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O17 - Comparative analysis of Astronomy and Space Science topics in the middle and high school curricula of Vietnam and the Philippines

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In Southeast Asia, there is a growing need by governments like those of the Philippines and Vietnam to develop their country's respective space industries. The ability to do quality astronomy research, while not directly leading to economic gains, is a marker of academic prestige that could also be a useful part of nation building narratives these governments espouse. Corollary to these development and patriotic goals is to produce a reliable pool of homegrown workers with the requisite motivation, skills, and talent. One specific way governments can do this is by crafting a science education curriculum which identifies and narrows down the priority topics that would need to be given time in classroom instruction. This paper undertook a comparison of the astronomy and space science topics in the science curricula of the Philippines and Vietnam, with a focus on middle and high school levels, to have a preliminary assessment of the priorities and direction of each state's astronomy and space science education. Curriculum mapping and content analysis were used to compare the competencies and learning goals of each country side by side. The congruence of their topics' coverage with the broader Big Ideas in Astronomy identified by the International Astronomical Union (IAU) as well as the astronomy and space science-related competencies of the United States' Next Generation Science Standards (NGSS) were also assessed. The Bloom's taxonomy framework was then used to rank how much of Vietnam and Philippines' astronomy and space science competencies align with particular levels of thinking. From these results, potential strengths and weaknesses were identified for further action by stakeholders and education policymakers in each respective country.

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