Ameryka'daki Eğitim Fakültelerinde Yüksek Öğrenimlerini Tamamlamış Türk Öğretim Üyelerinin Deneyimleri

Hekim'in Yasal Sorumlulukları

Türkiye'de Ulaştırma Eğitimi İçin Yeni bir Model

Türkiye'deki Akademik Üretimin Doksas ile Modern Eşisteme İkilemindeki İşlevselliği Üzerine İrdelemeleler

Ölüm Haberini Hasta Yakınlarına Nasıl Verilmelidir?

PowerPoint Programı ile Bilimsel Sunum Hazırlamak

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THE EXPERIENCES OF TURKISH FACULTY MEMBERS GRADUATED FROM THE FACULTIES OF EDUCATION IN USA

AMERİKA'DAKİ EĞİTİM FAKÜLTELERİNDEN YÜKSEK ÖĞRENİMLERİNİ TAMAMLAMİŞ TÜRK ÖĞRETMİ ÜYELERİNİN DENEYİMLERİ

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Abstract
There have been struggles to improve the educational system of the Republic of Turkey. For this aim, Ministry of National Education and the Higher Education Council (HEC) have collaborated to make renovations and reforms in teacher education. One of these reform movements is the National Education Development Project (NEDP) conducted in collaboration with World Bank. As a part of NEDP, majority of the Turkish graduate students has been sent to the USA to pursue graduate degrees in order to contribute Turkish teacher education programs. In this study, the researcher tried to analyze the strengths and weaknesses of studying abroad in terms of professionalization of teacher. The eleven faculty members who were participated in the NEDP and completed their graduate program in the USA answered the open-ended questionnaire for this study. By interpreting these faculty members' experiences regarding their graduate education and current position, the results of the study was discussed. (Journal of Academic Design, 2008;2(1):1-9).

Introduction
Education has a special place in today's both developed and developing countries to prepare citizens with knowledge and skills so that their citizens can live in a democracy, satisfy their lives and cope with the demands of a rapidly changing global society that require lifelong learning [8]. The declaration of the new Republic in 1923, Turkey has paid special attention to education with the goals of finding a place in the modern and democratic world, increasing intellectual, social and economic growth in the society, and being able to answer adequately the educational needs of the Turkish people dealing with the rapid changes in the world.

To reach these aims, a number of innovations and reforms have been performed in Turkey to improve education [23; 35]. The recent important project, The National Education Development Project, has been undertaken to increase professional growth in teaching, specifically at elementary and secondary level, since1990 [23; 29; 35]. The National Education Development Project (NEDP) was constructed by the Higher Education Council (HEC) and Ministry of
National Education (MONE) in collaboration with the World Bank. The major aim of NEDP is to restructure pre-service teacher education programs offered by 1HE colleges of education in Turkish universities. The project includes redesigning curricula with more methods METHODOLOGY courses and field experiences, improving the conditions of colleges’ educations, and increasing collaboration between educational faculties and schools [24]. In addition, the major part of the project is fellowship training programs abroad to strengthen teacher educators who are qualified to make educational research, to teach effectively pre-service students, and reconstruct the contemporary knowledge in the Turkish culture at colleges of education [24]. The effectiveness of a reform movement necessarily requires a deep understanding of its purpose, analyzing, criticizing, and evaluating weaknesses and strengths of the reform as a whole that guides the accomplishing of its ideal aim. Unfortunately, there is no relevant research and empirical evidence to show the effectiveness of NEDP for teacher education in Turkey. As a result, in this study the researcher tried to analyze the strengths and weaknesses of studying in the American teacher education programs as a part of the project by interpreting the experiences of faculty members in teacher education. Specifically, the researcher tried to understand how Turkish teacher educators with degrees from American graduate schools make sense of American Teacher Education programs; which capabilities they improved; why these capabilities are important as a profession; how they can apply these capabilities in Turkish teacher educational programs; and what further need to do for Turkish teacher education to fulfill the aim of this reform.

Theoretical Framework
Since seventeenth century, professionalism has gained special attention in modern societies because of development of new industries, technology, and new disciplines, which required special knowledge and skills. Although professionalism has been discussed by many scholars, there is no clear description of it [17; 26; 33]. According to Popkewitz [26], “the concept of professionalism is a socially constructed word which changes in relationship to social conditions in which people used it” (p. 2). Although there is no consensus related to description of professionalism, many scholars accept the same basic elements of professionalization.

The one of the critical elements for professionalism is knowledge base for professionalization [7; 16; 26; 30]. According to Shulman [30], teaching profession requires three kinds of knowledge base which are content area knowledge, general pedagogical knowledge, and content pedagogical knowledge. The most important sources of knowledge base are scholarly literature, practice in education, and research on curriculum and instruction, schooling, and learning process [30]. The second common accepted element in professionalization is service. Service is related to improve well being, safety, happiness, and good life conditions for clients [16; 31; 33]. The quality of service in teaching profession require service responsibilities of educators including seeking to improve not only their teaching, their profession, and their students abilities to learn, but also collaborating all community to find out and answer educational needs of society [16; 33]. Professional ethic is also another important part of professionalization. Ethic in teaching profession is related to justice, caring, responsibility, truthfulness, and commitment to the students and profession [16; 28].

In addition, autonomy is an inevitable element for professionalization. Professional autonomy in teaching is related to having responsibilities for their profession and the development of their profession. Autonomy is also related to decision-making related to curriculum, educational materials, and educational programs, and standards [16; 26; 28]. Of course academic or professional freedom in educational research and educational decisions, and professional collaboration are inevitable sources to improve professional autonomy in teaching. In addition, autonomy in teaching profession is related to judge their professions as teaching practitioners. Professions also have distinctive culture. The members of any profession share and behave the norms, values, symbols of their profession [16]. In addition, in professional development process, they can change these cultural values depended on changes and the new needs of societies and their profession. Although these critical elements are inevitable for any profession, the contents of these elements in teaching culture are open to discussion. As mentioned above, industrial, technological, and scientific developments in the worlds have also affected teaching profession. The responsibilities, requirements, skills and knowledge base of teaching profession have changed based on the demands of new information era. Both scholarly discussions and educational research show that traditional view of teaching profession under the effect of positivist ideology does not answer the educational needs of societies. Scientific uncertainty, increasing importance of cultural diversity, and complexity dominate today’s social world [11]. As a result, certainty, prediction and control (autonomy) in traditional teaching
profession should displace uncertainty, collaboration, flexibility, and skepticism [11; 26]. In addition, there is an intense need to have some kinds of skills in teaching profession such as creative, and critical thinking, and problem solving skills. Furthermore, teachers have to be reflective practitioners to cope with complexity, and uncertainty in education. Today’s teaching profession can be summarized by Hargreaves’s (1994) world: “At its core, the new professionalism involves a moment away from the teacher’s traditional professional authority and autonomy towards new forms of relationships with colleagues, with students and with parents. These relationships are becoming closer as well as more intense and collaborative, involving more explicit negotiation of roles and responsibilities” [cited in 11, pp. 22].

Methods
Participants
For this study, 44 Turkish teacher educators were invited, and the eleven of them willingly accepted to participate in this study. All participants completed their graduate program in the USA as fellowship students who were sponsored by Turkish government, and now they are teaching in the colleges of education throughout Turkey. Except a faculty with art and science bachelor degree, all participants had a bachelor degree from colleges of education in Turkey. Before pursuing their graduate program in the USA, of the 11 teacher educators, seven had teaching experiences with a mean of two years and seven months in different Turkish public schools; four began their graduate program in the USA without any teaching experience. Their ages range from 28 to 45 with a mean of 35. Six participants are male, and five of them are female. Table 1 shows some demographics of the participants.

Data Collection and Data Analysis
In this study, qualitative data analysis was used to understand the case, which is based on weaknesses and strengths of fellowship graduate teacher education program in the USA in terms of Turkish faculty members’ experiences. The data collection instrument was a questionnaire. The questionnaire consisted of two parts. The first part of it incorporated participant’s demographics. The second part of questionnaire included open-ended questions about faculty members’ experiences related to their graduate educations and current positions in teacher education.

The researcher sent e-mail to each faculty in order to invite to the study with attached information sheet, which notified confidentiality and the purpose of the study, and the research questions. Because of lack of participation, same procedure repeated two times. Data were collected from the questionnaire. With the questionnaire, the researcher tries to understand different aspects of Turkish faculty members’ graduate education, their capabilities they improved in the USA; how they are implementing these capabilities to their current positions; and which obstacles restrict their efficiency to the profession.

Since two Turkish faculty members answered the questionnaire in Turkish, the researcher translated their answers into English. Transcriptions were also made by a Turkish graduate student. Two transcriptions were compared and discussed, and the last transcriptions were decided by two Turkish graduate students. In an initial data sort, words, phrases, sentences, paragraphs, and sections of transcripts were – open-coded. Code notes containing a list of conceptual categories, their properties, and dimensions were recorded. Using basically professional teacher approach, the records was interpreted, and summarized.

Results and Discussion
The data analyses were organized around two major categories, that is, teachers’ professional development and obstacles for developments. Table 2 presents the major categories related themes emerged from the data.

Previous Experiences of the Teacher Educators
As mentioned above, the existing background of many faculties is one of the biggest problems for professional teacher education in Turkey. With lack of knowledge about pedagogy, they have failed first to relate theory to practice, and construct the relevant research related to education [2; 21; 34]. As Dewey [13] stresses that “theory and practice do not grow together out of and into the teacher’s personal experiences” (p.15), with both lack of knowledge and practical skills in educational principles and theories, these faculty educate pre-service teachers like scientists instead of teacher [2; 34].

One faculty participating in this study pointed out: American teacher educators, most of them, hold student-centered educational beliefs (dependent on theoretical and conceptual framework) and try to practice those beliefs and Turkish teacher educators, again most of them, hold more student-centered beliefs but can not practice those beliefs effectively due to the large class sizes at the college level.

It is obvious that although large class size will affect the performance in teaching profession, we cannot explain the gap between theory and practice with just physical facilities in Turkey. In other words, the knowledge itself will not lead the
negotiation of this knowledge that requires the knowledge and practice related to the meaning in negotiation of this knowledge [27]. In opposed to the existing faculty in the colleges of education in Turkey, the demographics of the teacher educators in this study show that most of participants had somewhat experiences in teacher education, and schooling. In fact, this result can not be generalized; however, before their graduate education abroad, the participants' background regarding teaching and learning may possibly seem the important contributor to their professional development in teacher education. A faculty briefly expressed and summarized this deficiency as:

To be a better teacher educator, one should have teaching experiences in the field where his/her student would be teaching. Since I had teaching experience before getting my graduate degrees, I know the problems teachers face, and I know what kind of solutions would be logical. I know from my observations that some teacher educator who do not have teaching experience (let say in elementary education) offer solution which cannot be implemented in reality. They don’t realize that theory and practice are completely different.

Educational Philosophy

Professional teacher educators are responsible for following, creating, testing, elaborating, refuting, transforming, and reconstituting the bodies of knowledge that let them develop moral understanding of their practice [31]. This mission of profession of teaching in the USA let the professionals build the knowledge over the years, and conflict between practical experiences shifting the educational practices from behaviorist approach to constructivist approach for professional teacher education [9; 14; 27; 36]. The main assumption of constructivist approaches is that individuals construct the meaning of the world, and they are in central of education process, while the main assumption of behaviorist or traditional approach is that knowledge is transferred to learners' mind by teachers. Teachers' practices and their reflection on educational processes are affected by which approaches they hold.

Although there is a struggle to apply constructivist approaches in Turkish educational system, lack of understanding of underlying philosophical meaning of this approach among teachers and faculty may be the main difficulty to teacher professionalization. A faculty expressed the differences between the United States and Turkey in terms of philosophy, theory and practice interaction of professional teacher educators as that:

The biggest difference between American and Turkish teacher education is the philosophy. In Turkey still behaviorist theories are dominant in teacher education. Without changing the philosophy, many teaching methods and strategies which are incompatible with the current theory, are being taught in teacher education classes. One cannot expect a teaching method or strategy to be successful without understanding the philosophy behind it.

Knowledge Base

As mentioned before, the one of the critical elements in any profession is knowledge base [10; 16; 31]. “A profession has a clearly defined body of knowledge and skills that is held in common by practitioners in the field and not generally possessed by the lay public” [10, p. 195]. In this study, the faculty members had a chance to improve their professional knowledge by taking courses in three areas: major (mostly related to general pedagogy), minor (related to content pedagogical knowledge), and electives (related to different issues in education, and educational research process). They expressed the usefulness of these courses as that:

The most important courses were teaching courses (in mathematic education) because as a teacher educator, I am teaching such classes. But, the other groups of courses are also as important as the teaching ones because I conduct research studies and also teach graduate classes. These courses help me to make decisions in my career.

Math Education (minor area) related courses, are most useful, because, in Turkey, this is field not mature enough. Those courses helped me to contribute significantly to our service teacher development in my institution.

In addition, teacher educators' personal characteristics and awareness of their responsibility to be social and moral role models are of course a very important requirement for implementing contemporary education. The participants also expressed that most of instructors in their graduate education modeled with their practices, collaborations and interaction with graduate students. One of the participants expressed,

I should admit I gained some inquiry skills during that process such as reaching to and use of knowledge, searching and finding the related sources, and reporting those findings. These skills in particular were not provided through my undergraduate education. Some of these skills I am currently using in my courses are creating an intimate and motivation oriented discussion environments; project and group based assignments without test evaluation. In addition to these, I believe that instructors should be
exemplary during the process and through practices as a model. Those practices which I give importance are helping students find related sources of knowledge, if required providing them, getting students involved during assessment process, giving freedom them to chose inquiry topics relevant to their interest, making aware of students what and why they are learning.

The wisdom of practice as a critical element of a profession is a way to construct the knowledge and to develop the reflective rationalization for the profession [10; 13; 31]. The approaches taken in education process by teachers and teacher educators should reflect itself in action. For example, behaviorist approach leads mostly rote-learning, memorizing, dictating and manipulating strategies in classroom, while the aim of constructivist approaches is to help students develop their habits of mind, and to liberate the students' minds, this philosophical understanding mostly leads to reflection of one's thoughts and actions, inquiry, discussions, and interaction oriented teaching strategies, as well as more humanization process in education [13;15].

In Turkey, as a result of continuity of traditional teaching culture, students including preservice teachers have practiced mostly behaviorist strategies in their education [3; 5]. However, as Hopkins [18] emphasized that studying abroad provides active learning, this study shows that with the courses they took, classroom activities in which they engaged, and instructor-graduate students' relationship in the classroom in the USA, faculty members actively learned, understood and practiced with constructivist approaches. Thus, they strengthened their research, reflection, learning and teaching skills. In addition, they are currently trying to apply somewhat this approach in their courses. Some of participants explained that;

First of all and the most importantly, In the USA, I developed an appreciation of the importance of an understanding of children's thinking in teaching. With this understanding, I improved my capability to develop meaningful representations of mathematical concepts. As a teacher educator, one needs to understand the needs of his/her students, be aware of the curriculum and the current philosophy of the education in her/his country. I am insisting on creating effective discussion environment in my classes. I am assigning group projects instead of exams, so that my students can develop their collaboration and searching skills. I believe this kind of assignments help students express themselves.

I believe I am now trying to be more careful about enabling preservice teachers to reflect on their experiences, develop relevant instructional and research projects, and be critical of what they read.

On the other hand, although the faculty members in this study had a chance to practice with contemporary approaches in their classroom activities as graduate students, many of the participants did not have experiences for related to their roles in their graduate education as future educators. These early practices with guidance of a faculty, and collaboration in building knowledge base will help graduate students to improve their reflective skills required for their profession. Some faculty members explained the deprivation of this experience as the most important missing part of their graduate program: I did not teach in the US, thus I did not improve any teaching capabilities. I did this in my courses in Turkey. But, reading the latest literature in science education in the US helped me designing course content which is relevant to today's trend in science education. I included latest methodologies of science teaching, learning theories, and assessment techniques in my methods courses.

There is another (in addition to improve knowledge base) aim of sending students for graduate study abroad. This is research-based experience. In this respect, I did not think my education (in the USA) was supportive. I took research methods courses both quantitative and qualitative, but I could not get any research experience in a team on science education research, other than my own thesis study. This is a major missing part in graduate program. Graduate students, especially Ph.D. students, should be included in research studies with more experienced team leaders and this should be a tradition of the program.

American teacher education made me more aware of the qualities that a science teacher has. I read constructivist science teaching and recent science literature there, but I thought about them more when I started to give science education courses in Turkey... I now realize that my doctoral program was in the air and I tried to anchor my theoretical knowledge with my teaching practice on my own in Turkey.

Obstacles in the Professionalization of Teacher Education in Turkey

As it can be seen in our discussion, studying in the USA provides opportunities for the faculty to engage in the contemporary education in teaching profession. However, to construct contemporary teaching profession in Turkey, it is important to describe immediately and solve the problems in colleges of education. The faculties' current experiences in this study show that the problems originating from the students, curriculum, finance, and supplies in education
colleges of Turkey were the basic obstacles to enhance the quality of education. As a consequence of shortage of faculty and economic limitations, many faculties have to teach many hours [see 34]. Because of this, as the two faculties indicated, finance was deemed the one of the main problems in Turkey for teacher educators to both practice effectively constructivist approach and to set relevant research in education and for general education to provide supplies. I should be lecturing much less courses so I could be the best. But I have hardly enough time for anything.... I want to have research to better understand, for example, why students keep blaming the others for failure, but have limited economic resources and no time. We have some problems coming from the past. We do not have enough sources for education. We have big young generation and I could not educate them because of financial problems. Another problem is to reach relevant resources for rapidly evolving information such as professional journals, documents, books, required materials, and technology that restrict teacher educators and students to construction and development of knowledge, research, learning, and teaching. Following current thinking in their disciplines should be an important part of the teachers' responsibilities. The faculties stressed these problems as that: Resources are not so easy to reach at any time like in the US. Therefore, research applications are not easy here.

For both assessing the students and improving students' research abilities, we are trying to create a research-based learning environment. However it has not been productive, because library sources and computing and technology options are very limited. We have such infrastructure problems which should be solved. In addition, lack of educational supplies would help the continuity of traditional education. For example, research support that using appropriately educational resources such as instruction technologies and library resources, and constructivist approaches help move the concept of learning beyond the rote memorization of facts and procedures toward learning as a process of knowledge creation, and students develop superior intellectual curiosity, creativity, leadership skills, more objectivity, and to become more aware of world events [22]. Furthermore, as a faculty stressed, crowded classroom was another negative factor to effectively implement constructivist approach in Turkey:

I try to apply some teaching strategies in U.S, in my method courses. For example, I require students apply student-centered science teaching via hands on science activities. But, there are challenges. One challenge is class size (between 50-65 students). Thus applying student-centered science teaching is very difficult. I overcome this problem by assigning team of student teachers in the classroom. This is not ideal, but helps.

Another faculty summarized that:
I try to apply everything I learned in my graduate study, but the conditions in Turkey are not the same as in the USA. Especially, the crowded classrooms, heavy teaching loads, lack of appropriate manipulative and technology are the reasons. In addition, students are resistant to change. But I still try to teach my classes in a student centered, problem based manner. In this study, the faculty members also stressed that habits of traditional education pre-service teachers have was the one of the biggest obstacles to apply contemporary education in Turkey.

My students do not know how to do internet and library search. They are accused to have the knowledge given by the instructor. Somewhat they are right since we do not have a very good library and many computer labs. In out faculty we have just two computer labs and those are used for the course purposes.

It was not easy to apply what I learned in the USA to my courses. Students were resistant to change because they did not want to give up their old habits. They were used to be told everything. My courses are problem-based and there are no clear cut answers to how to teach mathematics. They were looking for to be told: this is the way to teach. Despite this resistance by students, I try to have them to experience the ways of teaching mathematics so that they can apply to their teaching.

Another important problem of teacher education in Turkey is to create intensive experiences for preservice teachers to improve their intellectual and professional growth, and support collaboration between faculties of education and schools [8]. The several participants emphasized these issues:

We cannot provide experience in natural classroom setting in real elementary classrooms (in Turkey), although there are practice courses in teacher education program. The schools are not open to new initiatives from the university students. The school teacher prefers preservice teacher sit and watch in their classes rather than taking a more active role in teaching science.

To my knowledge, (in the USA), preservice teachers are provided with many opportunities in the program to enter the school settings and having experiences. There was one faculty member which supervises preservice teachers
the school. This was his major duty. Practice courses in our teacher education program do not do that much ideal. The students are placed in school and make observations. We cannot supervise them actively in the schools.

I observed that there is very good cooperation between American colleges of education, and schools in order to provide practical opportunities to preservice teachers. But, I think that this cooperation is not so strong and effective in Turkey.

The centralized educational system of Turkey could be interpreted as another obstacle to apply constructivist approach in teacher education although there is no consensus on it. Several faculty members emphasized the centralized educational system in Turkey as that:

The Turkish education system is highly centralized. In so many cases you do things that you don’t believe in but you have to do it because you are required to do so. Of course, this affects your motivation.

Here in Turkey, there is one program which is applied to every student. The students took the same courses in the program with the same students (in the same section). The importance of this difference comes from finding different paths to the same end according to students’ needs and interests.

In Turkey, educational system is centralized. YOK (Higher Education Council) designates all courses of educational faculties. In the USA, there is no such centralization in education. To me, there may be both positive and negative sides of two systems. Without centralization, colleges of education are given more flexibility to designate, improve and change their programs regarding their needs. On the other hand, centralization, especially in developing cities in Turkey, can help new colleges of education to reach the standards, and to increase quality of education.

Teacher education in Turkey is centralized. Most of decisions (the coursework, the content of courses, the philosophy, etc.) are being dictated by the Higher Education Council (YOK). Centralization in Turkey has plusses and minuses. For the time being under current circumstances, I believe that centralization has more positive sides than negatives. Centralization establishes some sort of balance between the recently established universities and developed universities in Turkey.

Centralization in educational system of Turkey needs to be discussed further, but as Dewey [12] warned the Turkey government in 1924, Turkey needs unity in education, but any centralized system could be a danger for real unity. “Complexity and variation rather than uniformity between and among structures, organizational arrangements, program types, institutional categories, and preparation paths or routes are the rule rather than the expectation in teacher education” [9, p.6]

Conclusion

According to the results of this study, Turkish faculty members had a chance to experience with constructivist approach, gained broad professional knowledge from first hand about innovative and contemporary theories, philosophies, and psychologies, and improved their research and technological capabilities in the USA, although they had lack of practice in teaching and research process. However, the capabilities of these faculties with American education are not enough to accomplish the aim of NEDP. As the teacher educators in this study expressed, to increase quality of teacher education programs, Turkey must immediately solve the problems coming from the lack of resources, and educational supplies, give more autonomy, and responsibility to universities, and teacher educators to analyze, criticize, and develop their own curriculum relevant to different needs of different part of the localities and students. Besides, relevant research in education are necessary processes to close the wide gap between thought and action, theory and practice, the academy and the everyday world. As Loughran and Berry [25] said, “Without formalizing research on teaching, without illustrating the evidence that informs approach to practice, without pushing the boundaries of knowledge of teaching and learning about teaching, change is not likely to enacted beyond the individual” (p.2).
Table 1. Demographics of Participants

<table>
<thead>
<tr>
<th>Part.</th>
<th>Age</th>
<th>Gender</th>
<th>Bachelor Degree</th>
<th>Graduate Degree</th>
<th>Experience as a teacher</th>
<th>Experience as a faculty</th>
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<tbody>
<tr>
<td>1</td>
<td>45</td>
<td>male</td>
<td>Edu. Adminstration</td>
<td>Cur. and Teaching Cur. Studios &amp; Math. Edu.</td>
<td>5 years</td>
<td>5 years</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>male</td>
<td>Mathematic Edu. Edu. Policy &amp; Ed.</td>
<td>Educational Admin.</td>
<td>1 year</td>
<td>4 years</td>
</tr>
<tr>
<td>3</td>
<td>34</td>
<td>female</td>
<td>Leadership</td>
<td>Math. Edu.</td>
<td>9 years</td>
<td>4 years</td>
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<tr>
<td>4</td>
<td>38</td>
<td>male</td>
<td>Technical Edu.</td>
<td>Cur. Std. &amp; Science Edu.</td>
<td>no</td>
<td>3 years</td>
</tr>
<tr>
<td>5</td>
<td>35</td>
<td>female</td>
<td>Biology Edu.</td>
<td>Educational Psy. Cur. Std. &amp; Science Ed.</td>
<td>no</td>
<td>2 years</td>
</tr>
<tr>
<td>6</td>
<td>32</td>
<td>female</td>
<td>Psychology</td>
<td>Ed. Policy &amp; Leadership</td>
<td>3 years</td>
<td>2 years</td>
</tr>
<tr>
<td>8</td>
<td>38</td>
<td>male</td>
<td>Edu. Measurement &amp; Evaluation</td>
<td>Cur. Std. &amp; Math. Edu.</td>
<td>5 years</td>
<td>5 months</td>
</tr>
<tr>
<td>9</td>
<td>28</td>
<td>male</td>
<td>Georaphy Edu. Measurement &amp; Evaluation</td>
<td>Elementary Math. Edu.</td>
<td>6 years</td>
<td>5 years</td>
</tr>
<tr>
<td>10</td>
<td>34</td>
<td>male</td>
<td>Mathematical Edu.</td>
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Table 2. Professional development and obstacles in teaching

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<th>Professionalization in Teaching</th>
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<tr>
<td>Development</td>
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<td>Previous Experience</td>
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<tr>
<td>Educational philosophy</td>
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<tr>
<td>Knowledge Base</td>
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<tr>
<td>Educational Courses with scholarly</td>
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<tr>
<td>literature</td>
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<tr>
<td>Model by instructors</td>
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<tr>
<td>Practice (classroom activities, research, teaching)</td>
</tr>
</tbody>
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References