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O34 - NOVA: An Interdisciplinary Approach to Astronomy Education

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The value of interdisciplinary learning in inspiring greater interest in astronomy among young learners are so important and very significant. Our NOVA (Nature, Observation and Virtual Astronomy) project is an interdisciplinary approach to astronomy education conducted at KUSZA Observatory, Universiti Sultan Zainal Abidin. The aim is to enhance students' learning experience at the observatory by integrating astronomy, nocturnal ecology and digital learning. The programme introduces primary school students to the night sky through guided stargazing activities, constellation identification and the use of star charts to develop basic observational astronomy skills. To broaden their understanding of the nocturnal environment, students also learn about nocturnal animals including their adaptations, behaviours and ecological importance. This allows us to highlight the relationship between dark skies and biodiversity conservation. In addition, an interactive courseware application called myAstronomi was developed to support digital learning of the solar system allowing students to explore astronomy concepts through engaging and self-paced activities. By combining hands-on observation, environmental education and virtual learning, the project creates an interdisciplinary learning experience that makes learning astronomy more relevant and enjoyable. This integrated approach encourages scientific curiosity, strengthens environmental awareness and improves digital literacy while demonstrating how observatories can serve as effective centres for interdisciplinary STEM education and public engagement.

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