

**Pedagojik Formasyon Programı ile Lisans Eğitimi Fen Bilimleri
Öğretmen Adaylarının Dijital Okuryazarlık Düzeylerinin
İncelenmesi**

**Examining the Digital Literacy Levels of Undergraduate Science
Education and Pedagogical Formation Programme Preservice Teachers**

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Extended Summary

Purpose

The fast growing of digital technologies in this era which is called the digital era pits the individuals against the challenge of increasing their skill levels in terms of technical, cognitive and sociological fields in order to come up with solutions to the problems occurring in digital environments. These skills are called as “digital literacy” in the body of literature. The use of information and communication technologies within science education enable students to understand the science education concepts better and motivate them, thus leading to a much more effective science education. At this point, it is significantly important that science education preservice teachers should acquire digital literacy skills. The purpose of this study is to investigate the digital literacy levels of pedagogical formation science education preservice teachers and undergraduate science education preservice teachers receiving education under two different programs in terms of different variables (gender, department and the frequency of having access to Internet).

Method

A general survey model was used to investigate the digital literacy of pre-service teachers. Hence, 128 science education preservice teachers receiving education under pedagogical formation programme and 78 fourth-grade undergraduate science education pre-service teachers at Niğde University, Education Faculty were reached during 2014-2015 academic-year. As data collection tools, “Personal Information Form” developed by Çetin, Çalışkan, ve Menzi (2012) and “Scale to Determine Digital Literacy Levels of Preservice Teachers” which was

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developed by Kıyıcı (2008) were used.

Results

In this research, the following results were obtained; (1) Pre-service teachers see themselves as competent at upper intermediate level about digital literacy. (2) The digital literacy levels of male preservice teachers are higher when compared to female preservice teachers (3) The digital literacy levels of preservice teachers who are receiving undergraduate education were higher when compared with the digital literacy levels of preservice teachers receiving education under pedagogical formation programme (4) The digital literacy levels of pre-service teachers increase positively according to having access to Internet.

Discussion

Results of the research indicated that pre-service teachers have upper intermediate level competence in terms of digital literacy. It was determined as a result of the study that the digital literacy levels of male pre-service teachers are significantly higher than those of female pre-service teachers. The facts that male pre-service teachers are more curious about technological components when compared to female pre-service teachers, that they are in more interaction with technological components and especially with computers rather than female pre-service teachers and that male pre-service teachers are more willing and courageous in terms of using technological components when compared to female pre-service teachers and that they are more motivated and have more easy access to technology when compared to female pre-service teachers can be stated among the reasons behind this phenomenon. As a result of the analyses made, it was concluded that the digital literacy scores of undergraduate science education pre-service teachers were significantly higher than the digital literacy skills of pedagogical program science education pre-service teachers. As in this study, there are seminal research studies in the literature stating that pedagogical formation programme science education pre-service teachers see themselves as less competent when compared with the undergraduate science education pre-service teachers. In addition, previous studies and this study have revealed that using Internet frequently increase digital literacy.

Conclusion

No matter how much the preservice teachers think themselves proficient or adequate in terms of digital literacy skills, studies that seek to focus on predicting the digital literacy skills in terms of practise should be carried out. This way, it can be determined how well and to what extent the teachers can use their skills. Educational environments where the female preservice teachers can participate in the process, especially the one regarding how to use the technology should be created. The contents of the courses given under the formation programme should be prepared to include a greater number of courses that focus on integrating the technology into education. Educational settings such as computer labs where the preservice teachers could make much more use of computers and Internet, where

they can receive instant service anytime they like should be created.

Key Words: preservice teachers, Pedagogical formation programme, digital literacy, technology.

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