New astronomical education conducted by network of university, astronomical observatory, educational center, and science teachers

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Earth, planetary, and astronomical sciences are based on 'watching nature, such as, the ground and the night sky'. However, it is difficult to observe the nature due to the constraint of the time and the problem of the safety. In the curriculum of astronomy, for example, students of the 4th grade learn waxing and waning of the moon, and the ones of the 9th grade learn motion of stars and planets. No explanation why the moon changes its shape comes out in textbooks of elementary or junior high schools. Therefore, even in colleges, it is hard for students who are willing to be science teachers to brush up the knowledge of geology in colleges.

Planetary science group of Miyagi University of Education, Sendai Astronomical Observatory, Miyagi Education Center, and science teachers collaborate to study astronomical education. This educational study group back ups students aspiring to become science teachers to give class works regarding astronomy in schools. The lessons include not only science classes, but 'Sogo-gakushu' and 'Seikatsu'.

Here, we introduce one example of curriculum of diurnal star observations using internet telescope of Miyagi University of Education.

Emphasizing on using it in common class works, it is applied to diurnal motion of stars in science class and environmental educations of night light level in 'Sogo-gakushu'. Students in science education mainly construct the system and plan class works using internet telescope. The knowledge of information system and astronomy is necessary to construct the system of the internet telescope. Moreover, communication with not only school students, but educational staff and engineers of general company, is necessary to conduct the class works. These are essential to become science teachers.

Hereafter, we have to consider whether experiences of observations using internet telescope is real or virtual.