

## Faculties' Information and Communication Technologies Action Competencies\*

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Abstract

*Problem Statement:* Information and Communication Technologies Action Competence (ICTAC) is defined as "individual's motivation and capacity of using information and communication technologies (ICTs) in course of critically selecting and conducting possible democratic actions that may solve societal problems related or not related to ICTs". In contrast to other fields of action competence, ICTAC is a term that deals with not only solving society-wide problems in ICT field but also all problems having potential of being affected by ICT-society relation. Faculties from

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department of Computer Education and Instructional Technology (CEIT) have significant roles in the process of helping individuals acquire ICTAC.

*Purpose of Study:* The aim of this research is to determine ICTAC levels of faculties from CEIT departments and whether faculties' ICTAC differed with regard to their gender, seniority, academic title, and bachelor's degree.

*Method:* The study was conducted with the use of singular and relational survey methods, and the study group included 83 faculties studying at CEIT departments of 32 different universities in Turkey. Data collected through the ICTAC Scale developed by researchers. This is a single factor scale with 0.98 reliability coefficient.

*Findings:* Faculties frequently performed action competence examples given in data collection tool, faculties' ICTAC did not differ with regard to their gender, academic title, and bachelor's degree and faculties' ICTAC decreased while their seniority increased.

*Discussion and Results:* Results suggested no significant difference between participants' ICTACs with respect to gender. While there is a tendency to reveal gender differences within techno-centric studies this study is an exception. Gender differences may be minimized by the fact that faculties are well educated and relatively homogenous with regard to field expertise. However revealing no significant gender differences and higher means is a positive finding. Another essential finding of this study is negative correlation between ICTAC and seniority. This finding can be explained by faculties' academic obsolescence. However this assertion needs further examination. Furthermore this can also be attributed to older faculties' lower ICT uses and competencies. There is also no significant difference with respect to participants' BA fields. A possible explanation to no significant difference results may be the fact that ICTAC deals with societal problems in which solution processes are not affected by these variables.

*Keywords:* Information and Communication Technologies Action Competence, faculty, Computer Education & Instructional Technology (CEIT) departments

Humanity struggles a wide range of problems that are structurally anchored in our personal and social life styles. Examples to these problem domains can be environment, peace, sustainable development and health. Since these problems are rooted in our societal and personal life styles, solutions to these problems reside in changes both the societal and the individual levels (Jensen & Schnack, 1997). However starting and sustaining a social change is seldom easy and require well accepted social actions by the general public. The term action competence was invented as an educational approach within 90s that deal with increasing individuals' action competencies and motivations. Action competence has a

relatively wide repertoire of studies (Cairns, 2001; Eamas et al., 2006; Mogensen & Schnack, 2010; Seezink, Poell & Kirschner, 2009). Formerly term was dealt within specific action areas like environment (Fontes, 2004; Jensen & Schnack, 1997, 2006), peace (Mogensen, 1997; Schnack, 1996; Spork, 1993; Tones, 1994), sustainable development (Almlöv & Moberg, 2008; Barrett, 2006; Breiting & Wickenberg, 2010). With recent developments and pervasion rates, Information and Communication Technologies (ICTs) came into power for societal affect. This brings ICT Action Competence (ICTAC) term into agenda. However, before describing ICTAC, this paper will briefly describe action and action competence terms.

Turkish Language Association (2012) describes action as “effort for changing or improving a situation”. Jensen and Schnack (1997) discuss the action concept within the action competence frame provided in Figure 1. As shown in the figure, action differentiates from behavior and activity through the source of the motivation and the nature of the purposes.

	Person forced to do something	Person makes up own mind
Act for personal benefit		
Act for problem solving		<b>ACTION</b>

Figure 1. Criteria for Action (Jensen & Schnack, 1997)

While horizontal component in the figure underlines the differentiation between action and behavior, vertical component stresses the differentiation between action and activity. Therefore, merely one’s self-determined efforts directed to solution can be classified as action. For example, covering a scenario that students collect garbage around school walls under teachers’ directions. Since students showed effort under teachers’ directions this would only be classified as behavior. Similarly, since these efforts are not directed to problem solution but to reflections to the school district, this would only be considered as activity of teachers. A possible action plan would be starting an awareness raising campaign on environment around the school district.

Several scholars defined the action competence concept within specific domains. Mogensen (1997) who is one of the pioneer scholars studying action competence in environmental education context describes the term with its capacity and motivation components as “intellectual capacity and motivation to take active part and participate in solutions to environmental problems”. Jensen and Schnack (1994) underline the critical thinking, responsibility and motivation components of the term as “a capability - based on critical thinking and incomplete knowledge - to involve yourself as a person with other persons in responsible actions and counter-actions for a more humane world”. Breiting and Mogensen (1999) stress term’s democratic process, critical thinking and motivation components as “one’s ability and will to

take part in democratic processes concerning man's exploitation of and dependence on natural resources in a critical way". Even though the term separately defined within several domains, there are a number of intersecting components which are: individual motivation, individual capacity, democracy, critical thinking and responsibility. Odabaşı et al. (2011) issued a more generic and context-independent definition as "individual's capacity and motivation to generate, determine and carry out democratic actions in order to solve societal problems without personal benefit expectancy". These brief definitions of action and action competence are believed to help reader in comprehend ICTAC.

ICTs pervaded into our lives. ICT Usage Survey on Households and Individuals 2010 suggests that approximately 42% of Turkish population have Internet access. This proportion is 39% higher than the results from 2009 survey. 60% of Internet users access Internet daily and, households and computers are the first choices for Internet access (Turkish Statistical Institute, 2010). World Internet Users and Population Stats Website suggests Internet penetration to worldwide population as 32.7% which is below the Turkish population statistics. Wide penetration rates of ICTs into daily lives of people makes them viable tools for social change.

However number of studies utilizing ICTs as honorable tools for social benefit is little. This picture points to the Information and Communication Technologies Action Competence (ICTAC) concept. Odabaşı et al. (2011) defined ICTAC as individuals' capacity and motivation to utilize personal ICT competencies voluntarily for solving societal problems. In contrast to other fields of action competence, ICTAC deals not only with solving society-wide problems rooted from ICT field but also all problems having potential of being affected by ICT-society relations.

Actions have different phases in ICTAC (Odabaşı et al., 2011). An action begins with one's recognition and motivation to solve a societal problem. With respect to action philosophy, one should determine and make his own mind to begin an action or voluntarily participate in an ongoing action. Second step is getting to know the problem. Possible causes, natural mechanisms within the problem and potential consequences of the problem are analyzed. After in-depth analysis of the problem, individual comes up with possible proposals for solution. However, not all proposals guarantee perfect solutions or help in the solution process. Since no social problem is independent from society and context, all proposals must be thought through and the best possible action should be taken. The next step is planning for actions based on the determined proposal. Leading an action is rarely easy. There is an interrelationship between society and action. Thus, while action shapes society, society shapes the action. Therefore one must oversee the actions and critically take necessary precautions through the action without losing motivation. Adoption of an action depends on democratic values, culture and context. Action competent individuals must have leadership and participation in order to ensure actions' sustainability.

Possible action areas of ICTAC are family, health, communication, media, law, research, education, citizenship and economy. These fields are in close contact with,

and transformed by ICTs (Odabaşı, 2010). Possible examples to societal problems within these fields are provided below:

- **Family: Children's technology** use patterns and frequencies generate anxiety among parents. Since most of the parents were born before the 80s, they are digital immigrants and do not know how to respond to this problem.
- **Health:** Automation systems are tried to integrate in the current health sector and partners in this sector are experiencing orientation issues.
- **Communication and Media:** Communication and media are going cyber day by day which results in cyber disturbances like loneliness, anti-socialization or cyber addictions.
- **Law:** New crimes related to ICTs are emerging and current law system cannot react agilely.
- **Research:** ICTs supply easy access to information. However, they do not ensure access to up to date and correct information.
- **Education:** There are problems with technology integration to educational contexts.
- **Citizenship:** There are orientation problems with e-government services.
- **Economy:** Most of the customers experience problems with e-trade and usually they are not aware of their rights.

Information Technology (IT) professionals are expected to recognize and effectively utilize ICTs and their ICT skills to solve societal problems within aforementioned problem fields. Teachers are key persons who are in interaction with wide range of people. Therefore they have the potential to affect people and start societal change. In the context of ICTAC, alumni of Computer Education and Instructional Technology (CEIT) departments are potential leaders with their IT backgrounds. **In this context, aim of this study is to examine CEIT faculties' ICTACs** with respect to several variables including gender, seniority, academic title, and field of BA.

## Method

### *Research Design*

This study aims to determine ICTAC levels of faculties from CEIT departments. In order to realize this aim relational and singular survey methods were used. Relational survey models aim at determining the degree or existence of change between two or more variables, while the purpose of singular survey models is to analyze the type or amount of each variable (Creswell, 1994). Therefore singular **survey model was applied to reveal personal information about the faculties'** and relational survey model was applied to reveal the ICTAC differences with regard to background variables like gender, seniority, academic title, and field of bachelor's degree.

### *Participants*

The study group included all faculty members studying at CEIT departments of 32 different universities in Turkey. The total number of faculty members was 160 at the time of data collection, which was the end of the Fall of 2011. However, only 83 faculties responded which revealed a return rate of 51.88 %.

### *Research Instrument and Procedure*

Data collected through the ICTAC Scale developed by researchers. A personal information form was followed by 44 Likert type items. The form included **background variables such as gender, seniority, academic title and field of bachelor's degree**. The frequency of ICTAC was investigated on 5-item scales: never, rarely, sometimes, often and always, referred to 1, 2, 3, 4, and 5. An exploratory factor analysis was conducted with 320 participants, which eliminated complex or non-adaptive items. Administrations in the original study revealed a 44-item set with a single-factor structure, and explained more than half of the total variance (54%) with a high **internal consistency coefficient** ( $\alpha = 0.98$ ). The scale was published on a Web server and the URL was communicated to faculties through e-mail along with a brief description of the study.

### *Data Analysis*

The instrument was administered to faculties during the last four weeks of the 2011 fall semester. The data were analyzed through SPSS 15.0 for Windows. Comparisons with regard to background variables were provided through descriptive statistics and relevant parametric tests. More specifically, to compare participants with regard to two-level factors, t-test was preferred. For the comparisons involving more than two groups, variance analysis was applied. Finally, the relationship between the seniority variable and the action competence variable was investigated through the Pearson coefficient of correlation.

## Results

### *ICTAC levels of faculties studying at CEIT departments*

ICTAC mean for CEIT department faculties is 3.95 (SD=.54) within a range of 1 and 5. Employed scale asked faculties in what frequency they had showed given ICTAC examples. Likert type questions were valued 1 for never and 5 for always. Therefore this mean can be interpreted as CEIT faculties are frequently showing ICTAC. Determined mean value significantly differs from the midpoint 3 ( $t_{(82)}=15.940$ ;  $p<.001$ ). Within context of items, no mean were significantly below the midpoint 3. However means for items 5, 15, 22, 23, 26 and 35 swung around 3.

### *Examining ICTAC of faculties with respect to various variables*

This section will present findings regarding CEIT department faculties' ICTACs with respect to gender, seniority, academic title and field of BA degrees.

a. Gender

Independent samples t-test was applied in order to determine whether faculties' ICTACs differ with respect to gender. Skewness and kurtosis values revealed that both groups showed normal distribution, and result from Levene's test proved their variances were equal ( $F=.423$ ;  $p>.05$ ). Results from the t-test are presented in Table 1.

Table 1

*Comparison of Faculties' ICTACs with Respect to Gender*

Gender	n	Skewness	Kurtosis	$\bar{X}$	sd	df	t	p
Male	56	-0.3	-0.12	4.001	0.507	81	1.338	0.185
Female	27	-0.651	0.989	3.832	0.599			

Results of t-test suggest no significant difference between faculties' ICTACs with respect to gender ( $p>.05$ ).

b. Seniority

Even though sample contained 83 faculties, there is a negative correlation ( $r=-0.241$ ) between seniority and ICTACs. This value is significant at the 0.028 level. Therefore along with increase in seniority, faculties' ICTACs decrease. A simple linear regression analysis explained 5.8% of the variance in ICTAC.

c. Title

Table 2 represents faculties' distributions and means ICTACs with respect to their academic titles.

Table 2

*Faculties' ICTACs with Respect to Academic Titles*

Title	n	$\bar{X}$	sd
Professor	9	4,109	0,424
Associate Professor	26	3,802	0,595
Assistant Professor	48	3,994	0,522
Total	83	3,946	0,541

Data within Table 2 suggest highest ICTAC for Professors and lowest ICTAC for Associate Professors. Since Professors are role models for the society, this is an expected result. Further examination and analysis of this result require qualitative

researches. Furthermore one should keep in mind the between group frequency differences while interpreting the results.

One-way ANOVA was applied to further analyze between group differences. Results from this analysis are presented in Table 3.

Table 3

*Comparison of Faculties' ICTACs with Respect to Academic Titles*

Source	SS	df	MS	F	p
Between Groups	0.884	2	0.442	1.530	0.223
Within Groups	23.104	80	0.289		
Total	23.987	82			

Data from Table 3 suggest no significant difference between groups which were formed with respect to faculties' academic titles ( $F_{(2,80)} = 1.530, p > .05$ ). However, ICTACs differ significantly with respect to relationship between academic title and seniority ( $r = .429, p < .05$ ). It is normal that academic title increases parallel to seniority. However, while there is a negative significant correlation between ICTAC and seniority, no significant relationship was observed between ICTAC and academic title.

*d. Field of BA*

Table 4 represents faculties' distributions and means ICTACs with respect to their fields of BA degree.

Table 4

*Faculties' ICTACs with Respect to Fields of BA*

Program	n	$\bar{X}$	sd
Educational Sciences and Teacher Training	42	3.911	0.602
Natural Sciences and Mathematics	17	3.948	0.477
Vocational and Technical Education	8	4.097	0.555
Social Studies	4	3.972	0.354
Engineering	10	3.982	0.518
Other	2	3.852	0.530
Total	83	3.946	0.541



Analysis of variance revealed no significant difference between groups ( $F_{(5,77)}=.173$ ;  $p=.972$ ). When these groups were regrouped into four titles (Educational Sciences, Natural Sciences, Engineering, Other) analysis of variance also resulted in no significant differences.

## Discussion and Conclusion

This study aimed to examine CEIT faculties ICTACs with respect to several variables. A total of 83 faculty members participated and findings suggested that they frequently showed action competence characteristics. However, it should be noted that the study is limited to the faculties' responses on the current data collection instrument developed by the researchers.

Since faculties are role models for pre-service and in-service teachers, it is essential for them to represent societal responsibility. With respect to problem areas within the scale, faculties showed lower ICTACs for law, special education, e-democracy, environment and e-citizenship. Therefore, there is a need for faculties to pay more importance to these fields. In this regard, there should be activities to raise faculties' awareness's for problems within respective fields.

Results suggest that gender is not a determinant of participants' ICTACs. While there is a tendency to reveal gender differences within techno-centric studies (Akbulut, Odabaşı & Kuzu, 2011; Birgin, Çoker & Çatlıoğlu, 2010; Erdemir, Bakırcı & Eyduran, 2009; Korkut & Akkoyunlu, 2008; Menzi, Çalışkan & Çetin, 2012; Ulaş & Ozan, 2010), the gender had no significant effect in the current study (Akbulut, 2008; Birol, Bekiroğulları, Etçi & Dağlı, 2009; Deniz, Görgen & Şeker, 2006). Gender differences may be minimized by the fact that faculties are well educated and relatively homogenous with regard to field expertise. However revealing no significant gender differences and higher means is a positive finding. Another essential finding of this study is negative correlation between ICTAC and seniority. This finding can be explained by faculties' academic obsolescence. However this assertion needs further examination. Furthermore this can also be attributed to older faculties' lower ICT uses and competencies.

Another finding of this study is no significant difference with regard to faculties' academic titles. This finding generates a conflict with results from seniority variable. Thus, while seniority explains ICTAC, academic title does not explain ICTAC. There is also no significant difference with respect to participants' BA fields. However, a recent study on information technology teachers' perceived problems revealed that education faculty graduates were likely to have more technical problems whereas technical education faculty graduates were likely to have more instructional problems (Kabakçı, Akbulut & Özoğul, 2009). A possible explanation to no significant difference in the current case may be that ICTAC could deal with societal issues more than technical and instructional constructs, thus the solution processes are not directly affected by the BA degrees.

The findings on ICTACs of faculties' with respect to some variables show that faculties seniority effect their attitudes and practices on this issue except their gender, academic titles and BA fields. Faculties know new technologies and interested in them but may be they do not prefer to take part in a multidisciplinary way. To overcome these, faculties may take part in organizations on ICT to address action competence concerns.

Briefly, action competence concept was formerly applied to environment, sustainable development, health, and peace education. However ICTAC is a relatively new term and needs introduction to various audiences, which is the main limitation of the study. By creating the awareness of faculties in terms of this new term adapted to ICT, it is thought that the faculties will behave more sensitive to the social problems that can be solved by them through their ICT competences. Furthermore, similar studies should examine ICTACs of different samples to create a more comprehensive literature.

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### Öğretim Üyelerinin Bilgi ve İletişim Teknolojileri Eylem Yeterlilikleri†

#### Atıf:

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#### (Özet)

##### Problem durumu

BİT eylem yeterliliğini, "bireylerin fark ettikleri toplumsal sorunları çözebilecek demokratik eylemleri seçme ve gerçekleştirmede kişisel çıkarlarını gözetmeksizin BİT yeterliliklerini etkin bir biçimde işe koşma kapasite ve motivasyonları" şeklinde tanımlamaktadır. Görüldüğü gibi BİT eylem yeterliliği, diğer eylem yeterliliği alanlarının aksine sadece BİT alanında ortaya çıkan toplumsal sorunların çözümüne

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değil; BİT-toplum ilişkisi tarafından etkilenme potansiyeline sahip tüm sorunlarla ilgilenen bir kavramdır. Odabaşı (2010) BİTler ile yakın ilişkide olan ve bu ilişki sonucu dönüşümler geçiren alanları (aile, sağlık, iletişim, medya, hukuk, bilimsel araştırma, öğretim-öğrenme süreci, vatandaşlık, üretim-tüketim) belirlemiştir. Bu alanlar aynı zamanda BİT eylem yeterliliğinin faaliyet alanlarıdır. Yukarıda sıralanan alanları da göz önüne alarak BİT alanında çalışanlarından beklenen, teknoloji alanında yetkin olmaları ve fark ettikleri toplumsal sorunlara teknolojiyi etkili ve verimli şekilde kullanarak çözüm sağlamalarıdır. Eylem yeterliliğinin özellikle toplumu etkileme potansiyeli yüksek olan öğretmenlere kazandırılmasının önemli olduğu düşünülmektedir. BİT eylem yeterliliği bağlamında da BİT konusunda okuryazarlığı ve hazır bulunuşluğu yüksek olan Eğitim Fakültesi Bilgisayar ve Öğretim Teknolojileri Eğitimi (BÖTE) Bölümü öğretim üyelerinin bu konudaki yeterliklerinin büyük önem taşıdığı düşünülmektedir.

#### *Araştırmanın Amacı*

Bu çalışmanın amacı BÖTE bölümü öğretim üyelerinin BİT eylem yeterliliği düzeyleri ile BÖTE bölümü öğretim üyelerinin BİT eylem yeterliklerinin cinsiyetlerine, mesleki kıdemlerine, akademik unvanlarına ve mezun oldukları lisans programlarına göre değişip değişmediğini belirlemektir.

#### *Yöntem*

Tarama modelinde desenlenen araştırmaya 32 farklı üniversitenin BÖTE bölümlerinde görev yapan 83 öğretim üyesi katılmıştır. Veri toplama aracı olarak araştırmacıların geliştirdiği 44 maddeden oluşan, güvenilirlik katsayısı 0.98 olan ve tek faktörlü bir yapı sergileyen Bilgi ve İletişim Teknolojileri Eylem Yeterliliği Ölçeği kullanılmıştır.

#### *Bulgular*

BİT eylem yeterliliği bağlamında BÖTE bölümü öğretim üyelerinin ortalama değerleri 3.95'tir ( $SS=.54$ ). Elde edilen ortalamanın her zaman ile hiçbir zaman seçeneklerinin tam ortasına tekabül eden 3 değerinin anlamlı derecede üstünde olduğu gözlemlenmektedir ( $t_{(82)}=15.940$ ;  $p<.001$ ). Bir başka deyişle BÖTE bölümü öğretim üyeleri BİT eylem yeterliliği göstergelerini sıklıkla gerçekleştirmektedirler. 56 erkek, 27 kadın öğretim üyesinin katılım gösterdiği uygulama sonucunda erkek ve kadın öğretim üyeleri arasında BİT eylem yeterliliği bağlamında anlamlı bir fark gözlemlenmemiştir. Bir başka deyişle kadın ve erkek öğretim üyelerinin BİT eylem yeterliliği düzeyleri benzerdir. 83 kişilik bir örnekleme çalışılmasına rağmen kıdem ve BİT eylem yeterliliği arasında  $-0.241$  büyüklüğünde negatif bir korelasyon katsayısı hesaplanmış, bu değer  $0.028$  düzeyinde anlamlı bulunmuştur. Yani kıdem arttıkça BİT eylem yeterliliği değeri düşmektedir. Bir başka deyişle öğretim üyelerinin mesleki kıdemleri arttıkça BİT eylem yeterliliği göstergelerini daha az sergilemektedirler. Öğretim üyelerinin akademik unvanları arasında BİT eylem yeterliliği bağlamında anlamlı bir fark gözlemlenmemiştir ( $F_{(2,80)} = 1.530$ ,  $p \square .05$ ). Ayrıca öğretim üyelerinin mezun oldukları lisans programlarına göre gruplar arasında anlamlı bir fark bulunmadığı gözlemlenmiştir ( $F_{(5,77)} = .173$ ;  $p \square .05$ ).

#### *Tartışma ve Sonuç*

Başta BÖTE bölümü öğretmen adayları olmak üzere tüm öğretmen adaylarına rol model olacak öğretim üyelerinin BİT eylem yeterlilikleri örneklerini sıklıkla gerçekleştirmeleri, öğretim üyelerinin toplumsal sorumluluklarının yüksek olmasıyla yorumlanabilir. Veri toplama aracındaki maddeler bazında gerçekleştirilen

değerlendirmeler çerçevesinde BİT önderliği gerektiren hukuk, özel eğitim, e-demokrasi, çevre ve e-devlet uygulamalarına ilişkin maddeler diğer maddelere göre daha düşük değerler almıştır. Bu durum öğretim üyelerinin ilgili konularda daha geride olduklarının ve bu alanların daha fazla önem verilerek üzerine eğilinmesi gereken alanlar olduğunun göstergesidir. Bu bağlamda sözü edilen alanlarda öğretim üyelerinin farkındalıklarının artırılmasına yönelik toplantıların yapılması gerektiği söylenebilir. Araştırmada aynı zamanda katılımcıların cinsiyetleri ile BİT eylem yeterlilikleri arasında anlamlı bir farklılık ortaya çıkmamıştır. Öğretim üyelerinin eğitim düzeyi ve alan uzmanlığı bağlamında homojen ve üst düzey bir grup olmaları, cinsiyetten kaynaklanacak farkların en aza inmiş olmasında etken olabilir. Öte yandan böylesine önemli bir konuda anlamlı bir cinsiyet farkı gözlemlenmeksizin olumlu ortalamalarla karşılaşılması sevindiricidir. Araştırmada ortaya çıkan bir diğer bulgu mesleki kıdem artmasıyla BİT eylem yeterliliği değerinin düştüğüdür. Bu olumsuz tablo, yani mesleki kıdem yılı arttıkça BİT eylem yeterliliğinin düşmesi öğretim üyelerinin akademik eskimişlik düzeyleri ile açıklanabilir. Ancak eskimişlik ile ilgili yeni çalışmalar gerçekleştirilmeden böyle bir yargıyı dayanak olarak kullanmak bu aşamada sağlıklı olmayabilir. Ayrıca bu durum artan yaşa göre katılımcıların BİT kullanımlarının azalması ve BİT kullanım yetkinliklerinin düştüğü şeklinde de yorumlanabilir. Araştırmada ele alınan bir başka değişken olan akademik unvan ile BİT eylem yeterliliği arasında anlamlı bir farklılık bulunmamıştır. Bu sonuç mesleki kıdem değişkeninde ortaya çıkan sonuç ile paralellik göstermemektedir. Bir başka deyişle BİT eylem yeterliliği düzeyini meslekteki kıdem yordamakta, ancak akademik unvan yordamamaktadır. Dünyada sağlık, çevre gibi konularda sıklıkla çalışılan eylem yeterliliğinin BİT alanına uyarlanmasıyla ortaya çıkan BİT eylem yeterliliği alanda çok yeni bir kavram olduğundan bu kavramın kapsamını, uygulama örneklerini kapsayan bilgilendirici toplantılarının farklı hedef kitlelerle gerçekleştirilmesi gerektiği söylenebilir. Ayrıca benzer çalışmalar farklı örneklem gruplarıyla gerçekleştirilerek BİT eylem yeterliliğine ilişkin yeni bilgilerin edinilmesine dolayısıyla alanyazın oluşturulmasına katkıda bulunabilir.

**Anahtar Sözcükler:** Bilgi ve iletişim teknolojileri eylem yeterliliği, Öğretim üyesi, Bilgisayar ve Öğretim Teknolojileri Eğitimi Bölümü