

Representing student learning-styles and personality-types with a modified Nightingale Rose

Chris Burrell
Tom Connolly
Department of Information Technology,
Waikato Institute of Technology.
Chris.Burrell@wintec.ac.nz

Online Learning styles questionnaire

The Felder (2001) online questionnaire produces values indicating learning style dominance across four scales. The resultant display available from the web is a

text-based line drawing that, although simple to produce and read, consumes a significant amount of space. This study investigates presenting the same information on a computer display in the space of a thumbnail diagram.

The size of the final representation corresponds to the magnitude of the result from the questionnaire. The values obtained for the data gathered are integer and ordinal but with no concept of zero.

The visual representation chosen is two-dimensional, allowing the meaning behind the measurement to be symbolized by a picture and the value of the measurement to be represented by the area of the picture.

To juxtaposition the pictures so that information can be more easily derived by an observer, a modified Nightingale Rose (Wainer, 1997) is used. As the eye is able to appreciate and discriminate values by area this representation uses the square root of the value to be used to determine a segment radius and hence control its area.

Nightingale Roses do not normally incorporate images but to make best use of limited space they have been used for this study. For most practical

purposes, the picture size is adequate to view the content. For the smallest value "one", the picture is just discernable and in this context is sufficient for the task.

Online Personality questionnaire

Data gathered using the Keirsey (2001) online temperament sorter "Temperament types" are mapped to the colours and used as background to the learning style representation.

Eighteen students were surveyed. A selection of the results, are shown in this poster.

References

- Felder, R. M. (2001). *Learning Styles* [web site]. Retrieved January, 2002, from the World Wide Web: http://www2.ncsu.edu/unity/lockers/users/f/felder/public/Learning_Styles.html
- Keirsey, D. M. (2001, May 3, 2002). *Temperament: Different Drums, Different Drummers*. Retrieved January, 2001, from the World Wide Web: <http://www.keirsey.com>
- Wainer, H. (1997). *Visual revelations: graphical tales of fate and deception from Napoleon Bonaparte to Ross Perot*. New York: Copernicus:Springer-Verlag.