Chapter 7

HOME SCIENTIFIC EXPERIENCES AS A PREDICTOR OF PRESCHOOLERS' EARLY ACADEMIC SKILLS

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INTRODUCTION

In order to cope effectively with economic, social and cultural changes, there is a need for scientifically active individuals who have critical thinking and problem-solving skills to produce creative ideas. Therefore, it is necessary to educate individuals with academic skills that form the basis of lifelong learning from an early age (Vujicic, Ivkovic & Boneta, 2016). Game-based activities prepared based on children's natural curiosity and exploration skills will support the early academic skills that children will use in all their educational lives (Uyanık & Alisinanoğlu, 2016).

In the preschool period, literacy skills and mathematics skills constitute early academic skills (Charlesworth & Lind, 2007). Verbal language skills, alphabet knowledge, phonological awareness, vocabulary, pre-writing skills and writing skills are considered as literacy skills (Wright, 2016). Mathematical concepts, recognition, naming, matching, comparison, grouping, sorting, numbers, addition, subtraction and division process, modeling, geometry and spatial logic, measurement, charting skills are defined as mathematical skills (Eliason & Jenkins, 2003). In addition to the systematic education given in the school, children learn many skills from birth through experiences in the home environment (Cassel, 2011). Therefore, in the acquisition of early academic skills, the family forms the first educational environment of the child (Morrow, 2005). Interaction between families and children is the basis of early academic skills (Sénéchal & LeFevre, 2002).

As the primary learning environment is home environment and adults at home (Huebner & Payne, 2010), the nature and cognitive dimension of support for children is important (Hindman & Morrison, 2012). It is seen that the cognitive support that parents present to children is in writing and mathematics (Elliott & Bachman, 2017; Melhuish et al., 2008). It was determined that the mathematical

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crease, can be seen as an important result. Mantzicopoulos, Patrick and Samarapungavan (2013) in their study of scientific literacy project, the results showed that children in research groups, where parent involvement activities were also applied, increased their level of knowledge about scientific subjects and improved positive attitudes towards science and increased literacy skills. Leyva (2019) stated that the scientific games played by the families at home improved children's writing and math skills and had a positive effect on their early academic skills. Riojas-Cortez et al., (2008) stated that scientific activities at home and cultural activities such as gardening, cooking, and other household work have made important contributions to the children's scientific literacy.

Based on the results of this study, the following suggestions can be presented:

- In the evaluation of Home Scientific Experiences, different measurement tools such as observation forms, family-child interview forms can be developed by researchers and all these experiences can be comprehensively discussed.
- Family-based education programs can be developed to improve children's scientific experience at home, and experimental studies can be conducted to examine the impact of programs on children's early literacy, academic and language skills.
- Studies that examine the relationship between different variables such as parents' demographical characteristics, attitudes towards science, and home scientific experiences and the academic and language skills of children can be planned.
- Researches can be planned in a mixed design to examine families and children's views on home scientific experiences.

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