.28. Satisfaction with mentors in practice teaching

Subject of statement	Student physics teachers f (%)			n (%)	Supervisors f (%)			n (%)
	Yes	Not sure	No		Yes	Not sure	No	
Satisfaction about carrying out responsibilities	103 (74)	23 (17)	13 (9)	139	6 (43)	7 (50)	1 (7)	14
Finding willing to work with student teachers	- -	- -	- -	- -	8 (57)	5 (36)	1 (7)	14

As seen from the results, supervisors are not very satisfied with the performance of mentors in practice teaching. It means expectations of supervisors from the mentors are not carried out completely. But, if mentors are not given enough knowledge about their responsibilities or a plan of activities involved in practice teaching, it is not wise to expect them help development of student teachers. Moreover, mentors are neither graduates of new teacher education programs nor very well- informed about new teaching methods and teacher training schedule. Then training of mentors in the concept of faculty- school co-ordination is very essential.

Communication among supervisors, mentors and student physics teachers is of paramount importance for the effectiveness of practice teaching course. As mentioned before, in the directive of MEB (1998) it is stated that supervisors observe and control student physics teachers regularly with the mentors about practice teaching studies. Then communication between supervisors and mentors had to be dealt with. So, supervisors were asked Question 6 in the SQ and mentors were asked Question 4 in the MQ in parallel to know about their meeting frequencies. The results are given in Table 4.29.

Table 4.29. Meeting frequency of supervisors with mentors during practice teaching

Meeting frequency	Supervisors		Mentors	
	f	%	f	%
Every week	4	29	-	-
Twice a month	1	7	-	-
Once a month	1	7	-	-
Twice in a term	4	29	5	50
Once in a term	3	21	5	50
Never	-	-	-	-
Total answers	13	93	10	100
Missing answers	1	7		
Total participants	14	100	10	100

Answers of the supervisors are not proved by the answers of the mentors. It is understood that hey usually meet twice or once in a term. The owner of the missing answer in supervisor questionnaire has put a note on the question saying that it depends on whether there is any problem with the student physics teachers. The workload of supervisors and also exceeding the limit number for student teacher per supervisor should have caused this lacking of communication between supervisors and mentors, and not being able to make visits to coordinating schools by supervisors. If supervisors go to schools once or twice just to observe and evaluate the presentation of student teachers, it is natural that there will be dissatisfaction from each other among participants due to the insufficient communication.

Supervisors were asked about whether they had asked advice of mentors for development of practice teaching content by question 32 in the SQ. The answers to this question again reveals the lacking of co-ordination between supervisors and mentors for better teacher training by 58 % of positive answers, 17 % of not sure answers against 25 % of negative answers.

The three groups were asked about whether they worked in co-ordination with each other during practice teaching by Question 33 in the STQ, Question 31 in the SQ and 17 in the MQ. Answers of participants about working in co-ordination with each other during practice teaching are given in Table 4.30.

Table 4.30. Answers of participants about working in co-ordination with each other during practice teaching

Answers	Student Physics Teachers		Supervisors		Mentors	
	f	%	f	%	f	%
Yes	110	79	8	57	2	20
Not sure	23	16	5	36	-	-
No	7	5	1	7	8	80
total	140	100	14	100	10	100

There are surprising differences among the answers of three groups. Since student teachers have to be in contact with both supervisors in seminar lessons and mentors at school, they feel more confident relative to mentors or supervisors that they had worked in co-ordination. However, the answers of supervisors and especially mentors emphasise again the lacking of co-ordination among the units in practice teaching. Mentors seem not feeling very involved in the practice teaching studies and they need to be reminded or informed about their misconception on the issue. They should be reminded that practice teaching is more than the formal procedures and accepting student teachers to their classes, but they can also benefit from the supervisors and ideas of new teachers contributing their professional knowledge.

In order to provide permanent functioning of the reconstruction and effective communication among units in teacher education, National Teacher Training Committee was founded in 1997. Although it is responsible to provide the required co-ordination between units in teacher training and employment, still having problems about communication between faculties and schools shows that it does not work actively. During the implementation process, the researcher interviewed with a member of the committee in MEB. The member stated that the committee firstly met in 1998, secondly in 2001 and since then they have not had any meetings. He proved that it has not fulfilled its formally stated responsibilities.

CHAPTER 5

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Purpose of this study was to search the opinions of student physics teachers registered in the Practice Teaching Course, supervisors giving that course in the Secondary Science and Maths Education Departments of Education Faculties in Turkey and the mentors of student physics teachers at co-ordinating schools on practice teaching, to view their performances through the course; to search about the issues about practice teaching in terms of course content, faculty and school administrations, physical conditions and communications among participants and hence to help researchers and institutions in carrying out the practice teaching courses more effectively by the results of the study. The findings were usually analysed by comparing the responses of three groups of participants to parallel questions.

To sum up the findings from the study, in the following sections firstly conclusions are presented, then internal and external validity considerations are given and finally implications and recommendations for further research are offered.

5.1. Conclusions

Although the sample size is large enough, there is a limitation in the generalizability about the location of samples since questionnaires from the universities in the Black Sea and east regions of Turkey were not sent back.

The conclusions derived from the results of the study can be outlined in the same five dimensions.

a) Specific facts about participants in practice teaching

1. There is not a homogeneous distribution among the types of the co-ordinating schools selected for practice teaching course. State schools are preferred the most (99 %) but science lycees and Anatolian Teacher High Schools were not among them although they are very qualified schools with staff and conditions. Technical and vocational schools were very rarely preferred as coordinating schools.
2. Although student teachers are recommended to have at least half of the workload of mentors at co-ordinating schools during practice teaching, the course load of some student physics teachers is too much to carry out the responsibilities completely.
3. Supervisors cannot declare any criteria about the selection of mentors in practice teaching since mentors are charged by co-ordinating school administrations.
4. Practice teaching course depends on the presentation activity of student teachers in real school settings. However, the minimum hours of presentations to be made at co-ordinating schools during the course (24 hours) cannot be reached by most of them. It seems practically impossible to provide it even a mentor has 2 student teachers. For mentors having 5- 6 student teachers for practice teaching, it is hard to give each student teacher 24 hours of their classes in 12 weeks time.
5. In the directive of MEB (1998) the minimum number of student teachers that can be assigned to a mentor is limited with 6, but that is only for practice teaching. When the number of other student teachers from School Experience I and II courses is added to the ones in practice teaching, mentors and classrooms become full of student teachers besides pupils.

6. Although the limit number for student teachers accepted for the same teaching hour at co-ordinating schools is 2, this limit is exceeded.
7. Excessive number of student teachers given to supervisors causes many problems affecting the efficiency of practice teaching course. Although the directive limits the number of student teachers for each supervisor with 15 student teachers; this limit is exceeded by 42 % of the supervisors. Thus, the number of supervisors is insufficient for the number of student physics teachers in education faculties.
8. There were student teachers who were never observed by their supervisors at co-ordinating schools.
9. Discrimination between the skills gained through pedagogical courses in the faculty and the actual behaviours of student teachers mainly stem from the attitudes of participants in practice teaching.

b) Content of practice teaching course

10. For higher education, since only description of the courses for each program is defined by YÖK and arranging the content according to the given description is left to supervisors, there is no common requirements for practice teaching as for other courses. The activities designed to reach the objectives and requirements varies for each supervisor depending on the motivation of the supervisor in practice teaching course and this affects the outcomes of student physics teachers from the course.
11. There is not a common evaluation procedure among supervisors in practice teaching while some demand a variety of requirements for the course, some demand very few. Although, arrangement of practice teaching file is a must for the course, some supervisors do

not demand it from student teachers. Also the content of the required practice teaching files is open to question.

c) Physical conditions of faculties and co-ordinating schools

12. There are faculties of which physical conditions and equipment are found inappropriate for teacher training.
13. Coordinating schools are not found fully equipped for teacher training.
14. Mentors usually do not prefer presenting their lessons by using new technologies in education.

d) Faculty and co-ordinating school administrations

15. All co-ordinating school administrations do not fulfil their responsibilities related to practice teachers.
16. Although faculties have to arrange meetings, courses and seminars about faculty school co-ordination, not all the faculties carry out this responsibility.
17. Requirements for "faculty- school co-ordination" is not provided fully by related parts.

e) Responsibilities of supervisors, student physics teachers and mentors related to practice teaching, and communications among them during the course

18. Supervisors are not satisfied with the co-ordinating school administrations and mentors are not satisfied with the performance of faculty administrations as well.
19. Student physics teachers are not satisfied with the feedback given by supervisors about their studies.

20. Student physics teachers are not charged with doing or gathering out of teaching activities at co-ordinating schools enough.
21. Student physics teachers, mentors and supervisors do not work in sufficient co-ordination in practice teaching. Supervisors and mentors deal independently with the student teachers in practice teaching and they are not very satisfied with each other's performance in the course. It is the student teachers whose time and experiences to gain are stolen.
22. Although there is a signed protocol about co-ordination between faculty and school and a formal directive about practice teaching, the responsibilities and procedures stated formally do not fully overlap with the actual ones in practice teaching.

5.2. Internal Validity of the Study

The internal validity of the study refers to the degree to which extranous variables may influence the results of research. There are four main threats to validity in survey research: mortality, location, instrumentation and instrument decay. Possible threats to internal validity and methods used to cope with them throughout the study are presented in this section.

Mortality threat is the possibility that results are due to the fact that subjects who are for whatever reason "lost" to a study may differ from those who remain so that their absence has an important effect on the results of the study. For this study, this threat was prevented by considering the missing data on the questionnaires. The student teacher and supervisor questionnaires were intended to be implemented in all of the 12 faculties with physics teacher education programs in Turkey. Instruments were implemented by direct administration in 3 faculties in Ankara and for the 9 faculties out of Ankara they were sent by cargo. However, 4 of those 9 faculties gathered in the study by sending the questionnaires back. So 58 %

of the target population for student teachers and supervisors could be reached in the sample. For the mentor group, since mentors in Ankara form the target population, 10 % of them were reached. None of the mentors or supervisors gave totally nonresponse to the questions in the instruments. Just 3 of the 142 student teachers in the sample gave non-response to some pages in the instrument. In analysis, valid percentages were considered for some of the questions since the absence of them does not affect the results seriously.

Location threat results from the possibility that results are due to characteristics of the setting or location in which a study is conducted and instrumentation threat arises from the variations in the way of data collection. In order to cope with location and instrumentation threats, adapted settings of subjects were preferred for the implementation of the instruments and they were similar for the participants in Ankara. The appropriateness of the settings for the subjects was given essence during applications in direct administration, however it could not be proved for the instruments sent by cargo since the researcher was not present in them. But, for those questionnaires to be implemented in the absence of researcher a detailed application directive explaining the instructions for administering and required time was sent together with the questionnaires and official permission documents.

Instrument decay exists if changes occur in instrumentation over time that may affect the internal validity of the study. The instruments were implemented once. Although the questionnaires seemed long, giving response was quite easy and the duration time was nearly 12 minutes. It was paid attention that participants were not tired or too busy at the time of implementation of the instrument, but despite my attempts there were partly non-response questionnaires from student physics teachers that might be due to the fact that they are not very interested in the subject.

5.3. External Validity of the Study

The study was intented to be conducted on the target population of student physics teachers and supervisors. So the instruments were sent to all of the physics education programs in Turkey. However, despite the efforts only 58 % of them could be reached. Altough the sample size is large enough since it consists of more than 10 % of the target population, there is a limitation in the generalizability about the location of samples because questionnaires from the universities in the Black Sea and east regions of Turkey were not resent. Since the universities which resent the questionnaires was not selected by the researcher, a kind of randomization had occured. So the three groups of samples used in the study can be accepted to be representatives of the target population, the results of the study can be generalised to all the student physics teachers, physics education mentors and physics education supervisors in Ankara. Distribution of subjects was given in Table 3.1.

5.4. Implications

1. This study has revealed the current situation about practice teaching course given in Physics Education Programs in Turkey.
2. Although National Teacher Training Committee was founded in 1997, aiming to solve problems about communication among units of teacher training and employment, to provide effective functioning of reconstruction and to take required precautions about the issue; it has not carried out its responsibilities. Since lacking of co-ordination among the responsible units causes the major problems in practice teaching, it should start working actively to provide the flow of knowledge and communication between Higher Education Council and National Ministry of Education.

3. Good inspection is necessary for the institutions responsible in practice teaching and faculty– school co-ordination program. An external examiner can be charged for inspecting the responsible units of both faculties and schools about following the formal procedures in the directive of practice teaching. This examiner can be selected from the members of National Teacher Training Committee.
4. Providing the faculty- school co-ordination is essential for the effectiveness of communication in practice teaching. Appropriate settings for better co-ordination and communication of supervisors, mentors and student physics teachers should be provided by co-ordinating school administrations and faculty administrations.
5. It is obvious that schools need education faculties to learn about the developments in education and education faculties need to know schools to make better developments. So co-ordination between schools and faculties gain more importance. All of the teacher training faculties should arrange meetings with co-ordinating schools and mentors and inform them about new approaches in education and teacher training.
6. Student physics teachers should not be assigned only to lycees and Anatolian High Schools. Vocational and technical schools, science lycees and Anatolian Teacher High Schools should also be considered by faculty coordinators for practice teaching as soon as their conditions are appropriate.
7. Advisors should pay attention that student teachers take 4- 5 courses the most at faculty while having practice teaching experience.
8. Selection of mentors should be made by co-ordinating schools and faculty supervisors together. Highly motivated teachers should be charged with mentoring for the effectiveness of the course.

9. The minimum hours of presentations by the student teachers at co-ordinating schools; which is stated to be 24 hours, should either be regulated again considering the course load of mentors and the number of student teachers given for each mentor, or the required conditions should be provided to realise this minimum number of presentations.
10. A regulation is also needed about the number of student teachers given for a mentor in the directive of MEB which is limited with 6 student teachers, considering the total number of student teachers coming for School Experience I and II lessons together. Mentors should be given 2- 3 student teachers the most for practice teaching.
11. Physical conditions of teacher training faculties and co-ordinating schools should be examined each year.
12. Co-ordinating school administrations should take care that student teachers participate in out of teaching activities at school in order to help them know all the work teachers are involved at school besides teaching.
13. Evaluation procedures should be made common among supervisors for practice teaching course considering the points in the directive and the handbook of Higher Education Council. Also the content of the practice teaching file should be the same for all teacher training faculties.
14. Each program in Secondary Science and Maths Education can be reconstructed individually. By this way, the number of instructors in charge can be increased. The number of instructors in the departments should be in direct proportion with the student teacher capacity. A supervisor should have the opportunity and time to observe each student teachers at least 3 times during practice teaching at co-ordinating school.

5.5. Recommendations for Further Studies

Using the findings in this survey, a qualitative research can be developed as a continuum of this study, searching the reasons of opinions of participants on some of the issues. Because the major limitation in this study was not being able to having interviews with the participants after questioning since it was a survey.

A comparative study can be designed about the effectiveness of practice teaching with mentors who have gathered in meetings or training in faculties about practice teaching and the ones who have not.

Experimental studies can be held about the seminar lessons of practice teaching course. The outcomes and self efficacy of student physics teachers can be compared with respect to the activities implemented and feedback given in seminar lessons.

This study reveals the current situation about practice teaching course. Further studies can be developed in order to search about the ideal situation and how to reach it in practice teaching course in the light of this research.

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APPENDIX A

DIRECTIVE FOR PRACTICE TEACHING

Öğretmen Adaylarının Milli Eğitim Bakanlığına Bağlı Eğitim Öğretim Kurumlarında Yapacakları Öğretmenlik Uygulamasına İlişkin Yönerge
Yayın : Tebliğler Dergisi
Yayım Tarihi ve Sayısı : --/10/1998 - 2493
Numarası :
BİRİNCİ BÖLÜM
Genel Hükümler
Amaç
Madde 1- Bu Yönergenin amacı, öğretmen adaylarının, öğretmenlik mesleğine daha iyi hazırlanmalarını, öğrenimleri süresince kazandıkları genel kültür, özel alan eğitimi ve öğretmenlik mesleğiyle ilgili bilgi, beceri, tutum ve alışkanlıklarını gerçek bir eğitim-öğretim ortamı içinde kullanabilme yeterliliği kazanmalarını sağlayacak uygulama çalışmalarına ilişkin usul ve esasları düzenlemektir.
Kapsam
Madde 2- Bu Yönerge, öğretmen yetiştiren yüksek öğretim kurumlarındaki öğrencilerin, Millî Eğitim Bakanlığına bağlı resmî ve özel eğitim ve öğretim kurumlarında yapacakları öğretmenlik uygulaması çalışmalarının, amaç, ilke ve yöntemlerini kapsar.
Dayanak
Madde 3- Bu Yönerge, 1739 sayılı Millî Eğitim Temel Kanunu, 3797 sayılı Millî Eğitim Bakanlığı Teşkilat ve Görevleri Hakkında Kanun ve 2547 sayılı Yüksek Öğretim Kanununun ilgili hükümlerine dayanılarak hazırlanmıştır.
Tanımlar
Madde 4- Bu Yönergede geçen ;
"Öğretmen Adayı", öğretmenlik programlarına devam eden, öğretmeni olacağı öğretim düzeyi ve alanında, okul ortamında, öğretmenlik uygulaması yapan yüksek öğretim kurumu öğrencisini,
"Öğretmenlik Uygulaması", öğretmen adaylarına, öğretmeni olacağı alanda ve öğretim düzeyinde, bizzat sınıf içinde öğretmenlik becerisi kazandıran ve belirli bir dersi ya da dersleri planlı bir şekilde öğretmesini sağlayan; uygulama etkinliklerinin tartışılıp değerlendirildiği.bir dersi,
"Okul Deneyimi", öğretmen adaylarına, okul örgütü ve yönetimi ile okullardaki günlük yaşamı tanıma, eğitim ortamlarını inceleme, ders dışı etkinliklere katılma deneyimli öğretmenleri görev başında gözleme, öğrencilerle bireysel ve küçük gruplar halinde çalışma ve kısa süreli öğretmenlik deneyimleri kazanma olanağım veren, onların öğretmenlik

mesleğini doğru algılayıp benimsemelerini sağlayan fakülte öğretim programında yer alan dersleri,
"Fakülte", öğretmen yetiştiren fakülte ve yüksek okulları,
"Uygulama Okulu", öğretmenlik uygulamalarının yürütüldüğü, Millî Eğitim Bakanlığına bağlı resmî, özel, yatılı-pansiyonlu ve gündüzlü, okul öncesi, ilköğretim, genel ve meslekî orta öğretim, özel eğitim ile çıraklık ye yaygın eğitim kurumlarını,
"Fakülte Uygulama Koordinatörü", öğretmen adaylarının okullarda yapacakları uygulama etkinliklerinin, öğretim elemanı, millî eğitim müdürlüğü koordinatörü ve uygulama okulo koordinatörüyle birlikte, planlanan ve belirlenen esaslara göre yürütülmesini sağlayan, eğitim ve öğretimden sorumlu dekan yardımcısı veya yüksek okul müdür yardımcısını, "Bölüm Uygulama Koordinatörü", fakülte-uygulama okulu iş birliği sürecinde, bölümün öğretmenlik uygulamaları ile ilgili yönetim işlerini planlayan ve yürüten öğretim elemanını,
"Uygulama Öğretim Elemanı", alanında deneyimli ve öğretmenlik formasyonuna sahip, öğretmen adaylarının uygulama çalışmalarını planlayan, yürüten ve değerlendiren yüksek öğretim kurumu öğretim elemanını,
"Millî Eğitim Müdürlüğü Uygulama Koordinatörü", öğretmen adaylarının okullarda yapacakları uygulama etkinliklerinin, fakülte ve okul koordinatörleriyle birlikte planlanan esaslara göre yütürülmesini sağlayan, ilde millî eğitim müdürü veya yardımcısı, ilçede ise ilçe millî eğitim müdürü ya da şube müdürü,
"Uygulama Okulu Koordinatörü", okulundaki uygulama etkinliklerinin belirlenen esaslara uygun olarak yürütülmesi için uygulama okulu, ilgili kurumlar ve kişiler arasında iletişim ve koordinasyonu sağlayan okul müdürünü veya yardımcısını,
"Uygulama Öğretmeni", uygulama okulunda görevli, öğretmenlik formasyonuna sahip, alanında deneyimli öğretmenler arasından seçilen, öğretmen adayına öğretmenlik mesleğinin gerektirdiği davranışları kazanmasında rehberlik ve danışmanlık yapan sınıf veya ders öğretmenini,
"Öğretmen Yetiştirme Millî Komitesi", öğretmen yetiştirme sisteminin daha kalıcı ve etkin bir şekilde işlemesini sağlamak ve daha nitelikli öğretmen yetiştirrneye katkıda bulunmak üzere Millî Eğitim Bakanlığı, Yükseköğretim Kurulu ve Eğitim Fakülteleri temsilcilerinden oluşan danışma organını,
ifade eder.

İKİNCİ BÖLÜM
Öğretmenlik Uygulaması İlkeleri

Madde 5- Öğretmenlik uygulaması aşağıdaki ilkeler doğrultusunda planlanır, programlanır ve yürütülür,
a) Kurumlar arası iş birliği ve koordinasyon ilkesi : Öğretmenlik uygulamasına ilişkin esaslar Millî Eğitim Bakanlığı ile Yükseköğretim Kurulu Başkanlığı tarafından ortaklaşa belirlenir. Uygulama çalışmaları, sorumlulukların paylaşılması temelinde belirlenen esaslara dayalı olarak,

millî eğitim müdürlükleri ile eğitim fakültelerinin koordinasyonunda yürütülür. Yükseköğretim Kurulu Başkanlığı bünyesinde kurulan Öğretmen Yetiştirme Millî Komitesi bu esasların belirlenmesinde aktif rol oynar.

b) Okul ortamında uygulama ilkesi: Öğretmenlik uygulamaları, öğretmen adaylarının öğretmeni olacağı öğretim düzeyinde, alanlarına uygun gerçek etkileşim ortamından il-ilçe millî eğitim müdürlükleri ile fakülte dekanlıkları tarafından belirlenen Millî Eğitim Bakanlığına bağlı resmî, özel, yatılı-pansiyonlu ve gündüzlü, okul öncesi, ilköğretim, genel ve meslekî orta öğretim, özel eğitim ile çıraklık ve yaygın eğitim kurumlarında yürütülür.

c) Aktif katılma ilkesi : Öğretmen adaylarının, öğretme-öğrenme ve iletişim süreçlerine etkili bir biçimde katılmaları esastır. Bunun için, öğretmenlik uygulamasında her öğretmen adayından, bir dizi etkinliği bizzat gerçekleştirmesi istenir. Öğretmen adaylannın; bunları aşamalı olarak, süreklilik içinde ve artan bir sorumlulukla yürütmeleri sağlanır. Öğretmen adayları; uygulama hazırlığı, uygulama okulunda gözlem, uygulama öğretmeninin görevlerine katılma, eğitim-öğretim/yönetim ve ders dışı etkinliklere katılma, uygulama çalışmalarını değerlendirme etkinliklerini gerçekleştirir.

d) Uygulama sürecinin geniş zaman dilimine yayılması ilkesi : Öğretmenlik uygulaması programı; planlama, inceleme, araştırma, katılma, analiz etme, denetleme, değerlendirme ve geliştirme gibi kapsamlı bir dizi süreçten oluşur. Bu süreçlerin her biri hazırlık, uygulama, değerlendirme ve geliştirme aşamalarından oluşmaktadır. Öğretmen adayının, öğretmenlik davranışlarını bu süreçler yoluyla istenilen düzeyde kazanabilmesi için fiilen uygulama yapacağı süreden çok daha fazla zamana ve çabaya ihtiyacı vardır. Bu nedenle öğretmenlik uygulamaları; öğretmen adayına giderek artan bir sorumluluk ve uygulama yeterliliği kazandırmak için, en az bir yarı yıla yayılarak programa yerleştirilir.

e) Ortak değerlendirme ilkesi: Uygulama etkinliklerini birlikte planlayıp yürüttükleri için öğretmen adayının öğretmenlik uygulamasındaki performansı, uygulama öğretim elemanı ve uygulama öğretmeni tarafından ayrı ayrı değerlendirilir. Öğretmen adayının öğretmenlik uygulamasındaki başarısı, uygulama öğretim elemanı ve uygulama öğretmeninin yaptığı değerlendirmelerin fakültenin "Eğitim-Öğretim ve Sınav Yönetmeliği" gereğince birleştirilmesiyle not olarak belirlenir. Uygulama öğretim elemanı notları fakülte yönetimine teslim eder.

f) Kapsam ve çeşitlilik ilkesi : Öğretmenlik mesleği, ders hazırlığı, dersi sunma, sınıf yönetimi, atölye ve laboratuvar yönetimi, okul ve aile mesleği ile ilgili konularda öğrenciye rehberlik yapma, öğrenci başarısını değerlendirme, yönetim işlerine ve eğitsel çalışmalara katılma gibi çok çeşitli faaliyetleri kapsamaktadır. Ayrıca öğretmenler, çeşitli bölgelerde, farklı olarak ve koşullara sahip genel-meslekî, gündüzlü-yatılı, pansiyonlu, şehir ve köy okullannda, müstakil veya birleştirilmiş sınıflarda görev yapmaktadır. Bu nedenle öğretmenlik uygulaması, öğretmenlik mesleğinin

gerektirdiği tüm görev ve sorumluluk alanlarını kapsayacak şekil ve çeşitlilikte planlanır ve yürütülür.
g) Uygulama sürecinin ve personelinin sürekli geliştirilmesi ilkesi : Öğretmenlik uygulaması çalışmalanndan elde edilen sonuçlara göre; öğretmenlik uygulaması süreci ve buna parelel olarak uygulamaya katılan personel yeterlilikleri sürekli geliştirilir.
h) Uygulamanın yerinde ve denetimli yapılması ilkesi : Öğretmenlik uygulamasından beklenen faydanın sağlanabilmesi, ancak; öğretmen adaylarının öğretmenlik uygulaması kapsamında yapacakları etkinlikleri, öğrencisi bulundukları fakültenin öğretim elemanlannın yakından izleme, rehberlik etme, yanlışlarını düzeltme, eksikliklerini tamamlama ve değerlendirme çabaları ile mümkündür. Bu nedenle öğretmenlik uygulaması, fakültenin bulunduğu il veya ilçelerdeki uygulama okulları ile ilgili kurumlarda yapılır.

ÜÇÜNCÜ BÖLÜM

Görev, Yetki ve Sorumluluklar

Madde 6- Öğretmenlik uygulamasında;
a) Öğretmen Yetiştirme Millî Komitesinin görev, yetki ve sorumlulukları:
1. Yükseköğretim Kurulu ile Millî Eğitim Bakanlığı, Yükseköğretim Kurulu ile Fakülteler ve diğer ilgili kurumlar arasındaki bilgi akışını sağlar.
2. Öğretmen yetiştirilmesi ve eğitiminin en önemli boyutlarından biri olan fakülte okul iş birliği konusunda gerekli görülen model ve alt yapı çalışmalarını gerçekleştirir.
3. Ülkenin ihtiyaçları ve öncelikleri ile alandaki çağdaş gelişmeler ve araştırma bulguları doğrultusunda hizmet öncesi ve hizmet içi öğretmen yetiştirme sürecini etkin ve verimli hale getirir.
4. Ülkenin önceliklerini ve öğretmen açığı olan bölgeleri saptar, her branş için gerekli olan öğrenci sayısının dağılımını yapar ve öğretmenlerin temini ve istihdamı ile ilgili olarak Millî Eğitim Bakanlığı ile iş birliği ve koordinasyon içerisinde çalışır.
5. Öğretmen yetiştirme ve eğitimi programlarını ve derslerini oluşturup, güncelleştirir.
6) Öğretmen yetiştirme ve eğitimi derslerine ilişkin ulusal ölçütleri geliştirir ve uygulamayı değerlendirir.
b) Fakülte yönetiminin görev, yetki ve sorumlulukları :
1. Bölümlerden gelen önerileri dikkate alarak uygulama öğretim elemanlarını belirler.
2. İl-ilçe millî eğitim müdürlüğü uygulama koordinatörünün iş birliği ile uygulama okullarını belirler.
3. Uygulama okullarındaki etkinliklerin, etkili ve verimli bir biçimde yürütülmesini, denetlenmesini sağlar.
4. Uygulama sürecinde, eğitim fakültesi-uygulama okulu iş birliğinin gerçekleştirilmesi için her yıl belirli zamanlarda uygulama çalışmalarına ilişkin toplantılar, kurs ve seminerler düzenler.
c) Fakülte uygulama koordinatörünün görev ve sorumlulukları:

1. Bölüm uygulama koordinatörü ve millî eğitim müdürlüğü uygulama koordinatörü ile iş birliği yaparak uygulama okullarım belirler, öğretmen adaylarının bu okullara dağılımım sağlar.
2. Uygulama çalışmalarını, fakülte adına izler ve denetler.
3. Öğretmenlik uygulaması çalışmalarını değerlendirir ve geliştirilmesi için gerekli önlemleri alır.
d) Bölüm uygulama koordinatörünün görev ve sorumlulukları:
1. Bölümle ilgili uygulama çalışmaları konusunda, bölüm uygulama öğretim elemanları arasındaki koordinasyon ve iş birliğini sağlar.
2. Uygulama öğretim elemanlarının ve her uygulama öğretim elemanının sorumluluğuna verilen öğretmen adaylarının listesini hazırlar; fakülte uygulama koordinatörüne iletir.
3. Uygulama okullarının seçiminde fakülte uygulama koordinatörüne yardım eder.
e) Uygulama öğretim elemanının görev ve sorumlulukları:
1. Öğretmen adaylarını, öğretmenlik uygulaması etkinliklerine hazırlar.
2. Öğretmen adaylarının uygulama çalışmaları kapsamındaki etkinliklerini, uygulama okulu koordinatörü ve uygulama öğretmeni ile birlikte planlar.
3- Öğretmen adayının çalışmalarını, uygulama öğretmeni iie birlikte düzenli olarak izler, denetler.
4. Uygulamanın her aşamasında öğretmen adayına gerekli rehberliği ve danışmanlığı yapar.
5- Uygulama sonunda öğretmen adayının çalışmalarını, uygulama öğretmeni ile birlikte değerlendirir ve sonucu not olarak fakülte yönetimine bildirir.
f) İl-ilçe millî eğitim müdürlüğünün görev, yetki ve sorumlulukları :
1. Öğretmenlik uygulaması yapılacak illerde il millî eğitim müdür yardımcılarından birini, merkez ilçeler dışındaki ilçelerde ilçe millî eğitim şube müdürlerinden birini "millî eğitim müdürlüğü uygulama koordinatörü" olarak görevlendirir.
2. Fakülte uygulama koordinatörünün iş birliği İle sosyo-ekonomik ve kültürel düzeyi farklı kent ve köy uygulama okullarını ve her okulun uygulama kontenjanlarını öğretmenlik alanları itibariyle belirler, kontenjanların fakültelere dağıtımını yapar.
3. Fakültenin düzenleyeceği uygulama çalışmalarına ilişkin toplantı, seminer ve kurslara; millî eğitim müdürlüğü uygulama koordinatörü, uygulama okulu koordinatörleri ile uygulama öğretmenlerinin katılımını sağlar.
4. Eğitim fakülteleri ve uygulama okulları arasında koordinasyonu ve iç birliğini kolaylaştırıcı önlemler alır.
5. Uygulama çalışmalarını izler ve denetler.
g) Millî eğitim müdürlüğü uygulama koordinatörünün görev ve sorumlulukları:
1. Fakülte ve okul uygulama koordinatörleri ile iş birliği yaparak uygulama okullarını belirler.

2. Uygulama okullarının, uygulama kontenjanlarını öğretim alanları itibariyle belirler, fakültelere dağılımım sağlar.
3. Öğretmenlik uygulamalarını denetler, değerlendirir, etkili bir biçimde yürütülmesi için gerekli önlemleri alır.

h) Uygulama okulu müdürlüğünün görev, yetki ve sorumlulukları :
1. Uygulama okulu koordinatörünü belirler,
2. Uygulama öğretim elemanlannın iş birliği ile uygulama öğretmenlerini belirler.
3. Uygulama öğretmenleri ve öğretmen adaylarıyla toplantı yapar, kendilerine görev ve sorumluluklarını bildirir.
4. Uygulama çalışmalarının etkili ve verimli bir biçimde yapılabilmesi için gerekli eğitim ortamını sağlar.
5. Uygulama öğretmenlerinin uygulama çalışmalarını denetler. Uygulama okulu koordinatörünün görev ve sorumlulukları:
1. Millî eğitim müdürlüğü, okul yönetimi ve fakülte arasındaki koordinasyon ve iş birliğini sağlar,
2. Uygulama öğretim elemanı ve uygulama öğretmeni ile iş birliği yaparak öğretmen adaylarının uygulama çalışmaları kapsamındaki etkinlikleri planlar.
3. Uygulama çalışmalarını izler, değerlendirir ve sağlıklı yürütülmesi için gerekli önlemleri alır.
i) Uygulama öğretmeninin görev ve sorumlulukları:
1. Uygulama öğretim elamanı ve uygulama okulu koordinatörü ile iş birliği yaparak öğretmen adaylarının uygulama çalışmaları kapsamındaki etkinlikleri hazırlar.
2. Uygulama programının gerektirdiği etkinliklerin yürütülmesini sağlar, uygulama etkinliklerinin başarılı bir biçimde yerine getirilmesi için öğretmen adayına rehberlik eder, bu etkinlikleri izler ve denetler.
3. Uygulama sonunda öğretmen adayının uygulama çalışmalanm değerlendirir, uygulama okulu koordinatörüne teslim eder.
j) Öğretmen adayının görev ve sorumlulukları:
1. Uygulama programının gereklerim yerine getirmek için planlı ve düzenli çalışır. Uygulama öğretim elemanı, uygulama öğretmeni ve diğer öğretmen adayları ile iç birliği içinde planlı bir şekilde çalışır.
2. Uygulama programının gereklerini yerine getirirken okul yönetimi, uygulamadan sorumlu öğretim elemanı, öğretmenler ve diğer görevlilerle iş birliği yapar.
3. Öğretmenlik uygulaması etkinlikleri kapsamında, yaptıkları çalışmaları ve raporları içeren bir dosyayı uygulama öğretim elemanına teslim eder.
1. Kişisel ve meslekî yeterliliğini geliştirmek için sürekli çaba gösterir.

DÖRDÜNCÜ BÖLÜM
Uygulamanın Yapılması
Öğretmenlik Uygulamasmın Zamanı ve Süresi

Madde 7- Lisans ve yüksek lisans düzeyinde öğretmen yetiştiren programlarda öğretmenlik uygulaması, son dönemde haftada bir tam, ya da

iki yarın gün olmak üzere en az bir yarı yıl süre ile yapılır. Öğretmen adayları, bu sürenin en az 24 ders saatini bizzat ders vererek değerlendirir.
Uygulama okullarının kapasitesi ve öğretmen adaylarının sayısı dikkate alınarak, öğretmen adayları ikiye bölünüp her iki yarı yılda da öğretmenlik uygulamaları sürdürülebilir.

Okul Deneyimi Derslerinin Zamanı ve Süresi

Madde 8- Okul deneyimi dersleri, öğretmen yetiştiren lisans ve yüksek lisans programlarında belirtilen yıl ve yarı yıllarda, öngörülen süre ve kapsamda bu Yönerge usul ve esasları çerçevesinde yapılır.

Uygulamanın Yeri

Madde 9- Okul deneyimi ve öğretmenlik uygulamaları, fakültenin bulunduğu il veya ilçedeki uygulama okulları ile ilgili kurumlarda yapılır.
İlköğretim kurumlarında görev yapacak sınıf ve branş öğretmenleri, olanak ve koşullar elverdiği ölçüde uygulamalarının bir kısmını köy okullarında yaparlar.

Uygulamanın Planlanması, Yürütülmesi ve Değerlendirilmcsi

Madde 10- Uygulamaya ilişkin aşağıdaki işlemler yapılır.
a) Fakülte uygulama koordinatörü, öğretmenlik alanlarına göre öğretmen adayı sayılarını her öğretim döneminin başında ilgili bölüm ve ana bilim dalı başkanı ile iş birliği yaparak belirler.
b) İl-ilçe millî eğitim müdürlüğü uygulama koordinatörü, uygulama okulu olarak seçilebilecek okulların müdürleri ile iş birliği yaparak, uygulama okullarını ve her okulun öğretmen adayı kontenjanını, öğretmenlik alanları itibariyle belirler.
c) İl-ilçe millî eğitim müdürlüğü uygulama koordinatörü ile fakültelerin uygulama koordinatörleri bir araya gelerek uygulama okullarının ve uygulama kontenjanlarının, öğretmenlik alanları itibariyle fakültelere dağılımını yapar.
d) Fakülte uygulama koordinatörü, bölüm uygulama koordinatörleri ile iş birliği yaparak;
kendi fakültelerindeki her uygulama öğretim elemanına düsen öğrenci sayısı 15'i geçmeyecek şekilde öğretmen adaylarının gruplarının ve her grubun sorumlu öğretim elemanını belirler.
e) Fakülte uygulama koordinatörü, kendilerine ayrılan uygulama kontenjanlarını dikkate alarak, uygulama öğretim elemanlarının ve sorumlu oldukları öğretmen adaylarının alanlanna ve uygulama okullarına göre dağılımlarını gösteren listeyi hazırlayarak, il-ilçe millî eğitim müdürlüklerine gönderir.
İl-ilçe millî eğitim müdürlüğü; valilik/kaymakamlık onayını aldıktan sonra bu listeyi, uygulama okul müdürlüklerine ve ilgili fakülte dekanlıklarına gönderir.
f) Uygulama okulu koordinatörü, uygulama öğretim elemanları ile iş birliği yaparak uygulama öğretmenlerini belirler. Uygulama öğretmeni başına düşen öğrenci sayısının 6'yı, ancak ders başına düşen öğrenci sayısının 2'yi geçmeyecek biçimde dağılımını yapar.

g) Uygulama öğretim elemanı, sorumluluğuna verilen öğretmen adaylarını, öğretmenlik uygulamasının dayandığı temeller, uygulama programında yer alacak etkinlikler ve uyulması gereken kurallar konusunda bilgilendirir.
h) Uygulama öğretim elemanı, sorumluluğuna verilen öğretmen adaylarını uygulama okuluna götürerek, okul yöneticileri, uygulama okulu koordinatörü ve uygulama öğretmenleri ile tanıştırır.
Uygulama okulu koordinatörü, öğretmen adaylarına okulu gezdirerek çeşitli birimlerini tanıtır ve etkinlikleri hakkında bilgi verir.
ı) Uygulama öğretim elemanı, uygulama öğretmeni ve öğretmen adayları ile birlikte öğretmenlik uygulaması etkinlik planını hazırlar.
i) Öğretmen adayları, uygulama öğretim elemanı ve uygulama öğretmeninin gözetim ve rehberliğinde öğretmenlik uygulamasının etkinlik planında belirtilen çalışmaları yerine getirir.
Her etkinliğe ilişkin ayrıntılı bir çalışma raporu hazırlar.
j) Uygulama öğretim elemanı veya uygulama öğretmeni, izlediği derslerle ilgili gözlemlerini kaydeder. Gözlem sonuçlarını dersten sonra öğretmen adayı ile değerlendirir.
k) Uygulama öğretim elemanı, öğretmen adayları ile birlikte, her hafta-okulda yapılan uygulamalarla ilgili gelişmeleri tartışır ve değerlendirir.
l) Uygulamalar sonunda öğretmen adayı, etkinlik planı çerçevesinde yürüttüğü çalışmaları ve raporları içeren dosyayı tamamlar, uygulama öğretim elemanına teslim eder.
m) Öğretmen adaylarının başarısı, uygulama öğretim elemanı ve uygulama öğretmeni tarafından ayrı ayrı değerlendirilir. Uygulama öğretim elemanı bu notları birleştirerek fakülte yönetimine teslim eder.

BEŞİNCİ BÖLÜM
Çeşitli Hükümler

Madde 11- Uygulama çalışmalarının çeşitli nedenlerle bir okulda tamamlanamaması halinde eksik kalan kısmı, başka bir okulda tamamlatırılır.

Madde 12- Öğretmen adayı, fakültesinin bulunduğu il veya ilçede uygulama yapacağı bir okul veya program bulunmaması halinde, fakülte kurulunca denkliği kabul edilen yakın bir alanda uygulama yapar.

Madde 13- Öğretmen adayının öğrenim gördüğü ilde uygulamanın yapılacağı bir okul, program ve de yakın bir alanın belirlenememesi durumunda, öğretmenlik uygulaması, günlük ulaşımı mümkün olan il veya ilçede yapılır.

Madde 14- Denkliği kabul edilen bir alanın bulunmaması ya da doğal afetler ve benzeri olağanüstü durumlar nedeniyle aynı veya yakın il-ilçede öğretmenlik uygulamasının tamamen veya kısmen yapılmaması halinde, öğretmen adayları aynı programı uygulayan bir başka fakültenin öğretmen adayları ile birlikte uygulama yaparlar. Öğretmen adayları, ilgili dönemin tüm derslerini uygulama yaptıkları fakültede tamamlar. Bunun için, fakültelerin bağlı oldukları üniversiteler arasında bir protokol yapılır.

Öğretmen adaylarının barınma ihtiyaçları Millî Eğitim Bakanlığı ve mahallîn mülkî amirliklerince sağlanır.

Disiplin Kuralları

Madde 15- Öğretmen adayları; uygulama yaptıkları okullarda görevli öğretmenlerin uymakla yükümlü oldukları yasa, yönetmelik ve yönergeler ile okul yönetiminin koyduğu kurallara uymak zorundadırlar. Kurallara uymayanlar okul müdürü tarafından fakülte uygulama koordinatörüne bildirilir. Bu öğrencilere yüksek öğretim kurumları disiplin hükümleri uygulanır.

Yürürlük

Madde 16- Bu Yönerge, onaylandığı tarihte yürürlüğe girer.

Yürütme

Madde 17- Bu Yönerge hükümlerini, Millî Eğitim Bakanı yürütür.

APPENDIX B

TEACHER QUALIFICATIONS

Öğretmen Adaylarının Öğretme Etkinliklerinin Gözlenmesinde Kullanılacak Öğretmen Yeterlikleri Özet Listesi

ÖĞRETMENLİK BECERİSİ	AÇIKLAMALAR
1 Konu Alanı ve Alan Eğitimi Bilgisi	• Konu alanını, kavram ve becerileri anlama • Alan bilgisini gerektiği biçimde kullanma ve artırabilme • Alan ile ilgili öğretim programını bilme • Özel öğretim yöntemlerini ve öğretim teknolojilerini bilme • Konu alanı ile ilgili bilgi teknolojilerini bilme
2 Öğretme - Öğrenme Süreci 2.1 Planlama	• Ders planında hedef davranışları açık olarak ifade etme • Öğretim programına uygun plan yapma • Planlamada öğrenciler arasındaki bireysel farklılıkları dikkate alma • Ders planında yer alacak etkinlikleri hedeflere ulaştıracak şekilde seçme • Konuyu öğrencilere daha iyi anlatabilmek ve somut hale getirmek için uygun araç gereçlere ders planında yer verme
2.2 Öğretim Süreci	• Ders planında süreklilik ve aşamalılık sağlayacak, önceki ve sonraki dersleri ilişkilendirme • Öğrencileri ders süresince güdüleme • Öğrencilerin yaşları, yetenekleri ve önceki öğrenmelerine uygun yöntemler kullanma • Bilgi teknolojileri dahil öğretim araç-gereçlerini ustalıkla kullanma • Çeşitli öğretim yöntemlerinden yararlanma • İşlenen dersi örneklendirerek günlük yaşamla ilişkilendirme • Tüm öğrenciler ve gruplarla iletişim kurma ve etkileşimde bulunma • Zamanı planlı ve verimli kullanma
2.3 Sınıf Yönetimi	• Dersi amacına uygun ve düzenli biçimde sürdürme • Derse uygun biçimde başlama ve dersi planlı biçimde sonlandırma • Duruma uygun bireysel çalışma, grup çalışmasından yararlanma • Öğrencilerin ilgisini çekme, güdüleme ve bunları sürdürme • Kesinti ve engellemeleri önleme • Övgü ve yaptırımları uygun biçimde kullanma

	• Uygulamalı derslerde fiziksel kazaları engellemek amacıyla gerekli önlemleri alma
2.4 İletişim	• Öğrencilere açık ve anlaşılır açıklamalar yapma • Zamanında ve etkili sorular sorma • Öğrencileri dinleme, öğrencilerden gelen yanıtlara duyarlı davranma • Ses tonunu etkili kullanma • Öğrencilerin düzeyine uygun dil kullanma
3 Değerlendirme ve Kayıt Tutma	• Öğrenme ürünlerini zamanında inceleyip sonuçları yapıcı eleştirilerle birlikte öğrenciye iletme • Etkinlikler ve sağlanan gelişmeleri düzenli olarak kaydetme ve ilgililere bildirme • Öğrencilerdeki gelişmeleri çeşitli yöntemler kullanarak değerlendirme • Öğrencilerin gelişimini ulusal ölçütleri kullanarak değerlendirme
4 Diğer Mesleki Yeterlikler	• Öğretmenlik mesleği ile ilgili yasa ve yönetmelikleri izleme ve değişikliklerden haberdar olma • Elettiri ve önerileri dikkate alma ve mesleki gelitmesinde kullanma • Kendini geliştirme çabası içinde olma • Okul toplantıları ve etkinliklerine katılma

APPENDIX C

OBJECTIVES

At the beginning of developing the questionnaires, the following objectives related to the sub-problems were outlined.

1. Ability to know specific facts about practice teaching experience of student physics teachers
    1.1. To state the types of co-ordinating schools and their frequency of being chosen for practice teaching
    1.2. To state the average course load of student physics teachers while taking practice teaching course
2. Ability to match the formal procedures related to practice teaching with the experiences in real
    2.1. To define the presentation frequencies of student physics teachers at co-ordinating schools
    2.2. To define the observation frequencies of student physics teachers by their supervisors at co-ordinating schools
    2.3. To define the observation frequencies of student physics teachers by their mentors at co-ordinating schools
    2.4. To define the number of student physics teachers accepted per lesson at co-ordinating schools
    2.5. To define the number of student physics teachers per supervisor in practice teaching course
    2.6. To define the number of student physics teachers per mentor in practice teaching course
3. Ability to match the responsibilities of participants related to practice teaching with their actual performances

3.1. To match between the formal responsibilities of student teachers and their actual behaviours in practice teaching

3.2. To match between the formal responsibilities of supervisors and their actual behaviours in practice teaching

3.3. To match between the formal responsibilities of mentors and their actual behaviours in practice teaching

3.4. To match between the formal responsibilities of co-ordinating schools and their actual behaviours in practice teaching

3.5. To match between the formal responsibilities of faculties and their actual behaviours in practice teaching

4. Ability to know about performances of participants in practice teaching

4.1. To state the performance of student physics teachers related to practice teaching

4.2. To state the performance of supervisors related to practice teaching

4.3. To state the performance of mentors related to practice teaching

4.4. To state the performance of co-ordinating schools' administrations related to practice teaching

4.5. To state the performance of faculty administrations related to practice teaching

5. Ability to know outcomes of the student teachers from the syllabus of practice teaching course

5. 1. To describe the activities included in practice teaching

6. Ability to know whether adequate physical conditions are provided for efficient practice teaching

6. 1. To state whether adequate facilities are offered by faculties for student teachers in practice teaching course

6. 2. To state the adequateness of physical conditions of co-ordinating schools for practice teaching course

7. To know about the feelings of student physics teachers with their practice teaching

    7.1. To describe their feelings about their practice teaching experience

    7.2. To describe their satisfaction about the support of their supervisors

    7.3. To describe their satisfaction about the support of their mentors

    7.4. To describe their satisfaction about the co-ordinating school

    7.5. To describe their satisfaction about their faculties

8. Ability to know specific facts about supervisors

    8.1. To state whether supervisors have teaching experience at schools

    8.2. To define the evaluation strategies of supervisors in practice teaching course

9. Ability to know the opinions of supervisors on practice teaching course

    9.1. To describe their thoughts about practice teaching

    9.2. To describe their satisfaction about student teachers

    9.3. To describe their opinions about mentors

    9.4. To describe their satisfaction about co-ordinating schools

10. Ability to know specific facts about supervisors

    10.1. To state about teaching experience of supervisors at schools

    10.2. To define the evaluation strategies of supervisors in practice teaching course

11. Ability to know the opinions of mentors on practice teaching course

    11.1. To describe their thoughts about practice teaching

    11.2. To describe their satisfaction about student teachers

    11.3. To describe their opinions about supervisors

    11.4. To describe their satisfaction about practice teaching

APPENDIX D

QUESTIONNAIRES

STUDENT TEACHER QUESTIONNAIRE

Değerli Fizik Öğretmeni Adayı;

ODTÜ Eğitim Fakültesinde yapılmakta olan bir araştırma için fizik öğretmeni adaylarına verilen Öğretmenlik Uygulaması dersi ile ilgili bilgilere ve uygulama çalışmaları hakkındaki görüşlerinize ihtiyaç duyulmaktadır. Araştırmanın amacı, Öğretmenlik Uygulaması dersini alan fizik öğretmeni adaylarının bu derse ilişkin görüşlerini almak; ders kapsamında program, yönetim, fiziki koşullar ve iletişimden kaynaklanan sorunları ortaya çıkarmak ve sorunların çözümünü sağlayabilecek önerileri geliştirmektir. Anketteki soruların tamamı Öğretmenlik Uygulaması ile ilgili olup, Okul Deneyimi dersleri ile hiçbir ilişkisi yoktur. Verdiğiniz bilgiler yalnızca araştırma amaçlı kullanılacak ve kesinlikle gizli tutulacaktır. Soruların tümünü samimiyetle cevaplandıracağınızı umut eder, katılımınıza şimdiden teşekkür ederiz.

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Aşağıdaki sorularda sizin için uygun olan seçeneği yuvarlak içine alınız.

1. Öğretmenlik Uygulamasını yaptığınız okul türünü işaretleyiniz.

a) Lise
b) Süper lise
c) Anadolu Lisesi
d) Fen Lisesi
e) Özel Okul
f) Meslek Lisesi
g) Teknik Lise
h) Diğer

2. Öğretmenlik Uygulamasını yaptığınız dönem fakültede öğretmenlik uygulaması dersi dahil aldığınız toplam ders sayısını işaretleyiniz.

a) 1- 3
b) 4-5
c) 6
d) 7
e) 8 ve üze

3. Öğretmenlik Uygulaması süresince uygulama okulunda kaç ders saati bizzat ders verdiniz?

a) 1
b) 2- 4
c) 5- 10
d) 11- 15
e) 16- 20
f) 21- 24
g) 24 ve üzeri

4. Öğretim elemanı, öğretmenlik uygulaması süresince uygulama okulunda sizi kaç ders saati izledi?

a) 1
b) 2- 3
c) 4 ve üzeri

5. Uygulama okulunda bir sınıfta, aynı saatte kaç öğretmen adayı dersi izledi?

a) 1-2
b) 3-4
c) 5 ve üzeri

6. Öğretmenlik uygulaması dersinin uygulama okullarında geçirilen süresini nasıl değerlendirirsiniz?

a) Süresi azaltılmalıdır.
b) Süresi uygundur.
c) Süresi arttırılmalıdır.

7. Öğretmenlik uygulaması dersinin fakültede geçirilen süresini nasıl değerlendirirsiniz?

a) Süresi azaltılmalıdır.
b) Süresi uygundur.
c) Süresi arttırılmalıdır.

Aşağıdaki sorular Öğretmenlik Uygulaması dersi çalışmaları ile ilgilidir.

Size uygun olan tek bir yanıtı (X) ile işaretleyin.

No		Evet	Kararsızım	Hayır
8.	Lise fizik öğretim programını öğrenmeye teşvik edildiniz mi?			
9.	Lise fizik dersi ile ilgili bilgileri günlük yaşamla ilişkilendirebileceğiniz örnekler vermeniz istendi mi?			
10.	Fizik dersi ile ilgili kuram, ilke ve kavramları değişik biçimlerde açıklamanız konusunda yönlendirildiniz mi?			
11.	Lise öğrencilerinin düzeylerine uygun sorular hazırlamanız istendi mi?			
12.	Öğrencilerin fizik konularına ilgilerini çekecek ve düşünmelerini sağlayacak farklı etkinlikler hazırlamaya teşvik edildiniz mi?			
13.	Lise fizik konularını öğretebileceğiniz kaynakları değerlendirmeniz istendi mi?			
14.	Ders dışı eğitim etkinliklerini (eğitsel kol çalışmaları, zümreler, nöbet, idari işler...) öğrenmeniz önerildi mi?			
15.	Öğretmenlik mesleği ile ilgili yasa ve yönetmelikleri hakkında bilgi edinmeniz önerildi mi?			
16.	Fizik öğretmeni olarak kendinizi geliştirmenizi sağlayacak fırsatları (yayınlar, seminerler, hizmetiçi eğitim etkinlikleri...) araştırıp öğrenmeniz önerildi mi?			
17.	Öğretmenlik uygulaması çalışmaları için **fakültenizde** laboratuarı veya öğretim teknolojilerini kullanmanıza izin veriliyor mu?			
18.	**Öğretim elemanı,** öğretmenlik uygulamasının önemi ve uyulması gereken kurallar hakkında bilgi verdi mi?			
19.	**Uygulama okulu** laboratuarında fizik dersi ile ilgili gereksinim duyduğunuz araç-gereçler var mıydı?			
20.	**Uygulama okulunda** fizik derslerinde kullanılabilecek öğretim teknolojileri (tepegöz, bilgisayar, projeksiyon...) var mıydı?			
21.	**Öğretim elemanı,** uygulama başlangıcında uygulama boyunca yapılacak etkinlikleri içeren bir plan verdi mi?			

No		Evet	Kararsızım	Hayır
22.	Öğretmenlik uygulamasında yer alacak etkinlikleri, öğretim elemanı ve uygulama öğretmeni ile **birlikte** planladınız mı?			
23.	Sunularınızın hangi kriterlere göre değerlendirileceği size önceden bildirildi mi?			
24.	Öğretmenlik uygulaması dersindeki başarınızın nasıl değerlendirileceği açıklandı mı?			
25.	Öğretim elemanı, **uygulama okulundaki yöneticiler ve uygulama öğretmenleri ile tanıştırdı mı?**			
26.	**Uygulama okulu idaresi**, öğretmen adayı olarak görev ve sorumluluklarınızı bildirdi mi?			
27.	Uygulama okulu idaresi okulu tanıttı mı?			
28.	**Uygulama okulu idaresi**, okulun çeşitli birimlerinden (laboratuar, kütüphane, bilgisayar laboratuarı...) faydalanmanıza izin verdi mi?			
29.	Uygulama okullarında yürüttüğünüz çalışmaları **öğretim elemanı** ile birlikte **her hafta** değerlendirip dönüt alma fırsatı buldunuz mu?			
30.	**Öğretim elemanına**, uygulama sonunda öğretmenlik uygulaması boyunca yaptığınız çalışmaları ve raporları içeren bir dosya teslim etmeniz istendi mi?			
31.	**Öğretim elemanı,** izlediği derslerle ilgili olarak yaptığı gözlemlerin sonuçlarını dersten sonra sizinle birlikte değerlendirdi mi?			
32.	Öğretmenlik uygulaması dersinde mesleki yeterliliğinizi geliştirmek için **bireysel çaba** gösterdiniz mi?			
33.	Uygulama boyunca uygulama öğretmeniniz ve öğretim elemanı ile **işbirliği** içinde çalıştınız mı?			
34.	Okulda yapılan öğretim dışı etkinliklerde (nöbet tutma, notları işleme, yoklama fişlerini işleme...) hiç görev aldınız mı?			
35.	**Uygulama öğretmeniniz,** size gerekli olabilecek konularda (okul, araç- gereç, kaynak kitaplar, öğretim programı, öğrenciler...) bilgi verdi mi?			

No		Evet	Kararsızım	Hayır
36.	**Uygulama öğretmeniniz,** izlediği derslerle ilgili olarak yaptığı gözlemlerin sonuçlarını dersten sonra sizinle birlikte değerlendirdi mi?			
37.	**Uygulama öğretmeniniz**, mesleki yeterliliğinizi genel olarak değerlendirip dönüt verdi mi?			
38.	Sınıfta uygulama öğretmeniniz olmadan ders işleme fırsatınız oldu mu?			
39.	**Uygulama öğretmeniniz**, kendisi için yeni ya da farklı olan öğretim tekniklerini uygulamanız için izin verdi mi veya teşvikte bulundu mu?			
40.	**Uygulama okulunda** değişik sınıfların derslerine girdiniz mi?			
41.	Daha önce öğretmenlik meslek derslerinde kazanmış olduğunuz becerileri, öğretmenlik uygulamanızda sergileyebildiğinizi düşünüyor musunuz?			
42.	Uygulama okulunda **kendinizi gerçek bir öğretmen gibi hissettiniz mi?**			
43.	Öğretmenlik uygulaması çalışmalarına gereken önemi verdiğinize inanıyor musunuz?			
44.	**Öğretim elemanının** öğretmenlik uygulaması kapsamındaki sorumluluklarını yerine getirdiğine inanıyor musunuz?			
45.	**Öğretim elemanı**, öğretmen adayı yetiştirmek konusunda yeterli deneyime/ bilgiye sahip miydi?			
46.	Sizce **fakülteniz** öğretmenlik uygulaması ile ilgili sorumluluklarını yerine getiriyor mu?			
47.	**Fakülteniz** öğretmen adaylarının eğitimi için uygun fiziki koşullara sahip mi?			
48.	Sizce **uygulama okulunuz** öğretmenlik uygulaması ile ilgili sorumluluklarını yerine getiriyor mu?			
49.	**Uygulama okulunuz** öğretmen adaylarının eğitimi için uygun fiziki koşullara sahip miydi?			
50.	**Uygulama öğretmeninizin** öğretmenlik uygulamasına ilişkin sorumluluklarını yerine getirdiğine inanıyor musunuz?			
51.	**Uygulama öğretmeniniz**, öğretmen adayı yetiştirmek konusunda yeterli deneyime/ bilgiye sahip miydi?			

SUPERVISOR QUESTIONNAIRE

Değerli Öğretim Elemanı;

ODTÜ Eğitim Fakültesi OFMAE bölümünde yapılmakta olan bir araştırma için fizik öğretmeni adaylarına verilen Öğretmenlik Uygulaması dersi ile ilgili bilgilere ve uygulama çalışmaları hakkındaki görüşlerinize ihtiyaç duyulmaktadır. Araştırmanın amacı, Öğretmenlik Uygulaması dersini alan fizik öğretmeni adayları ile bu dersi veren uygulama öğretmenleri ve öğretim elemanlarının Öğretmenlik Uygulaması dersine ilişkin görüşlerini almak; bu ders kapsamında program, yönetim, fiziki koşullar ve iletişimden kaynaklanan sorunları ortaya çıkarmak ve bu sorunların çözümünü sağlayabilecek önerileri geliştirmektir. Bu araştırma, öğretmen yetiştiren ve istihdam eden kurumlarda ortaklaşa yürütülen Öğretmenlik Uygulamasının kuramsal esaslarına açıklık kazandırmak, dersin programı kapsamındaki etkinlikleri analiz etmek, uygulama çalışmalarında karşılaşılan sorunları tespit etmek ve bunlara çözüm önerileri sunmak açısından önemlidir. Anket kapsamındaki soruların tamamı Öğretmenlik Uygulaması ile ilgili olup, Okul Deneyimi dersleri ile hiçbir ilişkisi yoktur. Ankette verdiğiniz bilgiler yalnızca araştırma amaçlı kullanılacak ve kesinlikle gizli tutulacaktır. Soruların tümünü samimiyetle cevaplandıracağınızı umut eder, katılımınıza şimdiden teşekkür ederiz.

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Aşağıdaki sorularda sizin için uygun olan seçeneği yuvarlak içine alınız.

1. Daha önce ilk veya ortaöğretim kurumlarında öğretmen olarak görev yaptınız mı?
a) Evet b) Hayır

2. Öğretmenlik Uygulaması dersi için sorumluluğunuza kaç tane fizik öğretmeni adayı verildi?
a) 1- 10 b) 10- 15 c) 16 ve üzeri

3. Uygulama okullarında herbir uygulama öğretmenine verilen öğretmen adayı sayısı en çok kaçtır?
a) 1-3 b) 4-6 c) 7 ve üzeri

4. Öğretmenlik Uygulaması boyunca herbir fizik öğretmeni adayını uygulama okulunda ders verirken kaç ders saati izlersiniz?
a) 1 b) 2-3 c) 4 ve üzeri

5. Uygulama okulunda yapılan çalışmaları tartışmak ve değerlendirmek için fizik öğretmeni adayları ile hangi sıklıkta görüşürsünüz?
a) Her hafta b) Ayda 2 defa c) Ayda 1 defa
d) Dönem boyunca 2 defa e) Dönem boyunca 1 defa f) Hiç

6. Öğretmenlik Uygulaması boyunca uygulama çalışmalarını değerlendirmek için uygulama öğretmenleriyle hangi sıklıkta görüşürsünüz?
a) Her hafta b) Ayda 2 defa c) Ayda 1 defa
d) Dönem boyunca 2 defa e) Dönem boyunca 1 defa f) Hiç

7. Öğretmenlik Uygulaması dersi sonunda fizik öğretmen adaylarının başarısını değerlendirirken kullandığınız ölçütler nelerdir?*(birden fazla işaretleyebilirsiniz)*
a) Öğretmenlik uygulaması dosyası b)Uygulama sırasında edinilen gözlem sonuçları
c) Aday bizzat ders verirken doldurulan gözlem formları d) Uygulama öğretmeninin değerlendirme sonucu
e) Seminer dersi çalışmaları f) Diğer (belirtiniz) .....

8. Öğretmenlik uygulaması dersinin uygulama okullarında geçirilen süresini nasıl değerlendirirsiniz?
a) Süresi azaltılmalıdır. b) Süresi uygundur. c) Süresi arttırılmalıdır.

9. Öğretmenlik uygulaması dersinin fakültede geçirilen süresini nasıl değerlendirirsiniz?
a) Süresi azaltılmalıdır. b) Süresi uygundur. c) Süresi arttırılmalıdır.

Aşağıdaki sorular Öğretmenlik Uygulaması programı kapsamında fizik öğretmeni adaylarına kazandırmaya çalıştığınız davranışlar ile ilgilidir. Size uygun olan tek bir yanıtı (X) ile işaretleyin.

No		Evet	Kararsızım	Hayır
10.	Lise fizik öğretim programını anlamalarını sağlayacak çalışmalara yönelttiniz mi?			
11.	Lise fizik dersi ile ilgili bilgileri günlük yaşamla ilişkilendirebilecekleri örnekler vermelerini istediniz mi?			
12.	Fizik ile ilgili kuram, ilke ve kavramları değişik biçimlerde açıklama konusunda yönlendirdiniz mi?			
13.	Lise öğrencilerinin düzeylerine uygun sorular hazırlamalarını istediniz mi?			
14.	Öğrencilerin fizik konularına ilgilerini çekecek ve düşünmelerini sağlayacak farklı etkinlikler hazırlamaya teşvik ettiniz mi?			
15.	Lise fizik konularını öğretebilecekleri kaynakları değerlendirmelerini istediniz mi?			
16.	Ders dışı eğitim etkinliklerini (eğitsel kol, zümreler, nöbet, idari işler...) öğrenmelerini önerdiniz mi?			
17.	Öğretmenlik mesleği ile ilgili yasa ve yönetmelikler hakkında bilgi edinmelerini önerdiniz mi?			
18.	Fizik öğretmeni olarak kendilerini geliştirmelerini sağlayacak fırsatları (yayınlar, seminerler, hizmetiçi eğitim etkinlikleri...) araştırıp öğrenmelerini önerdiniz mi?			

Aşağıdaki sorular öğretmenlik uygulaması çalışmaları ile ilgilidir.

19.	Öğretmen adaylarına öğretmenlik uygulamasının dayandığı temeller hakkında bilgi verdiniz mi?			
20.	Öğretmen adaylarına uygulama başlangıcında uygulama boyunca yapılacak etkinlikleri içeren bir **plan** verdiniz mi?			

No		Evet	Kararsızım	Hayır
21.	Öğretmenlik uygulamasında yer alacak etkinlikleri, uygulama öğretmeni ve öğretmen adayları ile **birlikte** planladınız mı?			
22.	Öğretmen adaylarına sunularının hangi kriterlere göre değerlendirileceğini önceden bildirdiniz mi?			
23.	Öğretmen adaylarına uygulama çalışmalarındaki başarılarının nasıl değerlendirileceğini açıkladınız mı?			
24.	Uygulama okullarında yürütülen çalışmaları öğretmen adayı ile birlikte **her hafta** değerlendirip dönüt verme fırsatı buldunuz mu?			
25.	Öğretmen adaylarından, dönem sonunda uygulama boyunca yaptıkları çalışmaları ve raporları içeren bir dosya teslim etmelerini istediniz mi?			
26.	Öğretmen adaylarının öğretmenlik meslek derslerinde kazanmış oldukları becerileri öğretmenlik uygulamasında sergileyebildiklerini düşünüyor musunuz?			
27.	**Eğitim Fakültesi- Okul İşbirliği** için, fakültenizde uygulama çalışmalarına ilişkin toplantı/kurs/ seminer düzenlendi mi?			
28.	Uygulama okulu idarelerine uygulama öğretmenlerinin seçimiyle ilgili kriter bildirdiniz mi?			
29.	Okulların imkanlarının uygulama çalışmaları için uygunluğunu önceden incelediniz mi?			
30.	Uygulama öğretmenlerini öğretmen adayları ile çalışma konusunda genelde istekli buldunuz mu?			
31.	Öğretmen adayları ve uygulama öğretmenleriyle uygulama boyunca **işbirliği** içinde çalıştınız mı?			
32.	Öğretmenlik uygulaması programını geliştirmek için uygulama öğretmenlerine önerilerini sordunuz mu?			
33.	Öğretmen adaylarının çoğu, öğretmenlik uygulaması dersinde mesleki yeterliliklerini geliştirmek için **bireysel çaba** gösterdiler mi?			
34.	Uygulama okullarında izlediğiniz derslerle ilgili gözlem sonuçlarınızı, öğretmen adayları ile birlikte değerlendirdiniz mi?			
35.	Öğretmenlik uygulaması çalışmaları için, öğretmen adaylarına **fakültede** laboratuarı veya öğretim teknolojilerini kullanmalarına izin veriliyor mu?			

No		Evet	Kararsız	Hayır
36.	**Uygulama okulu idarelerinin** uygulama çalışmaları kapsamındaki sorumluluklarını yerine getirdiklerine inanıyor musunuz?			
37.	**Uygulama okullarının** öğretmen adaylarının eğitimi için uygun fiziki koşullara sahip olduğunu düşünüyor musunuz?			
38.	**Fakülteniz** öğretmen adaylarının eğitimi için uygun fiziki koşullara sahip mi?			
39.	**Uygulama öğretmenlerinin** uygulama çalışmaları kapsamındaki sorumluluklarını yerine getirdiklerine inanıyor musunuz?			
40.	Uygulama öğretmenleri, öğretmen adaylarını yetiştirme konusunda **yeterli bilgi** veya **deneyime** sahip miydi?			
41.	**Öğretmen adaylarının çoğunun,** Öğretmenlik Uygulaması dersine gereken önemi verdiklerine inanıyor musunuz?			

Aşağıdaki soruları cevaplandırınız.

42. Eğitim Fakültesi-Uygulama Okulu İşbirliği Programı, Öğretmenlik Uygulaması kapsamında ne ölçüde gerçekleştiriliyor? Açıklar mısınız?

43. Öğretmenlik Uygulaması dersinin verimliliğini engelleyen problemler ve bu problemlere çözüm önerileriniz nelerdir?

MENTOR QUESTIONNAIRE

Değerli Uygulama Öğretmeni;

ODTÜ Eğitim Fakültesi OFMAE bölümünde yapılmakta olan bir araştırma için fizik öğretmeni adaylarına verilen Öğretmenlik Uygulaması dersi ile ilgili bilgilere ve uygulama çalışmaları hakkındaki görüşlerinize ihtiyaç duyulmaktadır. Araştırmanın amacı, Öğretmenlik Uygulaması dersini alan fizik öğretmeni adayları ile bu dersi veren uygulama öğretmenleri ve öğretim elemanlarının Öğretmenlik Uygulaması dersine ilişkin görüşlerini almak; bu ders kapsamında program, yönetim, fiziki koşullar ve iletişimden kaynaklanan sorunları ortaya çıkarmak ve bu sorunların çözümünü sağlayabilecek önerileri geliştirmektir. Anket kapsamındaki soruların tamamı Öğretmenlik Uygulaması ile ilgili olup, Okul Deneyimi dersleri ile hiçbir ilişkisi yoktur. Ankette verdiğiniz bilgiler yalnızca araştırma amaçlı kullanılacak ve kesinlikle gizli tutulacaktır. Soruların tümünü samimiyetle cevaplandıracağınızı umut eder, katılımınıza şimdiden teşekkür ederiz.

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Aşağıdaki sorularda sizin için uygun olan seçeneği yuvarlak içine alınız.

1. Ne kadar süredir öğretmen olarak görev yapmaktasınız?
   a) 1-5 b) 6-10 c) 11 ve üzeri
2. Öğretmenlik Uygulaması dersi için sorumluluğunuza kaç tane fizik öğretmeni adayı verildi?
   a) 1-3 b) 4-6 c) 7 ve üzeri
3. Öğretmenlik Uygulaması süresince herbir fizik öğretmeni adayı uygulama okulunda ortalama kaç ders saati bizzat ders verir?
   a) 1 d) 11- 15 g) 24 ve üzeri
   b) 2- 4 e) 16- 20
   c) 5- 10 f) 21- 24
4. Öğretmenlik Uygulaması boyunca uygulama çalışmalarını değerlendirmek için öğretim görevlileriyle genelde hangi sıklıkta görüşürsünüz?
   a) Her hafta c) Ayda 2 defa e) Dönem boyunca 1 defa
   b) Ayda 1 defa d) Dönem boyunca 2 defa f) Hiç
5. Bir sınıfınızda, aynı saatte, genelde kaç öğretmen adayı dersi izledi?
   a) 1-2 b) 3-4 c) 5 ve üzeri
6. Öğretmenlik Uygulaması boyunca herbir fizik öğretmeni adayını sınıfta ders verirken kaç ders saati izlersiniz?
   a) 1 b) 2-3 c) 4 ve üzeri
7. Öğretmenlik Uygulaması sonunda fizik öğretmen adaylarının başarısını değerlendirirken kullandığınız ölçütler nelerdir? (birden fazlasını işaretleyebilirsiniz)
   Öğretmenlik uygulaması dosyası
   Uygulama sırasında edinilen gözlem sonuçları
   Aday bizzat ders verirken doldurulan gözlem formları
   Diğer (belirtiniz).....
8. Öğretmenlik uygulaması dersinin uygulama okullarında geçirilen süresini nasıl değerlendirirsiniz?
   a) Süresi azaltılmalıdır. b) Süresi uygundur. c) Süresi arttırılmalıdır.
9. Öğretmenlik uygulaması dersinin fakültede geçirilen süresini nasıl değerlendirirsiniz?
   a) Süresi azaltılmalıdır. b) Süresi uygundur. c) Süresi arttırılmalıdır

Aşağıdaki sorularda size uygun olan tek bir yanıtı (X) ile işaretleyin.

No		Evet	Kararsızı	Hayır
10.	Okulunuzun öğretmen adaylarının eğitimi için uygun koşullara sahip olduğunu düşünüyor musunuz?			
11.	Okul laboratuarında fizik dersi ile ilgili ihtiyaç duyduğunuz araç-gereçler var mı?			
12.	Okulunuzda fizik derslerinde kullanılabilecek öğretim teknolojileri var mı?			
13.	Fizik derslerinde öğretim teknolojilerinden (tepegöz, bilgisayar,...) yararlanır mısınız?			
14.	Okullarda uygulama çalışmaları ile ilgili, fakülte tarafından düzenlenmiş bir toplantı/ kurs /seminere davet edildiniz mi?			
15.	Okulunuz idaresini öğretmen adayları ile çalışma konusunda istekli buluyor musunuz?			
16.	Öğretmenlik uygulamasında yer alacak etkinlikleri, öğretim elemanları ve öğretmen adayları ile birlikte planladınız mı?			
17.	Uygulama boyunca öğretmen adayları ve öğretim elemanlarıyla sürekli bir işbirliği içinde çalıştınız mı?			
18.	Öğretim görevlilerinin uygulama çalışmalarındaki ilgisini yeterli buluyor musunuz?			
19.	Öğretmen adayları uygulama boyunca yaptıkları çalışmaları (planlar, yönetmelikler, raporlar...) içeren bir dosya tuttular mı?			
20.	Sınıftaki öğrencilerinizi aday öğretmenlerin gelişi hakkında bilgilendirdiniz mi?			
21.	Öğretmenlik uygulaması çalışmaları için, öğretmen adaylarına okulda laboratuarı veya öğretim teknolojilerini kullanmaları için izin veriliyor mu?			
22.	İzlediğiniz derslerle ilgili gözlem sonuçlarınızı, öğretmen adayları ile birlikte değerlendirdiniz mi?			

		Evet	Kararsızım	Hayır
23.	Öğretmen adaylarını okuldaki zümre toplantıları ya da öğretim dışı aktivitelere (eğitsel kol, yarışma...) davet etiniz mi veya katılmaya teşvik ettiniz mi?			
24.	Plan konusundaki tecrübelerinizi öğretmen adaylarıyla paylaştınız mı?			
25.	Öğretmen adaylarına gerekli olabilecek konularda (okul, araç- gereç, kaynak kitaplar, öğretim programı, öğrenciler...) bilgi verdiniz mi?			
26.	Sınıf disiplinini sağlamada öğretmen adaylarına öneride bulundunuz mu?			
27.	Öğretmen adaylarının sınıfta siz olmadan ders işlemelerine fırsat verdiniz mi?			
28.	Öğretmen adaylarını, sizin için yeni ya da farklı olan öğretim tekniklerini denemeleri için teşvik ettiniz mi veya izin verdiniz mi?			
29.	Uygulama süresince öğretmen adaylarının mesleki yeterlilik açısından zayıf veya güçlü yönlerini tanıyabildiniz mi?			
30.	Öğretmen adaylarının herbirine, genel olarak mesleki yeterliliği hakkında dönüt verdiniz mi?			
31.	Sınıftaki öğrencilerin çoğu, öğretmen adaylarını gerçek öğretmenleri kadar ciddiye aldılar mı?			
32.	Öğretmen adaylarını farklı sınıfları izlemeye teşvik ettiniz mi?			
33.	Öğretmen adaylarına, idari işlerle ilgili (yoklama fişlerini işleme, not girişi yapma, nöbet tutma, ...) görev verdiniz mi?			
34.	Uygulama okulu idarelerinin uygulama çalışmaları kapsamındaki sorumluluklarını yerine getirdiklerine inanıyor musunuz?			
35.	Öğretmen adaylarının çoğunun, Öğretmenlik Uygulaması dersine gereken önemi verdiklerine inanıyor musunuz?			
36.	Fakülte idarelerinin uygulama çalışmaları kapsamındaki sorumluluklarını yerine getirdiklerine inanıyor musunuz?			
37.	Öğretim elemanlarının uygulama çalışmaları kapsamındaki sorumluluklarını yerine getirdiklerine inanıyor musunuz?			

Aşağıdaki soruları cevaplandırınız.

38. Öğretmenlik Uygulaması dersinin verimliliğini engelleyen problemler ve bu problemlere çözüm önerileriniz nelerdir?

39. Uygulama öğretmenliği deneyiminin meslekteki profesyonel gelişiminize katkısı oldu mu? Nasıl?

APPENDIX E

OFFICIAL PERMISSION DOCUMENTS

In order to apply the instruments in the different faculties of education, the supervisor and the researcher wrote a petition to the chairperson of education faculty of METU. Then The chairperson wrote another petition to each of the head of education faculties stated by the researcher and the supervisor. During direct administration these two forms were used as official permission. For the questionnaires sent to universities out of Ankara, these two documents were attached to the instruments together with instruction form for implementation. The photocopies of the official permission documents prepared by the supervisor, researcher and the head of education faculty of METU are given in the following pages.

16 / 05 / 2005

ORTA DOĞU TEKNİK ÜNİVERSİTESİ

OFMAE BÖLÜM BAŞKANLIĞINA,

ODTÜ Eğitim Fakültesi OFMAE bölümünde yapılan bir araştırma için Eğitim Fakültelerinde, OFMAE bölümü **Fizik Öğretmenliği** programlarındaki **Öğretmenlik Uygulaması** dersini alan fizik öğretmeni adayları ile bu dersi veren öğretim elemanlarının görüşlerine ihtiyaç duyulmaktadır. Araştırmanın amacı, fizik öğretmeni adayları ile öğretim elemanlarının **Öğretmenlik Uygulaması** dersine ilişkin görüşlerini almak; bu ders kapsamında program, yönetim, fiziki koşullar ve iletişimden kaynaklanan sorunları ortaya çıkarmak ve bu sorunların çözümünü sağlayabilecek önerileri geliştirmektir. Bu araştırma, öğretmen yetiştiren ve istihdam eden kurumlarda ortaklaşa yürütülen Öğretmenlik Uygulamasının kuramsal esaslarına açıklık kazandırmak, dersin programı kapsamındaki etkinlikleri analiz etmek, uygulama çalışmalarında karşılaşılan sorunları tespit etmek ve bunlara çözüm önerileri sunmak açısından önemlidir. Türkiye'de Fizik Öğretmenliği programı olan 11 üniversitenin eğitim fakültesinin listesi aşağıdadır. Anketlerimizin bu bölümlerdeki **Öğretmenlik Uygulaması** dersini alan fizik öğretmeni adayları ile bu dersi veren öğretim elemanlarına uygulanması için ilgili OFMAE bölümlerine yazı yazılmasını saygılarımla arz ederim.

Nihan SEÇKİN
Yüksek Lisans Öğrencisi

Yrd. Doç. Dr. Ali ERYILMAZ
Tez Danışmanı

1. Atatürk Üniversitesi, Kazım Karabekir Eğitim Fakültesi
2. Balıkesir Üniversitesi, Necatibey Eğitim Fakültesi
3. Boğaziçi Üniversitesi, Eğitim Fakültesi
4. Dicle Üniversitesi, Eğitim Fakültesi
5. Dokuz Eylül Üniversitesi, Buca Eğitim Fakültesi
6. Gazi Üniversitesi, Gazi Eğitim Fakültesi
7. Hacettepe Üniversitesi, Eğitim Fakültesi
8. Karadeniz Teknik Üniversitesi, Fatih Eğitim Fakültesi
9. Marmara Üniversitesi, Atatürk Eğitim Fakültesi
10. Selçuk Üniversitesi, Eğitim Fakültesi
11. Yüzüncü Yıl Üniversitesi, Eğitim Fakültesi

T.C. ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

EĞİTİM FAKÜLTESİ
FACULTY OF EDUCATION
ORTAÖĞRETİM FEN VE MATEMATİK ALANLARI EĞİTİMİ BÖLÜMÜ
DEPARTMENT OF SECONDARY SCIENCE AND MATHEMATICS EDUCATION

06531 Ankara/TURKEY
TEL: (312) 2104049
FAX: (312) 2101257

Sayı/Reference:

Tarih/Date: 16/05/2005

[redacted] ÜNİVERSİTESİ EĞİTİM FAKÜLTESİ
OFMAE BÖLÜM BAŞKANLIĞINA,

Bölümümüz öğretim üyelerinden Ali Eryılmaz'ın yürüttüğü tez çalışması ile ilgili olarak, Fizik Öğretmenliği programınızdaki Öğretmenlik Uygulaması dersini alan fizik öğretmeni adayları ile bu dersi veren öğretim elemanlarına ekteki anketlerin uygulanmasında yardımcı olursanız seviniriz.

Saygılarımla,

Prof. Dr. Ömer GEBAN
Ortaöğretim Fen ve Matematik Alanları Eğitimi Bölümü Başkanı

APPENDIX E

INSTRUCTION FORM

ANKETİN UYGULANMASINA İLİŞKİN YÖNERGE

Araştırma için, biri Öğretmenlik Uygulaması dersini alan fizik öğretmeni adaylarına diğeri de bu dersi veren öğretim elemanlarına olmak üzere iki farklı anket grubu hazırlanmıştır. Anketler gönderilen zarfın içindedir.

Fizik öğretmeni adaylarına uygulanacak anketler için 15 dakika süre verilmesi yeterli olacaktır. Anketler, adaylara derste dağıtılarak uygulanabilineceği gibi; adaylara verilip ertesi gün mutlaka geri getirmeleri şartıyla katılım sağlanabilir. Araştırmanın amacına ulaşması açısından, katılımcılara uygulama başlangıcında araştırmanın amacı ve önemi açıklanarak anketteki soruların tümünü samimiyetle cevaplandırmaları ve verdikleri bilgilerin gizli tutulacağı hatırlatılmalı; isim yazmaları istenmemelidir. Anketler öğretmen adayları ve öğretim elemanlarına uygulandıktan sonra toplanıp; ekteki uygulama formu doldurulmalıve yeniden zarfa konulmalıdır. Haftaiçi 15:30, Cumartesi 13:30'a kadar 444 99 99 Alo Yurtiçi Kargo'yu arayıp gönderiniz olduğunu bildirdiğinizde, kargo servisi bulunduğunuz yerden zarfı alacaktır. Gönderiyi Nihan Seçkin adına aşağıdaki adrese ödemeli olarak yapınız. Anketleri en geç 24.06.2005 tarihine kadar ulaştırmanız rica olunur.

Anket veya uygulama ile ilgili soru ya da sorunlarınız için; 0532 701 75 98 nolu telefondan Nihan Seçkin' i ve 0312 210 40 55 nolu telefondan Yrd. Doç. Dr. Ali Eryılmaz' ı arayabilir veya nihancetin106@hotmail.com ve eryılmaz@metu.edu.tr e-posta adreslerinden bize ulaşabilirsiniz. Katkılarınızdan dolayı şimdiden teşekkür ederiz.

Nihan SEÇKİN
e- mail: nihancetin106@hotmail.com
Tel: 0532 701 75 98

Yrd. Doç. Dr. AliERYILMAZ
e-mail: eryilmaz@metu.edu.tr
Tel: 0312 210 40 55

Gönderim Adresi:
Nihan SEÇKİN
İvedik Cad. Bankacılar Sok. İpek Sitesi, D Blok No: 18/12
Yenimahalle- ANKARA

UYGULAMA FORMU

Üniversite / Fakülte Adı: .....

Derse Kayıtlı Öğretmen Adayı Sayısı: .....

Dersi Veren Öğretim Elemanı Sayısı: .....

Uygulanan Öğretmen Adayı Anketi Sayısı: .....

Uygulanan Öğretim Elemanı Anketi Sayısı: .....

APPENDIX G

DATA SHEET

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30	01	01	01	01	01	01	01	01	01	01	01	01	01						
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32	02	01	01	01	02	01	01	01	01	01	01	01	01						
33	01	01	01	01	01	01	01	01	02	01	01	01	01						
34	01	01	02	03	02	01	01	01	01	03	01	02	03						
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36	01	03	01	01	02	01	01	01	02	03	03	01	02						
37	03	01	02	01	01	01	01	03	03	03	01	03	03						
38	01	02	02	01	02	02	01	02	02	01	01	01	02						
39	01	01	02	01	01	01	01	02	01	01	01	01	01						
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41	02	01	02	01	01	03	01	02	02	01	01	03	03						
42	01	01	01	01	01	01	01	01	01	02	02	01	01						
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46	02	01	01	02	01	01	01	01	01	02	01	02	01						
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58	-	-	-	-	-	-	03	03	03	03	-	-	-						
59	-	-	-	-	-	-	01	03	01	01	-	-	-						
60	-	-	-	-	-	-	01	02	01	01	-	-	-						
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66	01	01	03	03	02	03	01	02	02	02	01	01	01						
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	A39	A40	A41	A42	A43	A44	A45	A46	A47	A48	A49	A50	A51						
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119	01	01	01	01	01	01	01	01	01	01	01	01	01						
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124	03	01	03	03	02	02	01	02	03	01	03	03	03						
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127	03	01	01	01	01	01	01	01	01	01	01	01	01						
128	03	01	01	01	02	01	01	01	01	01	01	02	02						
129	03	01	01	01	02	03	02	03	02	02	02	01	01						

	A39	A40	A41	A42	A43	A44	A45	A46	A47	A48	A49	A50	A51						
130	01	02	01	01	01	01	01	01	01	01	01	01	01						
131	01	01	01	01	02	01	01	01	01	02	01	02	02						
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136	02	03	02	01	01	01	01	01	02	03	03	03	03						
137	01	01	02	01	01	01	01	01	01	01	01	01	01						
138	01	01	02	01	02	01	01	02	01	02	01	02	02						
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142	01	01	01	01	01	01	01	01	01	02	02	01	01						
143	01	01	01	02	01	01	01	02	01	01	01	01	01						
144	01	01	01	01	01	01	01	01	03	02	01	02	02						
145	03	03	01	01	01	01	01	01	02	01	01	01	01						

DATA SHEET OF SUPERVISORS

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19
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2	02	03	02	01	01	01	.	02	02	01	01	01	01	01	02	02	01	01	02
3	01	01	02	01	01	04	.	02	02	01	01	01	01	01	01	01	01	03	01
4	01	01	02	02	01	02	.	02	02	01	01	01	01	01	01	01	01	01	01
5	02	01	03	01	01	05	.	02	01	03	03	03	01	01	03	01	01	03	01
6	02	01	03	01	01	05	.	03	03	01	03	03	01	03	01	01	01	02	01
7	01	03	02	02	01	01	.	02	02	01	01	01	01	01	01	01	01	01	01
8	02	03	02	02	01	01	.	02	03	01	01	01	01	01	02	02	02	01	01
9	01	03	01	01	01	05	.	.	03	01	01	01	01	01	01	01	01	01	01
10	01	01	03	01	01	03	.	03	02	01	01	01	01	01	01	01	01	01	01
11	01	01	03	01	04	.	.	02	02	01	01	01	01	01	01	03	01	01	01
12	01	02	02	01	04	04	.	02	02	01	01	01	03	01	03	03	01	03	01
13	02	02	01	01	01	01	.	02	02	01	01	01	01	01	03	01	03	01	01
14	01	02	01	01	01	04	.	02	02	01	01	01	01	01	02	01	03	02	01

	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33	A34	A35	A36	A37	A38
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2	01	02	01	01	01	01	01	02	02	01	02	01	02	01	01	02	02	01	01
3	01	01	01	01	01	01	01	01	03	01	01	01	03	01	01	01	02	01	01
4	02	02	01	01	01	02	01	03	03	02	01	01	01	02	01	01	02	02	01
5	01	01	01	01	01	01	01	03	03	01	01	01	01	02	01	01	01	02	01
6	03	03	01	01	02	02	02	03	03	01	02	02	03	01	01	01	01	03	02
7	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	02	02	02	01
8	01	01	01	02	02	01	02	01	02	02	02	02	02	02	02	02	02	02	02
9	01	01	01	01	01	01	01	01	01	01	03	02	01	01	01	01	03	01	01
10	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
11	01	03	01	01	01	01	01	01	01	03	02	01	01	01	01	01	03	02	01
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13	01	02	01	01	02	01	02	01	02	03	01	03	01	01	01	01	01	01	01
14	01	02	01	01	01	01	01	01	02	01	01	02	01	01	01	01	01	02	01

	A39	A40	A41																
1	02	02	02																
2	02	02	01																
3	02	01	02																
4	01	02	02																
5	02	02	02																
6	02	02	01																
7	02	02	02																
8	02	02	02																
9	03	03	01																
10	01	01	01																

11	01	03	03															
12	01	01	01															
13	01	01	01															
14	01	02	01															

DATA SHEET OF MENTORS

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19
1	03	01	01	05	01	01	.	02	02	01	01	01	01	01	01	03	03	03	01
2	02	01	03	05	01	01	.	02	02	01	01	01	01	02	02	03	01	01	01
3	03	01	01	05	01	01	.	02	01	01	01	01	01	01	02	03	03	03	01
4	03	02	02	04	01	02	.	01	01	01	03	03	03	01	02	02	03	03	01
5	03	01	01	04	03	01	.	01	01	01	03	03	03	03	03	03	03	03	01
6	03	01	01	04	01	01	.	02	02	01	01	03	03	01	01	03	03	03	01
7	02	01	03	04	01	01	.	02	02	01	03	03	03	02	02	03	01	01	01
8	03	01	01	05	01	01	.	02	01	01	03	03	03	01	02	03	03	03	01
9	03	02	02	04	01	02	.	01	01	01	01	01	01	01	02	02	03	03	01
10	03	01	01	05	03	01	.	01	01	01	03	03	03	03	03	03	03	03	01

	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33	A34	A35	A36	A37	
1	01	01	01	01	01	01	01	03	01	01	01	01	01	03	01	01	03	01	
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7	01	03	01	03	02	02	01	03	03	02	03	02	01	03	02	01	01	01	
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9	01	01	01	03	01	01	01	03	01	01	01	01	01	01	01	01	03	03	
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