

Short-Term Course for High School Students to Learn How GIScience is Fun Through Historical Mapping and VR Activities

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ABSTRACT:

In the 21st century as a global and information society, geospatial knowledge/technology and spatial thinking skills are quite important for our daily activities. Also, they help young people to build powerful future careers in various domains. Hence, it can be safely said that geography and GIScience are significant fields of study. Unfortunately, however, many students in high school have fewer chances to study them, which might cause fewer students to major in geography in higher education.

To increase their chances of learning geography and its applications during K12 days, we led 4-day classes on GIScience three times as part of University Laboratory High School's annual Agora Days, where teachers and community members are invited to share their knowledge and present topics of general interest. My course was designed to let students know how fun to study geography using cutting-edge technology such as VR and an open-source web mapping platform. In the class, for example, students traveled across the world using VR headsets to meet the communities already facing climate crisis, understanding the importance of making a sustainable and resilient society. In addition, the course provided students with hands-on activities to collect historical photos of events around the campus town from library archives and plot them on the digital globe. As a fundamental knowledge of geospatial technology, students also learned how the Global Positioning System (GPS) works.

About 30 students joined the class in total and discovered geography and GIScience are highly related to their daily lives as well as attractive fields of study. To design and carry out the course, researchers in various fields such as geography, informatics, and cultural studies supported this project. The staff in a local public library and a history museum also supported, providing a collection of historical photos and documents to explore and reference. This type of community engagement helps increase geographers in future generations and advance geography as a multidisciplinary field.

KEYWORDS: *GIScience, geographic education, K12, immersion, community outreach*

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