COMPUTER SUFFICIENCY PERCEPTIONS OF GERMAN LANGUAGE TEACHER CANDIDATES

ALMANCA ÖĞRETMEN ADAYLARININ BİLGİSAYAR ÖZ YETERLİK ALGILARI

Research Assistant Dr. Fatma KARAMAN

Mugla Sıtkı Kocman University Faculty of Education German Language Training, fatmakaraman33@gmail.co, Istanbul / Turkey

ABSTRACT

Nowadays, computers offer many possibilities to everybody. The benefit from these possibilities is related to the competence of the computer. In this sense, the aim of this study is to define the perceptions of preservice teachers for computer self-efficacy. With this aim, the answers of the following research questions are searched in this study: What are the computer self-efficacy perception levels of pre-service German language teachers? Do the computer self-efficacy perception levels of pre-service German language teachers differ according to gender? Do the computer self-efficacy perception levels of pre-service German language teachers differ according to class level? In this study, the scanning method which is a descriptive research model was used. Muğla Sıtkı Koçman University's research group constitutes 120 teacher candidates who are studying in 2017-2018 education year in the undergraduate program of German Language Education. 93 of these students are female; 27 is male. A 5-point Likert-type computer self-efficacy perception scale was used as data collection tool, rated as "never, rarely, not sure, usually, always". The scale developed by Aşkar and Umay consists of 18 items. The obtained data were analyzed using descriptive statistical techniques such as frequency, percentage, arithmetic mean, standard deviation, minimum and maximum values. Anova was used to determine whether there was a difference between the classes. The t-test was used to determine the difference between male and female students' self-efficacy perceptions. the arithmetic average of the computer self-efficacy perception scale of 120 German Language teacher candidates was found to be 61,3. There was a significant difference in the computer self-efficacy perceptions of male and female teacher candidates.

Keywords: Use of computer, foreign language teaching, self sufficient.

ÖZ

Bilgisayar günümüzde her kitleye çok sayıda olanaklar sunmaktadır. Bu olanaklardan faydalanabilme ise bilgisayar konusundaki yeterlilikle ilgilidir. Bu bağlamda bu çalışmanın amacı Almanca öğretmen adaylarının bilgisayar öz yeterlik algı düzeylerini ve adayların algılarının cinsiyet, sınıf düzeyi değişkenlerine göre farklılık gösterip göstermediğini, araştırmaktır. Çalışmada betimsel araştırma modellerinden olan tarama yöntemi kullanılmıştır. Çalışmanın araştırma grubunu Muğla Sıtkı Koçman Üniversitesi Alman Dili Eğitimi lisans programında 2017-2018 eğitim öğretim yılında öğrenim gören 120 öğretmen adayı oluşturmaktadır. Veri toplama aracı olarak Aşkar ve Umay tarafından geliştirilen 5'li likert tipi bilgisayara ilişkin öz yeterlik algısı ölçeği kullanılmıştır. Verilerin analizinde SPSS paket programı kullanılmıştır. Elde edilen veriler frekans, yüzde, aritmetik ortalama, standart sapma, minimum ve maximum değer gibi betimsel istatistik teknikleri kullanılarak çözümlenmiştir. Sınıflar arasında farklılık olup olmadığını belirlemek için Anova kullanılmıştır. Kadın ve erkek öğrenciler arasındaki farklılığı belirlemek için ise t- testi kullanılmıştır. Kadın ve erkek öğretmen adaylarının bilgisayar öz yeterlik algıları arasında anlamlı bir farklılık görülmüştür. Kadın Almanca öğretmen adaylarının aritmetik ortalaması 58,4 iken erkeklerinki ise 71,5 olarak bulunmuştur. Verilerin aritmetik ortalaması 61,3'tür.

Anahtar Kelimeler: Bilgisayar kullanımı, yabancı dil öğretimi, öz yeterlilik

1. INTRODUCTION

With the adaptation of new education philosophy in our country, teaching is no longer teacher-centered instruction but it has become student-centered education by giving major responsibility of learning and education process to students. According to this philosophy, student can define his/her own learning way and style. While doing this, student takes advantages and opportunities of technology. One of these opportunities

is computer. As in other areas, computers are indispensable instruments in education system as well. 'The things that happen as inevitable result of information age has also changed the qualities of learner. Learning to learn is seen as a key for success and lifelong learning.' (Korkut, & Akkoyunlu, 2008: 179). So the importance of using computer in our day is increasing as a teacher does not only transfer information but he/she also shows how to reach information from different ways. (Erdamar et al., 2017: 637). In the past, to having information was important, but today thanks to communication networks and developing technology, reaching right information, speed and the way how to reach information are becoming more important.

The developments in the area of technology has increased the expectations in education like many other areas related with people such as economy, industry, agriculture, communication. These technological developments both has changed the expected duty of teacher and increased the role of teacher in the process of teaching and education. In this sense it is expected from a teacher to use information technologies actively and have ability to show how to use it to concerned group namely students. The computer has become indispensable part of life with its high speed, practicability and versatility against the events such as changing perpetually environment, growing up economic and social foundations, overproduction (Alkan, 1998: 182). As it is seen, computers have lots of functions such as pen notebook and storing area for not only in education but also in workplace environments. So it is necessary both for language teachers and preservice German language teachers, who will be professionals in the future, to use it very well and to have a good computer perception level. Because pre-service teachers who do not know using computer have problems like searching homework, preparing presentation, and they don't know how to reach materials related with lesson. For example, there are lots of texts, videos, visuals, animations for foreign teaching. For using these materials, competence of computer is important skill. "Using computers and every kind of technological equipment gives students the sense of freedom and encouragement. With the help of technology students can be active, motivated and involved in language learning process. High quality of authentic materials and low price can be other advantages of technology" (Genç Ilter, 2009: 137).

As it is known that there are 3 main competences among components of teaching profession: pedagogics, field information and technological knowledge. (Mutlu, 2016: 1001). So today it is not enough to have field information and pedagogics. It is necessary to have technology literacy as well. In this sense, the aim of this study is to define the perceptions of preservice teachers for computer self-efficacy. With this aim, the answers of the following research questions are searched in this study:

1. What are the computer self-efficacy perception levels of pre-service German language teachers?
2. Do the computer self-efficacy perception levels of pre-service German language teachers differ according to gender?
3. Do the computer self-efficacy perception levels of pre-service German language teachers differ according to class level?

2. COMPUTER UTILIZSATION IN FOREIGN LANGUAGE TEACHING

Today, the computer aided teaching is indispensable for education. So that, most of the foreign language teaching methods are including the computer use. These methods, such as audio-visual methods, are using computers at certain stages. Therefore, computers are needed for basic and auxiliary tool for foreign language teaching. For instance, it is referred to computers for such activities as presenting visual and auditory materials in foreign language teaching for children, and video preparations. Generally, computers are used at all stages of the teaching-learning process; such as preparing materials, making presentations, transferring information, organizing events, conducting evaluations. For this reason, the tasks and responsibilities of foreign language teachers also include the using of computers in the terms of technology literacy. Therefore, teacher candidates can perform homeworks and researches for the courses which are carried out by traditional or alternative methods via computer. In other words, the computer skills of the teacher and the student are related to the ability to access the internet and conduct research on internet (Halis, 2001: 278). Today, all the tasks required by the education and business environment such as accessing to information, use of knowledge, addition of knowledge, dissemination of knowledge, information development can be accomplished via computers.

Verbal, visual and audiovisual materials are taking place in foreign language classes that equipped with technology. Computer using skill is required to utilize these materials in the teaching process. For example, computer knowledge is required when presentation presenting. As it is known, the PowerPoint offers the possibility to transfer both simple and complex contents, images, pictures and shapes. In addition to this; by allowing to make video, displaying, animation and slides, it allows the user to make animated and audible

demonstrations (Gürüz & Temel Eğinli, 2016: 89). Therefore, teacher candidate can prepare visual and audial material by using computer and can contribute to the learning process by reaching information via computers.

3. CONCEPT OF SELF-EFFICACY

The concept of self-efficacy is based on Bandura's social learning theory. According to Bandura, self-efficacy is a reflection of an individual's ability to organize and fulfill an action in order to achieve a certain purpose (Bandura, 1995: 27). Tehrefore, the self-efficacy perception can be defined as the belief that someone can succeed when carrying on a job or task. The knowledge of the person's own ability. The computer self-sufficiency is perceptions of students' abilities, knowledge and ability to use computers. Having self sufficiency has many positive results. For instance, those with high levels of self-efficacy experience less stress are successful, feel good about their work, and have high motivation (Fuchs, 2005: 73). As it is known, the key to motivation is great because it is a prerequisite for the learning process to take place. A high level of self-efficacy perception encourages students to motivate themselves to experiment with new learning strategies and to work intensively until success is achieved. For this reason, the high level self-efficacy perception minimizes the fear and failure (Woolfolk, 2008: 407.) Accordingly, according to the social cognitive theorists, the self-efficacy perception of the individual substantially influences the choices, effort and level of anxiety they spent in a successful job (Işıksal & Aşkar, 2003: 109). Because individuals with high self-efficacy perceptions have higher levels of labor, effort and motivation to achieve success.

Yurdugül and Demir based on the students' computer self-efficacy perceptions as one of the reasons of failure in e-learning environments. They found that there was a relationship between the computer self-efficacy perception and the readiness to e-learning in their research (2017). Since e-learning is widely used in foreign language teaching, the importance of computer self-sufficiency of foreign language teacher candidates and students is also increasing.

4. METHOD

In this study, the scanning method which is a descriptive research model was used. The scanning model is a research model that aims to describe an existing situation or phenomenon as if it were present (Karasar, 2000).

4.1. Research Group

Muğla Sıtkı Koçman University's research group constitutes 120 teacher candidates who are studying in 2017-2018 education year in the undergraduate program of German Language Education. 93 of these students are female; 27 are male. The distribution of students by class and gender is shown in the table below.

Table 1. Distribution of German Language Teacher Candidates Participating in Self-Efficacy Perception Questionnaire on Computer Usage by Gender

Gender	F	%
Female	93	77,5
Male	27	22,5
Total	120	100,0

4.2. Data Collection Tool

A 5-point Likert-type computer self-efficacy perception scale was used as data collection tool, rated as "never, rarely, not sure, usually, always". The scale developed by Aşkar and Umay consists of 18 items. Rates were scored as never 1, rarely 2, not sure 3, usually 4, always 5, according to the scoring of five scale Likert-type scales. When scoring on negative items, they are always reversed to 1, usually 2, not sure 3, rarely 4, never 5. Accordingly, the highest score that can be taken from the scale is 90 while the lowest score is 18. The reliability coefficient of the scale was found to be 0,71. In addition to this scale, from the students of the German Language Education who participated in the research have obtained information such as their demographic characteristics, computer ownership, computer experience and usage frequency.

4.3. Analysis of Data

In the analysis of the data, SPSS package program was used. The obtained data were analyzed using descriptive statistical techniques such as frequency, percentage, arithmetic mean, standard deviation, minimum and maximum values. Anova was used to determine whether there was a difference between the

classes. The t-test was used to determine the difference between male and female students' self-efficacy perceptions.

4.4. Findings and Comments

Table 2: Distribution of German Language Teacher Candidates Grade Levels Attending to the Survey

Class of	F	%
1	25	20,8
2	36	30,0
3	25	20,8
4	34	28,3
Total	120	100

As shown in Table 2, from 1st grade 25; 2nd grade 36; 3rd grade 25; 4th grade 34 people participated in the survey.

In order to better assess the data from the scale in the study, information was also collected on whether participants had their own personal computers, frequency of computer use, and experience with computer use. The following table gives information about this.

Table 3: The Possession of Computer by the Students of the Department of German Language Education

		Frequency	Percent
Possession of Computer	Yes	103	85,8
	No	14	11,7

As shown in Table 3, while 103 of the German Language Teacher candidates participating in the survey had a computer; 14 of them were not. Which means, most of the candidates are possesing computers.

Table 4: Experiences of German Language Teacher Candidates on Computer Usage

Computer Use Experience	F	%
No	1	0,8
Limited	5	4,2
Some	32	26,7
Quite	62	51,7
Good	20	16,7

As the table above inspected, we can observe that there are 120 German Language Teacher candidates have a good level of computer experience. There is 1 candidate who has no experience of using a computer; 5 candidates with limited computer use experience; 32 candidates with some computer use experience; 62 candidates with quite computer use experience and 20 candidates with good computer use experience.

Table 5: Frequency of Computer Usage of German Language Teacher Candidates

Frequency of Computer Usage	F	%
Every day, constantly	31	25,8
Every day, a few hours	22	18,3
A few days a week	42	35,0
A few hours a month	24	20,0
Never	1	,8

As shown in Table 5, it is stated that 31 students participating in the study is every day, constantly; 22 students are every day, a few hours; 42 students a few days a week and 24 students are a few hours a month. Only one student did not use the computer at all. When the data are examined, it is seen that most of the students in general use computer frequently.

Table 6: The Arithmetic Mean of the Perceived Self Esteem Scale of Female and Male Students

Gender	Student Count	Arithmetic Mean
Female	93	58,4
Male	27	71,5

As shown in Table 6, the arithmetic average of female German Language teacher candidates was found to be 58,4 while that of male candidates was found to be 71,5. There is a significant difference in the computer self-efficacy perceptions of male and female teacher candidates. Male candidates have higher averages.

Table 7: The Arithmetic Mean of the Self-Efficacy Perception Scale of the Teacher Candidates With Possesing and Without Possesing the Computer

Possesing Computer	Student Count	Arithmetic Mean
Yes	103	62,5
No	14	53,8

As shown in Table 7, it is observed that while 103 candidates possesing computers, 14 does not. Perceived computer self-efficacy levels of candidates possesing a computer are 62,5; the candidates who do not posses a computer are 53,8.

Table 8: Arithmetic Mean and Standard Deviation Values of Computer Self-Efficacy Perception Levels of German Language Teacher Candidates

Student Count N	Average Value $\overline{X}$	Max	Min
120	61,3	87	31

As shown in Table 8, when a general evaluation is made without distinguishing between genders, the arithmetic average of the computer self-efficacy perception scale of 120 German Language teacher candidates was found to be 61,3. The minimum value is 31 while the maximum value was 87. According to the data, it is observed that the computer self-efficacy perceptions of the German Language teacher candidates are in moderate level. This level is not sufficient in the terms of importance and place of computers in foreign language usage.

Table 9: Change of German Self-Efficacy Perceptions of Teacher Candidates at the Grade Level

Class	N	Median	Min	Max
1	25	61,9	31	84
2	36	62,1	38	86
3	25	60,8	46	80
4	34	60,5	34	87
Total	120	61,3	31	87

As shown in Table 9, according to the results of the t-test, there was no significant difference between the levels of computer self-efficacy perceptions of the German Language teacher candidates in regards of their grades. The perception levels of all grades were middle level. According to Anova there was no significant difference between the classes (p= ,000>0,05).

Table 10: Distributions of Responses to the Perception of Self-Efficacy Perception on the Computer by Each Item

	. X	Ss
1. I believe that I have a special ability to use the computer.	2,95	1,25
2. I am computer literate.	3,48	1,06
3. I feel sufficient when I'm on the computer.	3,55	1,09
4. If I try hard enough, I can solve the computer problems.	3,79	1,00
5. I Know what to do when I encounter a brand-new situation on the computer.	3,45	1,06
6. It is simple for me to write any kind of text on the computer.	3,65	1,05
7. I am afraid I will do something wrong/press the wrong button while using the computer.	4,05	1,18
8. I believed that it was impossible for me to fully master the computer.	3,88	1,27
9. I get nervous when I work on the computer.	3,95	1,03
10. The computers are failing me.	4,06	,95
11. While working on a computer, instant solutions to problems are enough.	3,18	1,05
12. I believe that I have mastered computer terms and concepts.	3,11	1,12
13. I almost think that the computer is a piece of me.	2,31	1,34
14. I use the computer when planning my day/time.	2,05	1,27
15. I go around the computer and make new discoveries.	3,15	1,22
16. I think I can use the computer effectively.	3,54	1,06
17. I panic when I encounter a sudden problem on a computer.	3,58	1,11
18. I consider most of the time I spend on a computer as lost.	3,57	1,22

As shown in Table 10, the arithmetic mean of the positive responses was moderate while the arithmetic mean of the negative items was high. For example, while average of the negative item of "I am afraid I will do something wrong/press the wrong button while using the computer." is 4,05; and the average of the positive item of "I believe that I have mastered computer terms and concepts." is 3,1.

4. CONCLUSIONS, RECOMMENDATIONS AND DISCUSSION

In order to use information technologies in instructing effectively, it is necessary for the prospective teachers to have a certain level of knowledge, and competence for these tools and have full belief in these skills of those who utilize them. Therefore, in this study where the computer self-efficacy perception levels of German Language teacher candidates were investigated, the arithmetic average of the computer self-efficacy perception scale of 120 German Language teacher candidates was found to be 61,3 when an evaluation was made without discrimination between genders. According to the data, it is observed that the computer self-efficacy perceptions of the German Language teacher candidates are moderate. There was a significant difference in the computer self-efficacy perceptions of male and female teacher candidates. The arithmetic average of the female German Language teacher candidates was found to be 58,4 while the male candidates were found to be 71,5. This can be explained by the fact that the number of male candidates interests towards to computers is higher than that of female candidates. There was no significant difference between the computer self-efficacy perception of German Language teacher candidates in means of class grades.

The results of Korkut and Akkoyunlu's research on computer self-efficacy of foreign language teacher candidates resulted in as a high level of information and computer literacy self-efficacy averages (2008). In studying Çuhadar and Yücel's foreign language teacher candidates on self-efficacy perceptions of information and communication technologies for instructional purposes, the majority of the participants concluded that they found themselves sufficiently satisfied with the utilize of the information and communication technologies for instructional purposes (2010). The self-efficacy perceptions of the students of primary school mathematics teaching regarding the computer use were found not high (Aşkar & Umay, 2001). Erdamar et al. found that the teachers self-efficacy beliefs in education were above the middle level, and that these results did not differ significantly from gender (2017). In this context, the results obtained in this study and the results of the above studies differs.

Self-efficacy perceptions were not high although a large portion of the candidates are possesing the computers and their experience with computer use is good. This situation can explained by the utilize of the computers by prospective teachers are not for theeducational purposes, but the recreational. Teacher candidates should be encouraged to use computers in a way that contributes to their profession; in the computer lessons in undergraduate programs, the candidates should be informed on how to utilize the computer effectively in their lessons. Students should be conscious about spending their time on the computer more for the educational purposes.

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