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Promoting Astronomy Learning Through Project-Based Learning for Senior High School Students

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Promoting astronomy learning through project-based approaches represents a significant educational strategy that enhances analytical thinking skills, inquiry-based learning, and hands-on learning experiences among senior high school students, who possess the potential for systematic research and investigation.This project commenced with teachers participating in basic astronomy project development training to strengthen their knowledge, understanding, and appropriate project-based learning methodologies. Subsequently, teachers transferred this knowledge through practical workshops for interested student groups, with open enrollment and selection processes for ready participants.

Learning activities encompassed diverse topics combining both theoretical and practical components, including studies of lunar orbital eccentricity, lunar distance measurement, calculations of meteor crater depths on the Moon, parallax observations, and ancient astronomy studies.Students selected projects aligned with their individual group interests, employing critical thinking processes and hands-on implementation in data collection design, analysis, and conclusion drawing. These processes promoted self-directed learning, collaborative teamwork, and the development of scientific skills alongside 21st-century competencies.

This project inspired students and provided opportunities to recognize the significance of astronomy in real life, while preparing them for future academic pursuits and career development.

Keywords: Astronomy, Project-based Learning, Hands-on Learning, Workshop

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