



## Scientific Literacy Profile of Prospective Science Teacher Students

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### ABSTRACT

**Objective:** This research aims to describe and analyze the scientific literacy achievements of prospective science teacher students. Scientific literacy is one of the skills that prospective science teacher students must master to promote scientific literacy at the primary and secondary education levels. **Method:** This research is a quantitative descriptive research. Data was collected using a purposive sampling technique so that a sample of 65 students from the Bachelor of Science Education Study Program at Ganesha University of Education was obtained. The research instrument used was the Test of Scientific Literacy Skills (TOSLS) which consisted of 28 multiple-choice questions. This research is a preliminary study of research and development (R&D) of innovative science learning models to increase students' scientific literacy. **Results:** The results of the research show that the literacy achievement of prospective science teacher students is very low with the scientific literacy achievement in the aspect of identifying and assessing inquiry methods that contribute to scientific knowledge at very low and the aspect of compiling, analyzing, and understanding quantitative data and scientific information of very low. **Novelty:** This research provides an overview of the scientific literacy achievements of prospective science teacher students which can be used as a basis for developing innovative science learning models to increase the scientific literacy of prospective science teacher students.

## INTRODUCTION

Various complex problems as a result of the rapid development of science and technology in this era of globalization require everyone to master 21st-century skills. Scientific literacy is identified as one of the 21st-century science skills (Hanifha et al., 2023; Lu-ong, 2023) which is very important to master because society is often faced with various problems related to science and technology in daily life (Kelp et al., 2023). According to Nuangchalerm, et al. (2022), scientific literacy is not only related to reading or writing skills but also related to the skills of knowing and understanding science and being able to communicate science. Scientific literacy refers more to what scientific knowledge people must master to live more effectively and be responsible (Al Sultan et al., 2021). Scientific literacy is more focused on the application of knowledge and skills in various situations to make decisions and solve problems in everyday life (Husamah et al., 2022; Sholahuddin et al., 2021).

Scientific literacy is a socially constructed concept that changes according to context and time so scientific literacy has various meanings (Čipková et al., 2020). There is no universally accepted definition of scientific literacy to date (Wang et al., 2024). Scientific literacy is the knowledge and understanding of scientific concepts and processes necessary for personal decision-making, participation in civic and cultural

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