Research is a new environment for many students undertaking their first piece of independent work. It can be unnerving and insecure – feeling like stepping out into a new world. The Research Observatory (RO) is a resource to help to support students in their research studies, wherever they are studying. Whilst it started life as a support resource for postgraduate students studying at a distance, it is now widely used across the university to support students in all modes of attendance.

The RO design applies a cartographic metaphor, i.e. a star map and stellar observatory, to assist students and teachers to locate and understand learning resources. The resources in the RO “universe” are grouped into “constellations” of inter-related materials. These materials are in the form of electronic learning objects utilising a variety of formats, including text, graphics, drag and drop and audio materials. Grouping materials into constellations acknowledges that, just as star constellations are human-defined groupings that make familiar patterns, so the connections between learning materials can be visualised as forming navigable associations.

All constellations comprise learning objects in three categories, although the exact mix varies depending upon the subject. The three categories are:

- **Exploration** – these comprise information about the topic in a variety of formats, e.g. text or narrated graphics presentations.
- **Engagement** – these comprise exercises to promote understanding, including interaction with the on-screen material in exercises such as drag and drop, self assessment questions and games.
- **Application** – these prompt students to consider how the knowledge they have gained can be applied to their own cognate discipline.

The learning content for the RO is provided by academic colleagues in the university who are keen to find a method of sharing their materials in electronic form. The e-learning team then converts the provided content into learning objects and adds appropriate interaction. Authors are consulted throughout this process, and if they are happy with the final rendition of their content in the test environment, it is added to the live site.

The RO was initially developed using a map metaphor as the contextual environment, as there is significant evidence of the power of metaphor in discovering and engaging with information. In particular, there is evidence that spatial and cartographic metaphors may be especially effective. For example, Skupin (2000) argues that

“**By virtue of their spacio-cognitive abilities, humans are able to navigate through geographical space …… those cognitive skills also have value in the exploration and analysis of non-geographic information.**”

But, we must also recognize that navigating electronic environments can pose significant difficulties for some people who suffer from cognitive impairments or who have particular learning style preferences.