

TO DEVELOP THE SKILLS OF BEING A TEACHER AS A RESEARCHER; “FIELD STUDY” COURSE

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ABSTRACT

In ‘Field Study’ course, student teachers are discussed the process of scientific research in a very detailed way. They are expected to gain the abilities to do research, define research problems and aims, select data collection tools, analyze the data, report the results and make suggestions. In this paper, Field Study course was examined in terms of outcomes the mentioned skills to be a researcher for science student teachers in Fatih Faculty of Education, Turkey.

Interviews were conducted with three academic lecturers and six science student teachers. There were specific matters to evaluate the data, gained from interviews and document analysis of student teachers’ projects such as topics, aims and the skills that student teachers gained. The findings were categorized under the following headlines: the developed skills of student teachers, problems faced student teachers during development of the projects and suggestions on implementations of the course. The paper was ended some suggestions for student teachers and tutors.

Key words: Field Study, student teachers, teaching, research

BİR ARAŞTIRMACI OLARAK ÖĞRETMEN OLMA BECERİLERİNİ GELİŞTİRMEK İÇİN ALAN ÇALIŞMASI KURSU

ÖZET

‘Alan Çalışması’ kursunda, öğrenci öğretmenler çok detaylı bir şekilde bilimsel araştırma süreci olarak tartışıldı. Bu araştırma yapma becerisini kazanmak için, araştırma sorunlar ve hedefleri veri toplama araçları, tanımlamak veri analiz sonuçlarını rapor ve öneriler yapılması gereklidir. Bu makalede, Alan Çalışmasında ders sonuçları açısından bahsedilen beceriler, Fatih Eğitim Fakültesi fen bilimleri öğrenci öğretmenleri bir araştırmacı olarak incelenmiştir.

Söyleşiler üç akademik öğretim elemanı ve altı fen bilimleri öğrenci öğretmenleri ile yapılmıştır. Bu verileri değerlendirmek için belirli konularda röportajları ve öğrenci öğretmen projeleri belge analizleri konu, amaç ve öğrenci öğretmenlerin becerileri kazanıldı. Bulgular aşağıdaki başlıklar altında kategorize edildi: öğrenci öğretmenlerin gelişim becerileri ve projeler sırasında öğrenci öğretmenlerin sorunlarla karşı karşıya kalması ve tabii ki uygulamaları üzerinde öneriler geliştirilmesidir. Araştırma öğrenci öğretmenler için bazı önerilerle sona erdi.

Anahtar Kelimeler: Alan Çalışması, öğrenci öğretmenler, öğretme, araştırma

Introduction

Teaching is a profession that includes the relationships of theory, research and practice. Today’s’ educational authorities strongly emphasized that a teacher is not

responsible for only teaching. A teacher should be an approach developer, researcher, or a practicer in any necessary situation. In these perspectives, student teachers are aimed to gain main characteristic to be qualified teacher (Çepni

& Akdeniz, 1996; YÖK, 1998; Devocioğlu, 2004). For these reasons, they take many courses to develop their content and pedagogical knowledge on teacher education process. One of the courses is Field Study. In this course, student teachers are discussed the process of scientific research in a very detailed way. Student teachers are expected to gain abilities to do research, to define research problems and aims, to select data collection tools, to analyze data, to report the results and to make suggestions etc.

On these aspects, it is strongly advised that Field Study course is an important stage to gain the characteristics of a teacher as a researcher (Çepni & Akdeniz, 1996; YÖK, 1998; Saka, 2006; Devocioğlu&Akdeniz, 2007). In the content of the course student teachers determine a research problem, conduct a research, gain data, analyze data and finally complete the research. During that research process student teachers worked as a researcher. They determine the criteria for the research methods and their basis, data collection instruments and these instruments' validity and reliability. They also pay attention to the ethic phenomena. That research process can be thought as a preparation for academics and professional development of student teachers. By this way, they think, analyze, critique a problem, conclude findings and suggest solutions. This is a kind of practice to develop knowledge on determining the problems that he/she encounters on teaching process in classroom (Gürses vd., 2005). It is strongly emphasize that this process contributes to student teachers to develop their scientific process skills and main teaching competencies (Çepni&Akdeniz, 1996; Çelik vd., 2004; Saka, 2006).

Based on the arguments above, in this paper, the research projects running at the Department of Physics Education Program in Fatih Faculty of Education Karadeniz

Technical University, are investigated in relation to educate student teachers as researchers. For this aim, the project studies done by different group of student teachers throughout the last four years were evaluated in accordance with their topics, aims and the skills student teachers had gained.

Methodology

The study was carried out in the spring term of the 2006-2007 academic years. A case study methodology was used. To collect the data, document analyzes and interviews were conducted. The research questions and the data tools were showed in Table 1.

Table 1. The research questions and data tools

Research Questions	Interview		Document Analyses
	Lecturer	Student Teacher	Field Study Project (number)
1. What are the aims of Field Study course?	3	6	-
2. What are the specific – intended- aims of the Field Study course to gain the characteristics of a teacher as researcher?	3	6	-
3. What are the gained behaviors of the student teachers at the end of the Field Study course?	3	6	70
Total	3	6	70

In order to explore the student teachers' ideas on the research questions, semi-structured interviews were conducted with three academic lecturers and six physics student teachers. Each interview took

approximately a half hour. All interviews were audio-taped and transcribed. In the context of the research questions firstly 70 research projects which had completed on the Physics Teaching program during the spring and fall terms of 2007, 2006, 2005 and 2004 years were examined by document analyses. The categories were constituted according to the research subjects. The aims of the research projects were defined. The field study projects and interviews were analyzed with qualitative analysis technique.

The findings were categorized under the following headlines:

- I. The data gained from documental analysis of the projects
- II. The data gained from interviews conducted with the lecturers
- III. The data gained from interviews conducted with the physics student teachers.

Findings

- I. The data gained from document analysis

Data gained from documental analysis are given below in Table 2.

Table 2. Example subjects categories and titles of Field Study Projects

Subject Category	Some Titles of Field Study Projects
Physics Teaching	<ul style="list-style-type: none"> ▪ Examining High School Physics Exams Questions According to The Steps of Cognitive Domain and Evaluating. J 2007 ▪ The Achievement Level of High School Students to Make Connections the Physics Subjects With Daily Life Events. June 2006. ▪ The Effects of Mathematics on Physics Learning. June 2006. ▪ Determining Physics Teachers' Attitudes on Laboratory Using. June 2006. ▪ The Physics Teachers' Evaluation and Assessment Approaches June 2005. ▪ The Effects of Studying Methods and Environments on the

	Achievement of Students on High School Physics Lessons. June 2004...
Concept Teaching	<ul style="list-style-type: none"> ▪ Determining the Previous Knowledge of Students for further learning on Optics Subjects. January 2007. ▪ Misconceptions on Mechanic Energy. January 2006. ▪ Determining and Remedying Students' Misconceptions on Newton's Motion Laws. June 2005. ▪ The effects of using models to achievement on physics concepts. O 2005...
Pre-service Teacher Education; Pre-service Teacher Education Program,	<ul style="list-style-type: none"> ▪ A study related to determine physic student teachers' attitude to Special Teaching Methods II course. O 2006. ▪ The sufficiency of Pedagogical training that was applied to student teachers. O 2006. ▪ The problems that student teachers encountered during the school experienced lessons I-II. H 2006. ▪ The reasons of taking special courses for KPSS examination for Student teachers. H 2005. ...
Applications of Contemporary Teaching Approaches	<ul style="list-style-type: none"> ▪ The effects of guide materials for teachers based on multiple intelligence theory to students' physic achievement H 2006. ▪ The Constructivist approach on physic course book; to develop student's workbook... H 2005.
Computer Based Teaching	<ul style="list-style-type: none"> ▪ The effect of computer based teaching to learn. H 2004...
Others...	<ul style="list-style-type: none"> ▪ Attitudes of Physic teachers in high school to in-service teacher education .H 2006. ▪ The problems of the teachers working at private learning center .H 2004...
	<ul style="list-style-type: none"> ▪ June 2007; January 2005; December 2004 etc...

All of the projects had the nature of a scientific research. The main topics researched by the student teachers in these projects were teacher education, physics teaching, concept teaching, applications of contemporary teaching approaches, computer based teaching and the others.

II. The data gained from interviews conducted with the lecturers.

The evaluations of interviews' data gained from the lecturers about the Field Study Course were categorized on the following items; the aims and the outcomes of the course and the expectations from the course.

Table 3. The evaluation of the lecturers' ideas about Field Study Course

		Lectures code		
		L1	L2	L3
The aims	• to understand the nature of science; 'What is the contribution of a research to science?'	X		
	• to gain the identity to be teacher as a researcher	X	X	X
	• to develop awareness	X		X
	• to plan a scientific research, to carry out and to evaluate	X	X	X
	• to determine a problem	X	X	
	• to plan and conduct a scientific research	X		
The outcomes	• to review literature	X	X	X
	• to determine a problem	X	X	X
	• to develop and use data tools		X	
	• to gain knowledge on research methods	X		
	• to plan, conduct and transcript interview		X	X
	• to be in cooperation with university		X	
	• to think teacher as a researcher	X	X	X
Expectations	• to reflect the implications of the nature of teacher as a researcher	X		
	• to do observations	X		
	• to become self-sufficient	X	X	
	• to develop knowledge background	X		X
	• to follow improvements on the subject area		X	
	The lecturers were coded as L1, L2 and L3.			

As it is seen from the Table 3, all of the lecturers thought that Field Study Course aims to gain the identity for the student teachers to be a teacher as a researcher and to plan to carry out and to evaluate a scientific research. For the outcomes of the

course, they stated the items of reviewing literature and determining a problem.

III. The data gained from the interviews conducted with the student teachers

Table 4. The ideas of student teachers on the Aims and the Outcomes of the Course

		ST ₁	ST ₂	ST ₃	ST ₄	ST ₅	ST ₆	
The Aims	• to understand the importance of scientific research	X						
	• to learn the nature of research	X						
	• to gain the identity teachers as a researcher		X	X				
	• to learn the process of a research		X	X	X			
	• to conduct a research					X		
	• to learn writing an article					X		
The outcomes on scientific research process	• to have responsibility on a scientific study	X						
	• to determine research problem(s)	X				X		
	• to write a research abstract	X						
	• to learn research methods		X					
	• to review literature			X		X	X	
	• to learn the process of research			X				
	• to determine the validity and reliability of research data			X	X			
	• to write references						X	
	professional skills	• to develop teaching materials for teachers and students	X	X	X			X
		• to determine students' misconceptions		X	X			
• to develop a test on academic achievement			X	X				
• to develop concept maps				X				
• to conduct action research				X	X	X	X	
The outcomes of	• to develop worksheets						X	
	• to simplify the subject on students' level					X		

The student teachers were coded as ST₁, ST₂...and ST₆.

According to the table 4, one of the aims of the course is defined as learning the process of a research. On the other hand a student teacher indicated that “this course changed their attitudes positively to educational researches and in this way they want to start to investigate the social quality problems systematically encountered by them during their practices, do reflective teaching and plan and implement their own action research projects.”

Discussion And Conclusion

The study focused on the effectiveness of the Field Study course in terms of outcomes the characteristics to the student teachers as researchers.

According to interviews, the main aims of the course were declared as defining a problematic case, doing research on a current study in educational area, doing an action research her/his own class etc. by the lectures and the student teachers. Student teachers said that they developed many scientific process and psychomotor skills such as designing and planning a research, reviewing literature, determining research methods, sample and data tools, analyzing data and writing results during the Field Study course. Besides, doing research in this process has crucial importance for student teachers regarding preparation of their in the context of action research method. These all aims can be identified as the main professional skills related to be teacher as a researcher.

This necessitates student teachers to be an active researcher, an examiner, an analytic, a creative, an objective and a productive teacher.

One of the important expectations at the end of the course is that the physics student teachers should be reflective and qualified teachers as researchers. It is

expected that the teacher as a researcher must use basic scientific research skills to develop professional skills (Aydın et al., 2004). These all skills are necessary for overcoming the problems which the student teacher will encounter in his/her classrooms on their teaching. The lecturers expect that the student teachers would be willing to join any research conducted by the lecturers. Besides, the physics student teachers pointed out that they want to plan any necessary implications during their professional life. They thought that taking part in a research project is very important for them. They stated that they had gained powerful pedagogical voices regarding to teaching, learning and performing a research. Data showed that the student teachers want to use educational researches in their practices and had positive attitudes for researches.

It is concluded that the majority of the aims determined by the lecturers were reached. Pre-service teacher education courses have critical importance to gain main teaching characteristics for student teachers especially to be qualified teacher as researcher. They can easily learn and apply their knowledge. There is a clear consensus among lecturers that the student teachers should be active in their own learning to construct their own knowledge.

To direct student teacher attitudes towards educational researches there should be more practical implications. On this case student teachers can be reflective and they can be life-long learners. Because of the reason it is important for them to learn each aspect during the course to be reflective and teacher as a researcher.

Recommendations

It is seriously suggested that in order to help student teachers to do their own projects and make contributions to

educational area, firstly teacher educators and researchers at universities and school administrations should give extra time and provide more support teachers to be teacher as a researcher.

It is suggested that the context of the Field Study course should be enhanced to gain cognitive, affective, psychomotor and scientific skills as instructional outcomes that requires an explicit-reflective instructional approach. This approach also contributes to student teachers to think critically.

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