

# Spatial Thinking (SpaT) Campaign



LIBERTY  
AMERICAN  
SCHOOL  
L.A.S, Ghana



Africa's rising will not be borne on the back of its abundant natural resources but rather on its technologically skilled human resources. Significant among such technology skills is Geospatial technology.

Geospatial technology has proven to be a high growth industry accounting for significant revenues in developed countries. Although it has been identified as one of the key skills needed in our evolving global and technologically advancing society, it is less known and used in Ghana. Enabling Spatial Thinking (SpaT) across the curriculum will lay the foundation for tomorrow's spatially aware human resource.

AccuGeospatial, an experienced geospatial technology solutions and service provider and an Esri Business Silver Partner with ArcGIS Online Specialty recognition, has instituted SpaT Campaign to bring geospatial technology to secondary schools as part of its commitment to community growth and corporate social responsibility. SpaT Campaign is a Geographic Information System (GIS) literacy outreach program aimed at preparing students to be able to solve problems using GIS tools and techniques to harness the power of location information.

Five (5) schools will benefit from this initiative in 2017. Liberty American School was the first to enjoy our maiden SpaT Campaign. After a couple of mail correspondence with the school, LAS was enthused to partner with Accu to teach the students about GIS and its application. They offered part of their teaching and learning time for this program and selected the upper class as the first batch of students to be the primus interpare.





The students numbering thirty (30) were engaged in two meeting sessions for a total of 4 hours. A combination of activity filled presentations, hands-on exercises and real-time field data collection was employed. Basic GIS concept with real world examples such as layers, data types, map scales, spatial reference lines, feature attribute information, spatial analysis among others constituted the opening classroom session. A hands-on activity using Esri's ArcGIS Online platform accessed on the schools Mac books enabled students to create web applications from the Ghana Districts polygon feature. After the class lessons, a team of four (4) was formed from among the students, and each was given a supervisor from the Accu team for their field data collection. Employing Esri's Collector for ArcGIS mobile data collector, students took turns to map features from the school's compound using their smart phones and iPads.



Some of the data taken were flower locations, tree, pool, security posts, electric poles, kitchen, dining area, car park, play area among others. A return to the classroom saw students creating web maps and apps of the campus from the field data collected. Jason Bintliff, a science teacher at LAS, who was enthusiastic about technology and championed our program, welcomed, and supported us throughout the entire activity.

It was a great moment, having the understanding that visual learning is more effective for learning. This principle worked using maps in the class to illustrate business locations, environmental management and urban planning context. It made the students connect easily with the real-world situation and what the tools and software can achieve. The students were taken through a rigorous but fun time in creating maps and converting them into a web app which they were given the chance to share with friends, family, and teachers.

For some students and teachers, it was their first time getting such hands-on training or even hearing about GIS. However, they were excited to create maps and Apps at the end of the period and were more surprised to know the usefulness of GIS in city planning and taking strategic decision using maps. One student said, "so can I map my school, house, playground and aunt's house and put them on a map?", while another retorted "I guess that is what they use to construct roads?".

Jason, the science teacher assured the Accu team of his plan to include GIS as a regular lesson which will be taken at every school year (or semester) to increase the opportunity for more students to learn.

Despite the fun nature and great interest of the people, not all the students followed through the stepwise practice to the end, others needed a close attention on

almost every click before advancing. Though some at the initial stage were reluctant and perceived it to be difficult, they at the end came to love it. This was shown in a teacher's appreciation day note where most of the students showed gratitude to their teacher (Jason Bintliff) and made mention of their joy for the opportunity to learn GIS.

Accu believes whatever you teach and however you teach it, maps and apps communicate it better by providing context to teaching and learning. The team therefore hopes to provide LAS with Esri's educational licensing of software, web courses and technical support to enable them further their teaching, learning and for their administrative purpose.

LAS is an international school and has students from Asia, Africa, and America. So as much as the class was a mixture of cultures, SpaT Campaign was delivered in a mixture of fun, learning, and hands-on practice.

Not everyone will be a Geographer or GIS expert but through initiatives such as SpaT Campaign, beneficiary students can think spatially to become better doctors, engineers, pharmacists, mathematicians etc.

With a committed team at AccuGeospatial, SpaT Campaign has come to stay and will be supported long into the future.

Our sincere appreciation goes to Esri for the provision of ArcGIS software's and online tools for the school's program.



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