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O12 - Development of the Astronomy Teacher Training Curriculum and Learning Activities by the National Astronomical Research Institute of Thailand (NARIT)

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The National Astronomical Research Institute of Thailand (NARIT) has consistently conducted astronomy workshop programs to enhance the capacity of in-service teachers since its establishment in 2009. The primary objective is to elevate teachers' subject-matter knowledge and pedagogical skills, which directly translates to the improved learning outcomes of their students. To ensure the curriculum remains current and aligns with rapid scientific and technological advancements, the program undergoes a systematic review and revision every 4 to 5 years. Although the NARIT curriculum is not strictly bound to the national core curriculum, its continuous development is strategically designed to meet the modern professional needs of educators while aligning with the Institute's visionary goals.

Rather than focusing solely on conventional academic lectures, the curriculum's framework emphasizes two primary strategic objectives. First, it addresses scientific misconceptions - a critical challenge in science education. Assessments, including pre- and post-tests alongside ongoing observational evaluations, reveal that many teachers hold misconceptions regarding fundamental phenomena, such as the apparent motion and phases of the Moon. Second, the program focuses on developing innovative, contemporary learning activities. These activities emphasize active learning and are intentionally designed to be practical, allowing teachers to easily adapt and implement them in their respective classrooms.

In conclusion, the periodic revision of the curriculum ensures the training program remains modernized and highly engaging. A notable indicator of its success is the significant re-entry rate of alumni teachers returning to acquire new skills and experience newly introduced activities. Furthermore, evaluation data confirm that this iterative process effectively rectifies scientific misconceptions. The continuous implementation of this program serves as a vital mechanism for driving and expanding astronomical education and activities across the broader school system.

Keywords: Astronomy Education, Teacher Training, Professional Development, Scientific Misconceptions, Active Learning.

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