A Comparison of Ideas: Do Preservice Teachers and Instructors of Computer Education and Instructional Technology Department Share the Same Perspectives?

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Abstract : This study aims to compare and contrast the perspectives of preservice teachers and instructors on the "Computer Education and Instructional Technology (CEIT)" department. A questionnaire which was developed from the ideas of CEIT faculty members in the "The Results of Re-Designing the Teacher Education Curricula of the Faculties of Education in Turkish Universities and Teacher Training" Symposium was administered to the CEIT students of Baskent (*N*=112) and Middle East Technical (*N*=93) Universities from first to fourth grade students. Under the light of the study results, recommendations are offered for both implication and further studies.

Keywords: Preservice Teachers, Computer Education and Instructional Technology department, Re-designing Teacher Education Programs.

Introduction

The recent advancements in technology have inevitably influenced the learning and teaching methods and tools that are used in these processes. The usage of the technology, particularly information and communication technology (ICT), in the educational processes has attracted the attention of researchers and educators. This trend yielded a field of study, instructional technology which has quite different definitions. One of the most commonly accepted definition is framed by Seels and Richey (1994) as "instructional technology is the theory and practice of design, utilization, management and evaluation of processes and resources for learning" (p. 1).

Instructional technologists attempted to find out new ideas and to develop new methodologies. As the importance of ICT in the education is realized, Computer Education and Instructional Technology Departments has been opened to do theoretical research in depth and to fulfill the need of computer and instructional technology teachers in Turkey (YÖK, 1998a). As a renovation effort, in 1998, Turkey has started a new project about the re-designing of the teacher education programs at the faculties of education in Turkish universities.

The department of Computer and Instructional Technology (CEIT) Education offers B.S., M.S. and PhD degrees. The scope of the department includes educating individuals who own following assets; (a) successful teacher, (b) instructional technologist, (c) educational specialist, (d) instructional designer, and (e) experts in educational computing.

Offered courses provide a theoretical framework for being a teacher and a technology specialist. Undergraduate students required to take the total of 43 courses (YÖK, 1998b) which are prescribed in Table 1.

Table 1. Distribution of CEIT courses

Course Types	Course Number	Total Credits
Departmental Courses	16	53
Non-Departmental Courses	13	54
Pedagogical Formation Courses	9	30
Elective Courses	5	15

Preservice teachers of CEIT departments acquire following skills throughout their four-year curriculum:

- teaching
- analyze performance problems,

- design,
- develop,
- implement, and
- evaluate instructional strategies and products.

In the 2004-2005 academic year, there were 5130 students enrolled in Computer Education and Instructional Technology Departments. Of 1761 students are female and 3369 of them are male. In the 2004-2005 academic year, 1312 new students registered to CEIT undergraduate program where 487 were female and 825 were male (OSYM, 2005).

Even though there is an indispensable technological innovation around world and the literature in the instructional technology field evolves rapidly, these huge numbers of preservice teachers are still instructed by the curriculum established in 1998. In this context, CEIT faculty members, preservice teachers and graduates suffer from current curriculum and state their arguments on the need and the content of new curriculum. For that purpose, several seminars, conferences, symposiums and researches have been conducting. Although the need of new curriculum is clearly stated and most faculty members agreed, the content or the alternative perspectives fluctuate.

Therefore, the research on the curriculum of CEIT department is a good attempt for the following reasons; (a) a step in the assessment of re-designing teacher training programs, (b) a comparison of ideas between two universities, and (c) a depiction of juxtaposition level of instructors and preservice teachers. Hence, this study aims to compare and contrast the perspectives of preservice teachers on the "CEIT" department.

Method

Participants

This study included 205 preservice teachers (112 of them from the Baskent University and 93 from the Middle East Technical University) preservice teachers of CEIT departments with an average age of 21.8. Demographics of participants are depicted in Table 2 representing that there is approximately equal distribution of participants with respect to gender and grade.

Table 2. Demographics of Participants

		Baskent University	METU	Total
Gender	Male	50	59	109
	Female	60	34	94
Grade	1st grade	36	1	37
	2nd grade	41	14	55
	3rd grade	19	37	56
	4th grade	13	38	51

Instrumentation

A questionnaire was developed from the statements of CEIT faculty members attended the "The Results of Re-Designing the Teacher Education Curricula of the Faculties of Education in Turkish Universities and Teacher Training" Symposium at Gazi University between 22-24 September 2005. Researchers noted the statements of participants on the current status of CEIT departments and transformed them into questionnaire items. These items were administered to preservice teachers of CEIT department to depict their agreement with their faculty members. The preservice teachers indicated his/her ratings to each item on a five-point scale from strongly disagree to strongly agree. The final questionnaire included thirty-nine Likert-type items.

Overall Design and Procedure

Since the study aimed to obtain data to determine specific characteristics of a group, a none-experimental survey research design was employed. The survey included two independent variables (gender and university) and one dependent variable (item scores). Data were obtained in different class sections on voluntarily basis.

Major Findings and Discussions

Table 3 demonstrates the item description, number of respondents, item mean and standard deviation. Items were listed from the least mean score to the highest mean score. Following the table, explanations were provided in a bulleted form.

Table 3. Item Descriptives

Item No	*Item*	*N*	*M*	*SD*
21	Öğretmen maaşlarının yeterli olduğunu düşünüyorum.	203	1.71	1.09
6	Gelecekte üniversitelerde mevcut olan "Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümleri kapatılacaktır.	203	1.81	0.99
14	Elimde olsa "Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümünü hemen bırakırdım.	203	2.24	1.32
13	"Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümünü "öğretim teknolojileri" adı nedeniyle seçtim.	202	2.40	1.22
4	"Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümündeki öğretim elemanı sayısından memnunum.	203	2.43	1.21
36	Matematik dersi tamamen kaldırılmalı.	202	2.49	1.47
29	Alan dışı derslerin verilmesinden memnunum.	200	2.53	1.42
1	Eğitim Fakültelerinde uygulanan öğretim programlarından memnunum.	201	2.58	1.09
27	Gelecekte, meslek ve teknik liselerinde çalışmak istiyorum.	202	2.76	1.42
12	"Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümünü öğretmen olmak için seçtim.	203	2.89	1.36
25	Gelecekte, ilköğretimde (1–8.sınıflar arası) çalışmak istiyorum.	203	2.95	1.31
26	Gelecekte, orta öğretimde (9–11. sınıflar arası) çalışmak istiyorum.	203	2.97	1.23
30	Fizik dersi tamamen kaldırılmalı.	203	3.02	1.53
19	**"**Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümünde alanımla ilgisi olmayan işler yapmaktayım.	202	3.12	1.33
37	Matematik dersinin saati azaltılmalı.	202	3.13	1.61
15	Gelecekte öğretmen olarak çalışmak istiyorum.	203	3.18	1.28
7	"Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümüne, adında bilgisayar ifadesi bulunduğu için geldim.	203	3.27	1.53
5	Gelecekte "Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümünde öğretim elemanı açığı olmayacaktır.	203	3.35	1.16
17	Gelecekte öğretim teknoloğu olarak çalışmak istiyorum.	203	3.36	1.15
32	Kimya dersi tamamen kaldırılmalı.	203	3.37	1.58
10	Gelecekte "Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümünde yüksek lisans yapacağım.	203	3.38	1.23
16	Gelecekte bilişim uzmanı olarak çalışmak istiyorum.	203	3.43	1.15
39	Gelecekte okullara öğretim teknolojileri merkezi açılacağını ve mezunlarımızın buralara yerleşeceğini düşünüyorum.	203	3.48	1.06
8	"Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümü mezunları bilgisayar öğretmeni olarak atanmalı.	202	3.50	1.42
11	Bir özel okulda bilgisayar öğretmeni olarak çalışmayı devlet okuluna göre tercih ederim.	203	3.50	1.30
24	Eğitimim sırasında başka üniversitelerden de dersler almak istiyorum.	203	3.52	1.24
9	"Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümünün öğretim elemanlarının mevcut öğretim programından memnun olmadığını düşünüyorum.	203	3.53	1.01

Item No	*Item*	*N*	*M*	*SD*
34	Biyoloji dersi tamamen kaldırılmalı.	203	3.57	3.94
35	Biyoloji dersinin saati azaltılmalı.	202	3.60	1.46
28	Yakın gelecekte okullardaki bilgisayar öğretmenliği kadrolarının dolacağına inanıyorum.	202	3.70	1.10
23	Gelecekte KPSS' yi (Kamu Personeli Seçme Sınavı) kazanacağıma inanıyorum.	203	3.71	0.99
22	Gelecekte LES' i (Lisansüstü Eğitim Sınavı) kazanacağıma inanıyorum.	202	3.72	0.92
31	Fizik dersinin saati azaltılmalı.	203	3.78	1.39
3	"Bilgisayar ve Öğretim Teknolojileri Eğitimi" bölümünün isminden memnunum.	203	3.80	1.19
18	Gelecekte mesleğimde yükselebileceğime inanıyorum.	203	3.93	0.96
33	Kimya dersinin saati azaltılmalı.	202	3.97	1.31
2	Eğitim Fakülteleri yeniden yapılandırılmalı.	203	4.10	1.10
20	Mesleğimin geleceği olduğuna inanıyorum.	203	4.32	0.91
38	Eğitim teknolojisi ve eğitim teknologluğu konusunda öğrencilere daha fazla bilgi verilmeli.	203	4.37	0.89

- Preservice teachers (N=203) believed that the teacher salary is not satisfactory (M=1.71).
- Preservice teachers did not agree that CEIT departments should be closed (M=1.81).
- Preservice teachers moderately believed that they selected the department since the department's name includes "instructional technology" (M=2.40). However, preservice teachers chose their department, since it has "computer" in its name (M=3.27). In parallel, preservice teachers stated that they needed to be more informed about educational technology (M=4.37).
- When we concentrated on the courses, preservice teachers wanted to exclude the following courses in the following order; Biology (M=3.57), Chemistry (M=3.37), Physics (M=3.02) and Mathematics (M=2.49). Overtly, preservice teachers are not satisfied with non-departmental courses (M=2.53). Furthermore, preservice teachers dissatisfied with spending their time with activities not directly related to CEIT (M=3.12).
- Preservice teachers stated that the following courses' hours should be decreased; Chemistry (M=3.97), Physics (M=3.78), Biology (M=3.60) and Mathematics (M=3.13) respectively. Preservice teachers also stated that they want to attend courses from different universities throughout their undergraduate education (M=3.52).
- Preservice teachers wanted to work as an information technologist (M=3.43), then an instructional technologist (M=3.36), and as a teacher (M=3.18). But, preservice teachers also believed that the shortage for computer teachers will be soon overcome (M=3.70). On the other hand, preservice teachers believed that instructional technology centers will be opened and they will work for these centers (M=3.48).
- As a promising result preservice teachers believed that their job has of great value for the future (M=4.32) and they would have a good career in their prospective position (M=3.93). Moreover they believe that they will be successful in both The Selection Examination for Graduate Studies (LES) (M=3.72) and the Central Promotion System and Examination (KPSS) (M=3.71). Preservice teachers want to attend a graduate program in the field of CEIT in a near future (M=3.38).
- Preservice teachers are pleased with their department's name (M=3.80) and they do not want to quit from their department (M=2.24). Yet, they believed that the faculty members in CEIT department are not pleased with their department's curriculum (M=3.53). Moreover, preservice teachers are dissatisfied with their number of faculty members within their

department (M=2.43). On the other hand, preservice teachers believed that shortage in the number of CEIT faculty members will be overcome (M=3.35).

- Preservice teachers are not satisfied with curricula in Education faculties (M=2.58) and they want curriculum modification for their faculty (M=4.10).
- Preservice teachers expressed a dilemma that graduates of CEIT are to work as computer teachers (M=3.50), but they do not completely agree that they selected CEIT to become a teacher (M=2.89).
- Even though there is a tendency to work as a teacher, they do not want to work as technical and/or vocational teachers (M=2.76) or they do not want to work in either basic education (1-8) (M=2.95) or secondary education (9-11) (M=2.97). Nonetheless, preservice teachers preferred to work as a teacher in a private school than in a public school (M=3.50).

The differences in perspectives between two universities were statistically checked by independent samples t-test for each item. Table 4 demonstrated only the significantly differed items where their descriptions placed in Table 3. Long list of items demonstrated that these two universities have some conflicts on items.

Table 4. Differences between Universities

Item No	University	*N*	*M*	*SD*	*t*	*p*
10	Baskent	110	3.66	1.08	3.49	0.001
	METU	93	3.05	1.33		
12	Baskent	110	3.26	1.38	4.36	0.000
	METU	93	2.46	1.21		
14	Baskent	110	1.96	1.21	-3.37	0.001
	METU	93	2.57	1.37		
15	Baskent	110	3.37	1.32	2.24	0.026
	METU	93	2.97	1.20		
16	Baskent	110	3.23	1.22	-2.74	0.007
	METU	93	3.66	1.01		
19	Baskent	110	2.93	1.29	-2.24	0.026
	METU	92	3.35	1.36		
20	Baskent	110	4.48	0.86	2.88	0.004
	METU	93	4.12	0.93		
23	Baskent	110	3.85	0.87	2.09	0.038
	METU	93	3.55	1.11		
24	Baskent	110	3.72	1.15	2.45	0.015
	METU	93	3.29	1.30		
26	Baskent	110	3.17	1.29	2.49	0.013
	METU	93	2.74	1.11		
27	Baskent	110	2.97	1.46	2.40	0.017
	METU	92	2.50	1.33		
28	Baskent	110	3.49	1.13	-3.00	0.

Item No	University	*N*	*M*	*SD*	*t*	*p*
	METU	92	3.95	1.02		003
30	Baskent	110	2.71	1.47	-3.21	0.002
	METU	93	3.39	1.52		
32	Baskent	110	2.99	1.59	-3.88	0.000
	METU	93	3.82	1.44		
36	Baskent	110	2.28	1.40	-2.16	0.032
	METU	92	2.73	1.51		

- More CEIT preservice teachers of Baskent University (3.66) wanted to attend graduate programs than the CEIT preservice teachers of METU (3.05) (item 10).
- More CEIT preservice teachers of Baskent University (3.26) believed that they selected this department to become a teacher than the CEIT preservice teachers of METU (2.46) (item 12).
- More CEIT preservice teachers of Baskent University (1.96) disagreed that they want to quit from their department than the CEIT preservice teachers of METU (2.57) (item 14).
- More CEIT preservice teachers of Baskent University (3.37) wanted to work as a teacher in near future than the CEIT preservice teachers of METU (2.97) (item 15).
- More CEIT preservice teachers of METU (3.66) wanted to work as an information technologist than the CEIT preservice teachers of Baskent University (3.23) (item 16).
- CEIT preservice teachers of METU (3.35) believed more than the CEIT preservice teachers of Baskent University (2.93) that they were dissatisfied with spending their time with activities not directly related to CEIT (item 19).
- CEIT preservice teachers of Baskent University (4.48) believed more than the CEIT preservice teachers of METU (4.12) (item 20) that their job has of great value for the future.
- CEIT preservice teachers of Baskent University (3.85) believed more than the CEIT preservice teachers of METU (3.55) (item 23) that they will be successful in the Central Promotion System and Examination (KPSS) exam.
- More CEIT preservice teachers of Baskent University (3.72) stated that they want to register courses of other universities than the CEIT preservice teachers of METU (3.29) (item 24).
- More CEIT preservice teachers of Baskent University (3.17) wanted to work in secondary education (9-11) than the CEIT preservice teachers of METU (2.74) (item 26).
- More CEIT preservice teachers of Baskent University (2.97) wanted to work in technical and vocational high schools than the CEIT preservice teachers of METU (2.50) (item 27).
- CEIT preservice teachers of METU (3.95) believed more than the CEIT preservice teachers of Baskent University (3.49) (item 28) that the shortage for computer teachers will be soon overcome.
- CEIT preservice teachers of METU (3.39) believed more than the CEIT preservice teachers of Baskent University (2.71) (item 30) that physics course will completely quit from curriculum.
- CEIT preservice teachers of METU (3.82) believed more than the CEIT preservice teachers of Baskent University (2.99) (item 32) that chemistry course will completely quit from curriculum.
- CEIT preservice teachers of METU (2.73) believed more than the CEIT preservice teachers of Baskent University (2.28) (item 32) that mathematics course will completely quit from curriculum.

The differences in perspectives between genders were statistically checked by independent samples t-test for each item. Table 5 demonstrated only the significantly differed items where their descriptions placed in Table 3.

Table 5. Differences between Gender

Item No	Gender	*N*	*M*	*SD*	*t*	*p*
5	Female	94	3.59	1.07	2.93	.004
	Male	109	3.13	1.19		
12	Female	94	3.23	1.30	3.42	.001
	Male	109	2.59	1.34		
15	Female	94	3.45	1.16	2.81	.005
	Male	109	2.95	1.33		
16	Female	94	3.14	1.10	-3.38	.001
	Male	109	3.67	1.13		
21	Female	94	1.36	0.71	-4.61	.000
	Male	109	2.02	1.26		
25	Female	94	3.25	1.34	3.00	.003
	Male	109	2.69	1.23		
31	Female	94	4.03	1.17	2.44	.015
	Male	109	3.56	1.51		
38	Female	94	4.58	0.67	3.10	.002
	Male	109	4.20	1.01		
39	Female	94	3.65	0.93	2.17	.030
	Male	109	3.33	1.14		

- First, females (M=3.59) believe more than male (3.13) that CEIT departments will fulfill the discrepancy in the number of faculty members (item 5).
- Secondly, female preservice teachers (3.23) stated that they selected CEIT department to become a teacher more than males (2.59) (item 12). In parallel, more females (3.45) wanted to work as a teacher in near future than males (2.95) (item 15). On the other hand, males (3.67) stated that they want to work as an information technologist more than females (3.14) (item 16).
- Even though both males and females did not believe that teachers' salaries are satisfactory (item 21), females (1.36) disagreed more than males (2.02).

- More female preservice teachers (3.25) wanted to work in basic education (1-8) than males (2.69) (item 25).
- Males (3.56) did not want a decrement in the course hours of physics within curriculum with respect to females (4.03) (item 31).
- Females (4.58) demand more training related to their department than males (4.20), even though both male and female strongly feel that particular need (item 38).
- Lastly (item 39), females (3.65) believe that there will be instructional technology centers in the schools and will work for these centers more than males (3.33).

As a conclusion, CEIT preservice teachers feel the apparent need of re-designing the curriculum of their undergraduate program. Despite the appearance of that need, the content or the alterations are not clear. Hence, this research on the CEIT curriculum is an effort identifying the perspectives of preservice teachers on their current status with a comparison between two universities, and genders. For this reason, this research compares and contrasts the perspectives of preservice teachers on the "CEIT" department.

Recommendations

1. Preservice teachers notified that biology and chemistry courses could be excluded from CEIT curriculum. Moreover, the course hours of both physics and mathematics could be decreased.
2. Preservice teachers also declared that the word "computer" could be excluded from the name of department and preservice teachers attending CEIT departments could be informed about instructional technology from their first year in the department, maybe in a form of orientation course.
3. Throughout the four-year study, the differences between an information technologist and an instructional technologist could be addressed. More emphasis could be established for the duties or competencies of an instructional technologist.
4. Preservice teachers could be joined in the re-designing curriculum as a stakeholder, since their ideas are worthwhile for depicting the current status.

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