

# SPLINT

## Spatial Literacy IN Teaching

### What is SPLINT?

SPLINT is a collaborative CETL, led by the University of Leicester working in conjunction with the University of Nottingham and University College London. SPLINT is focusing on the delivery of quality teaching of geospatial technologies such as Geographical Information Systems (GIS) with an emphasis on the expanding range of taught postgraduate courses in this area, and the general enhancement of spatial literacy in HE.

### The objectives of SPLINT

#### Objective 1:

Pioneer innovative approaches to progress the learning and teaching of spatial literacy through our existing geospatial technology programmes. These approaches will focus on developing innovative curricula that exploit developments in virtual reality technology and learning theories. Our intention is to design modules that focus on students as individuals, that allow them to pace their work and build up the particular skills that they may lack on entry – whether in computer programming, or ‘thinking spatially’, for example.

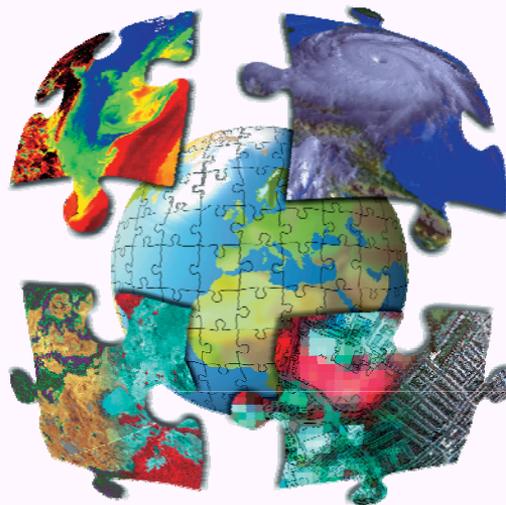
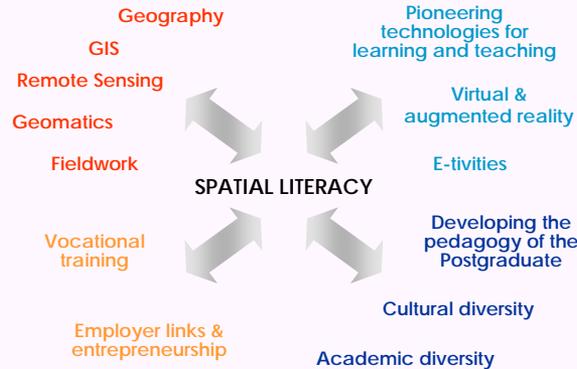
#### Objective 2:

Encourage spatial thinking across a wider disciplinary framework than in traditional geography/geomatics programmes and better cater for student diversity. The establishment of new or deeper formal points of contact with disciplines that have traditionally been less associated with geospatial technologies, will enhance spatial literacy across the UK HE sector. In the last two years, our MSc students have come to us with formal training in archaeology, law, computer science, engineering, geography and geology to name just a few.

#### Objective 3:

Establish state-of-the-art laboratories across the consortium for the advancement of spatial literacy teaching. Computer laboratories have now been refurbished across all sites, and virtual reality teaching theatres and associated visualisation laboratories have been installed at both Leicester and Nottingham. Additionally, we have now recruited support teams in both GIS and pedagogy to provide truly world class teaching facilities for geospatial technologies such as GIS.

### Important themes within SPLINT



### What do we mean by spatial literacy?

Spatial literacy is defined as the formal ability to think spatially and adopt an explicitly spatial metaphor for problems and relationships. Although traditionally associated with disciplines of geography and geomatics, spatial literacy is important to a wider pool of students in a far wider range of disciplines. Golledge (2003), for example, notes that: “Virtually every knowledge domain contains spatial metaphor”.

### Teaching vignettes

**Fieldwork:** Imagine that you are in the field with students, overlooking a valley that has been shaped by ice glaciers over 15,000 years ago, for example in the Lake District, Cumbria (see images below and our slide show on the Ordnance Survey Terrafutures 2006 stand). Having given the students time to explore the landscape and think about its origins, consider how helpful it would be if you could assist the students to visualise how the landscape before them has changed over time using a computer-generated virtual model of the glacier superimposed on the real landscape they are observing in the field. This is the type of development that we are currently working on, with British glaciated landscapes (Nottingham) and Spanish dryland environments (Leicester) as our geographical foci, where varied visual and audio information layers are brought together using a range of technologies to enhance the student’s spatial context. Methodologies developed by SPLINT will aim to help explore the spatial relationships between past and present landscape features and even the geology under the student’s feet at that point to enhance understanding of a particular geographical system.

**Team work:** Alternatively, back in the lab, consider a team debate over a proposed change in landuse at a certain site, where each team, represents a different stakeholder. Rather than showing a static perspective of change, why not ask the students to build virtual reality ‘fly-throughs’ to illustrate the various spatial implications of different scenarios? This type of example is one intended to develop spatial awareness through a range of multi-dimensional geographic representations and to foster transferable negotiation skills.



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