

## TEACHER CANDIDATES' INFORMATION LITERACY SELF-EFFICACY

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### ABSTRACT

The aim of this study is to reveal the relation between the teacher candidates' social demographic characteristics and their information literacy self-efficacy. The research was conducted among teacher candidates in North Cyprus. The sample consists of 142 [49.30% (n=70) female, and 50.70% (n=72) male] teacher candidates who were selected according to convenience sampling in Faculty of Education at Cyprus International University. In this study, the "Information Literacy Self-Efficacy" scale developed by Kurbanoglu, Akkoyunlu and Umay (2006) with a Cronbach alpha reliability coefficient of .91 was used in data analysis. Considering the purposes of the study percentage documentation average, t-test, ANOVA, Scheffe test and Levene's test were figured out in data analysis. The statistical significance level was accepted as .05 in the study.

Keywords: Information Literacy, Self-Efficacy, Teacher Candidate, Teacher Education

### INTRODUCTION

The phrase information literacy (IL) first appeared in print in a 1974 report by Paul G. Zurkowski written on behalf of the National Commission on Libraries and Information Science. Zurkowski (1974) used the phrase to describe the "techniques and skills" known by the information literate "for utilizing the wide range of information tools as well as primary sources in molding information solutions to their problems".

Subsequently a number of efforts were made to better define the concept and its relationship to other skills and forms of literacy. Although other educational goals, including traditional literacy, computer literacy, and critical thinking skills, were related to information literacy and important foundations for its development, information literacy itself was emerging as a distinct skill set and a necessary key to one's social and economic well-being in an increasingly complex information society (Kulthau, 1987).

A seminal event in the development of the concept of IL was the establishment of the American Library Association's Presidential Committee on IL, whose 1989 final report outlined the importance of the concept. The report defined information literacy as the ability "to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" and highlighted information literacy as a skill essential for lifelong learning and the production of an informed and prosperous

citizenry. The committee outlined six principal recommendations: to "reconsider the ways we have organized information institutionally, structured information access, and defined information's role in our lives at home in the community, and in the work place"; to promote "public awareness of the problems created by information literacy"; to develop a national research agenda related to information and its use; to ensure the existence of "a climate conducive to students' becoming information literate"; to include information literacy concerns in teacher education; and to promote public awareness of the relationship between information literacy and the more general goals of "literacy, productivity, and democracy." (ALA, 1989).

In 2003, the National Forum on IL, together with UNESCO and the National Commission on Libraries and Information Science, sponsored an international conference in Prague with representatives from some twenty-three countries to discuss the importance of information literacy within a global context. The resulting Prague Declaration proposed the following basic Information Literacy principles: (UNESCO, 2003).

- The creation of an Information Society is key to social, cultural and economic development of nations and communities, institutions and individuals in the 21<sup>st</sup> century and beyond.
- Information Literacy encompasses knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of lifelong learning.
- Information Literacy, in conjunction with access to essential information and effective use of information and communication technologies, plays a leading role in reducing the inequities within and among countries and peoples, and in promoting tolerance and mutual understanding through information use in multicultural and multilingual contexts.
- Information Literacy should be an integral part of Education for All, which can contribute critically to the achievement of the United Nations Millennium Development Goals, and respect for the Universal Declaration of Human Rights.

Self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave. Such beliefs produce these diverse effects through four major processes. These include cognitive, motivational, affective and selection processes. A strong sense of efficacy enhances human accomplishment and personal well-being in many ways. People with high confidence in their capabilities approach difficult tasks as challenges to overcome rather than as threats to avoid. Such an efficacious outlook fosters intrinsic motivation and deep engagement in activities. They set themselves challenging goals and maintain strong commitment to them. They heighten and sustain their efforts in the face of failure. They quickly recover their sense of efficacy after failures or setbacks. They attribute failure to insufficient effort or deficient knowledge and skills which are to be developed. They approach threatening situations with confidence that they can exercise control over them. Such an efficacious outlook produces personal accomplishments, reduces stress and lowers vulnerability to depression (Bandura, 1994).

In contrast, people who doubt about their capabilities avoid difficult tasks which they view as personal threats. They have low aspirations and weak commitment to the goals they choose to pursue. When faced with difficult tasks, they dwell on their personal deficiencies, on the obstacles they will encounter, and all kinds of adverse outcomes rather than concentrate on how to perform successfully. They slacken their efforts and give up quickly in the face of difficulties. They are slow to recover their sense of efficacy following failure or setbacks. Because they view insufficient performance as deficient aptitude it does not require much failure for them to lose faith in their capabilities. They fall easy victims to stress and depression (Bandura, 1994).

With the information Age, the major principles of design for teaching and learning environments have changed dramatically. Therefore, possessing IL skills, as well as developing high self-efficacy, has become crucial skills in our day. Self-efficacy is a fundamental determinant in coping with and adapting to the system and it particularly affects what teachers do and what they manage, as stated by Bandura (2003). Self-efficacy has been a popular topic attracting the attention of many researchers from the education disciplines. Studies have been conducted in the context of teacher efficacy (Tschannen, 2001) and teachers' IL. These studies showed that teachers with higher self-efficacy are more likely to be effective in their classrooms by exhibiting enthusiasm for teaching, being open to students' ideas, using innovative instrumental methods that reflect their instruction and motivating students to learn.

Within the scope of relevant scientific studies, it is mentioned that information literacy is one of the significant parameter in education of teacher candidates' (Eisenberg & McGuire, 2004; Erdem, 2007; Akkoyunlu & Kurbanoglu, 2003; Tschannen, 2001) and various scales were used to measure information literacy self-efficacy (Akkoyunlu & Kurbanoglu, 2003; Kurbanoglu, Akkoyunlu & Umay, 2006).

The aim of this study is to reveal the relation between the teacher candidates' social demographic characteristics and their information literacy self-efficacy (ILSE).

### **Problem Statements of the Study**

The main problem statement of the study is stated as follows: "Is there a relation between the teacher candidates' social demographic characteristics and their information literacy self-efficacy?"

### **Sub Problems**

The study aims to answer the following sub problem questions.

1. Is there any statistical difference teacher candidates' ILSE according to the gender?
2. Is there any statistical difference teacher candidates' ILSE according to the English proficiency level (self-perception)?
3. Is there any statistical difference teacher candidates' ILSE according to the experiences of computer usage?

## **RESEARCH METHODOLOGY**

### **Research Design**

The descriptive type of research was carried out via the descriptive type and is in accordance with the associational research model. This type of research aims to evaluate the degree and the variation between two or more variables (Karasar, 2009).

### **The Universe and Sample of the Study**

The universe of the study consists of the teacher candidates at the universities in North Cyprus. The sample consists of 142 [49.30% (n=70) female, and 50.70% (n=72) male] teacher candidates' who were selected according to convenience sampling in Faculty of Education at Cyprus International University.

### **Research Instruments**

#### **Demographic Information Form**

This 3-item form is prepared by the researcher to collect data about teacher candidates' gender, English proficiency level and their experiences of computer usage.

#### **Information Literacy Self-Efficacy Scale**

The scale for Information Literacy Self-Efficacy Scale was a 28-item and 7-point Likert scale developed by Kurbanoglu, Akkoyunlu and Umay to define participants' self-efficacy level for IL. The participants were asked to rate each item on a scale ranging from 1 to 7. The minimum and maximum scores which could be received from the scale were 28 and 196 respectively. The Cronbach alpha reliability coefficient of the scale was calculated to be .91.

### **Data Analysis**

In the statistical evaluation of the research all analyses are performed by using SPSS 15.0 for windows. When the number of individuals included within the scope of the research exceeds 50, it is recommended that Kolmogorov-Smirnov test be utilized for testing whether or not the data obtained from the attitude scales display a normal distribution (Coakes & Steed, 1997; Tabachnick & Fidell, 2000). In the Kolmogorov-Smirnov test, since the statistical null hypothesis states that "the distribution of the grades does not display a meaningful difference from the normal distribution", the fact that the calculated "p" value exceeds .05 has led to the evaluation that the grades do not display a significant difference from the normal distribution (Büyüköztürk, 2006). When the Kolmogorov-Smirnov test results are considered, t test and uni-directional variance analysis (ANOVA) tests were applied for the data with a normal distribution. The significance level was taken as .05 in this study.

## **FINDINGS**

The data obtained from the research were studied and interpreted in accordance with the sub problems.

Comparing the scores obtained from the dependent variables ILSE, Kolmogorov-Smirnov test was used to check the convenience of the variables with respect to normal distribution. The results of the analysis are presented in Table 1.

**Table 1: Analysis Result Regarding Normal Distribution Test of Dependent Variable**

<b>Dependent Variable</b>	<b>n</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>KS-Z</b>	<b>p</b>
ILSE	142	124.978	11.353	1.233	.096

As can be seen in Table 1, the data regarding ILSE indicated a normal distribution therefore parametric tests were used to analysis data.

The following results were found according to the problem statement and the sub questions of the study.

**Findings of the First sub-question of the Research**

The first sub-question of the research was expressed as “Is there any statistical difference teacher candidates’ ILSE according to the gender?”

**Table 2: t- Test Results of the Teacher Candidates’ ILSE According to the Gender**

<b>Gender</b>	<b>n</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Df</b>	<b>t</b>	<b>p</b>	<b>Meaningful difference</b>
ILSE Female	70	124.571	11.201	140	.420	.675	p>.05
ILSE Male	72	125.375	11.564				

Levene’s Test for Equality of Variances: F=.120 p=.730

To determine whether or not there is a significant difference between teacher candidates’ ILSE according to the gender t-test was applied. As it can be seen in Table 2, although male teacher candidates’ average scores are better than female teacher candidates’, there is no statistically meaningful difference according to gender.

**Findings of the Second sub-question of the Research**

The second sub-question of the research was expressed as “Is there any statistical difference teacher candidates’ ILSE according to the English proficiency level?”

**Table 3: ANOVA Results of the Teacher Candidates’ ILSE According to English Proficiency Level**

<b>English proficiency level</b>	<b>n</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Df</b>	<b>F</b>	<b>p</b>	<b>Meaningful difference</b>	
ILSE	Very Bad (a)	8	112.125	12.988	137	3.191	.015*	a-b**
	Bad (b)	52	126.653	10.108				
	Average(c)	55	125.054	10.973				
	Good (d)	18	124.222	12.730				
	Very Good (e)	9	127.777	11.042				
	Total	142	124.978	11.353				

Levene Statistic=.336; df1=4; df2=137; p=.853; \*p<.05; \*\* Indicates that the difference is in favor of the group.

In order to determine whether there is a statistically significant difference between teacher candidates' ILSE according to the English proficiency level One-Way ANOVA test was applied. As it can be seen in Table 3, there is a statistically significant change, in other words there is a significant difference, teacher candidates' ILSE ( $F=3.191$   $p<.05$ ) according to the English proficiency level

It was observed that the significant difference stemmed from the a-b\*\*, a-c\*\*, a-d\*\*, a-e\*\* groups by using Scheffe test. This difference is against to the teacher candidates' who perceives their English proficiency level as very bad.

**Findings of the Third sub-question of the Research**

The third sub-question of the research was expressed as “Is there any statistical difference teacher candidates' ILSE according to the experience of computer usage?”

Table 4: ANOVA Results of the Teacher Candidates' ILSE According to the Experiences of Computer Usage

Experiences of Computer Usage		n	Mean	Std. Dev.	Df	F	p	Meaningful difference
ILSE	None (a)	5	114.400	13.240	4	3.385	.011*	a-c**
	Limited (b)	10	116.700	14.552				
	Some (c)	68	124.882	10.488	137			b-c**
	Quite A Lot (d)	48	127.812	9.630				
	A Lot (e)	11	125.545	14.841	141			b-d**
	Total	142	124.978	11.353				

Levene Statistic=1.423; df1=4; df2=137; p=.230; \* $p<.05$ ; \*\* Indicates that the difference is in favor of the group.

To determine whether or not there is a significant difference between teachers candidates' ILSE according to the experiences of computer usage One-Way ANOVA analyze was applied. As it can be seen from Table 4, there is a statistically significant difference teacher candidates' ILSE ( $F=3.385$   $p<.05$ ).

It was observed that the significant difference stemmed from the a-c\*\*, a-d\*\*, b-c\*\*, b-d\*\* groups by using Scheffe test. This difference is in favor to the teacher candidates' who perceives their experiences of computer usage as very bad.

**DISCUSSION**

The results and the discussion of the findings of the study presented below.

As it can be seen from table 1, the general mean score of teacher candidates' self-efficacy for IL is 124.98. This result indicates that teacher candidates' IL self-efficacy level is medium.

It is observed that there is no statistically significant change, in other words there is no significant difference, teacher candidates' ILSE according to the gender. The result is



also supported by the findings in the studies conducted by Korkut & Akkoyunlu (2008), Ata & Baran (2011) and Şendurur, Gülsoy, & Mutlu, (2011).

It is seen that there is a statistically significant difference teacher candidates' ILSE according to English proficiency level. The result is also supported by the findings in the studies conducted by Korkut & Akkoyunlu (2008) and Ata & Baran (2011).

It is observed that there is a statistically significant difference teacher candidates' ILSE according to experiences of computer usage. The result is also supported by the findings in the studies conducted by Nagira (2000) and Şendurur, Gülsoy, & Mutlu (2011).

### **CONCLUSIONS AND RECOMMENDATIONS**

It is observed that there is a statistically significant difference teacher candidates' ILSE according to the English proficiency level, experiences of computer usage and whereas there is no statistically significant difference according to the gender.

The information literacy games can be used in teacher candidates' education. These games teach the teacher candidates' IL skills including creating citations, judging citation completeness, assessing author expertise, assessing source relevance and credibility, judging quality, and assessing accuracy.

Educational methods and practices, within our increasingly information-centric society, must facilitate and enhance a student's ability to harness the power of information. Key to harnessing the power of information is the ability to evaluate information, to ascertain among other things its relevance, authenticity and modernity. The information evaluation process is crucial life skill and a basis for lifelong learning. Therefore, lifelong activities related with information literacy have to be supported in teacher candidates' curriculum.

Also, education professionals should encourage students to examine "causes" of behaviors, actions and events. Such initiatives would aid educators help teacher candidates become more Information Literate.

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