

# EXAMINING THE MEANING OF SEASON AND CLIMATE LITERACY AWARENESS FOR MIDDLE-GRADE STUDENTS FROM NORTHERN AND SOUTHERN HEMISPHERE: A PHENOMENOLOGICAL STUDY IN TURKEY AND INDONESIA

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## ABSTRACT

As a scientifically literate person, students are expected to explain phenomena scientifically and make casual delineations such as the seasons. Examining the meaning of this season may varied among students participating in the northern hemisphere (such as Turkey) and southern hemisphere (such as Indonesia). The different experiences of students about these seasons implied for their different understanding of the seasons. Therefore, student experience needs to be expressed as a profound effect in understanding the seasons. Regarding climate literacy awareness, it is also important to explore from the middle grade students who participate in science learning. Through awareness of good climate literacy, it contributes to the readiness of students as responsible citizens in facing climate change. Through the results of this study, it is hoped that it can be used as a basis for taking strategic steps in preparing professional science teachers so that they can be used as evaluations of the teacher education curriculum. This activity also supports the Merdeka Belajar Kampus Merdeka (MBKM) activities by providing student experience for research internships in the field of science as well as chemistry education research and collaborate with overseas partners.

The purposes of this research are: (1) to discover pedagogical potential of the Eratosthenes Experiment to teach seasons in an inductive strategy for middle-grade students, (2) to describe Indonesian and Turkish middle grade students' meanings and experiences of the seasons; and (3) to explore students' climate literacy awareness based on the experiences of the seasons. This research was set to conduct in 1 year using phenomenological approach of qualitative research. The data that collected in this research are the data of participants' meanings and experiences of the seasons and climate literacy awareness. The participants comprise from 16 seventh grade students in Turkey and 30 seventh grade students in Indonesia. The data of: (1) pedagogical potential of the Eratosthenes Experiment to teach seasons inductively were collected through students' worksheet, (2) data of participants' meanings and experiences towards the seasons are collected using interview protocol, and (3) the data of students' climate literacy awareness were collected through Climate Literacy Awareness Questionnaire (CLAQ) that consists of 12 open-ended questions. The content analysis with inductive coding were carried out to analyse the data in this research. The findings of this research revealed that: (1) Eratosthenes experiment is potential pedagogy to teach seasons inductively for middle-grade students, (2) students studying in Turkey are aware of the three elements of the earth-based perspective while students in Indonesia are unaware of changing daylight and sun paths, (3) mostly participants have a lack knowledge about climate change concepts, have a little awareness towards climate change, and climate change mitigation. However, they have a good knowledge about factors that causing climate change as well as effects of climate change.

*Kata Kunci: season, northern hemisphere, southern hemisphere, phenomenological study, climate literacy awareness*