

[P17] Learning styles: is what students say what they do?

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Context and methods

Over recent years there has been much debate over the practicalities of learning style models, and whether there is a place for such analyses in the Higher Education environment (Reynolds, 1997, Robotham, 1995). Using the VARK© (Fleming, 2005), a learning preference questionnaire, the Centre for Effective Learning in Science (CELS) has conducted a preliminary piece of research to investigate whether learning preferences, as indicated by the VARK analysis, are reflected in student behaviour and approaches to work. The VARK questionnaire is designed to determine whether students prefer to learn using one of, or a combination of, the following modes; visual, aural, read/write or kinesthetic (active). Students who have a combination of learning preferences (eg VK, VARK or RA) are known as multimodal, where as those who have a preference for only one mode are known as having a single mode preference. The VARK questionnaire was selected for use in the study as we were primarily interested in how learners prefer to communicate, both when receiving and giving out information. We also wanted to investigate how their preferences for receiving new information affected their behaviour. As VARK focuses solely on communication preferences, we considered it appropriate for use in this research.

Our pilot study involved the use of an e-learning system, known as the Loreus Trainer, which works using a neural network; key features of this technology include its ability to interact with, and track the progress and commitment of the user. For the purpose of this research, the system was adapted to present information in visual, textual and active formats. The participating students were presented with tutorial material via the system, which logged their behaviour and interactions.

The objective of this study was to determine if students' learning preferences were reflected in their interactions with the e-learning system. We were interested in finding out if students actually approach new concepts and tasks in the ways they say they do.

By allowing students to navigate freely through the material – whilst tracking their movements – we were able to determine if the majority of their time was spent in the format (e.g. visual or textual) that corresponds most closely to their learning preference(s).

Initial findings

Initial analyses indicate there was a higher proportion of students in the group with multimodal preferences than with single mode preferences, this is illustrated in **figure 1**.

The findings also reveal an overall preference for visual information regardless of learning style, as identified by results from the VARK questionnaire. This was true for groups both

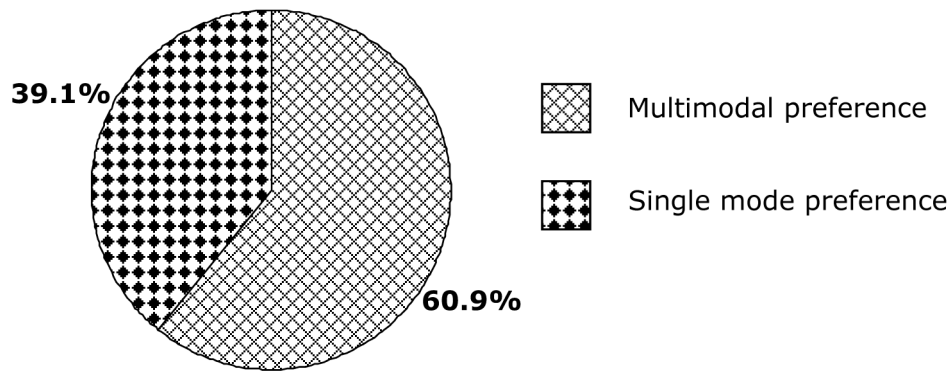


Figure 1: The proportion of students with singular and multimodal learning preferences

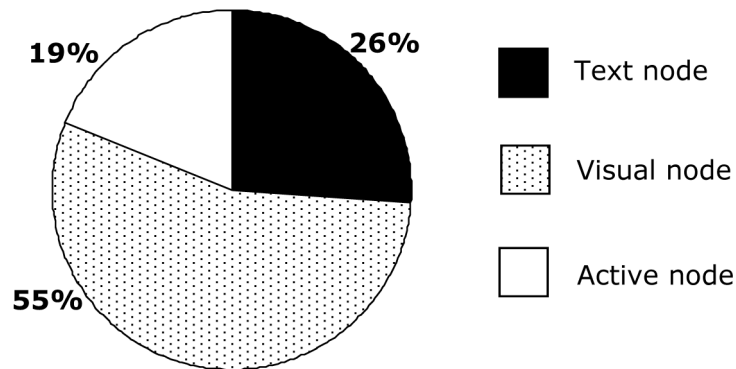


Figure 2: Total time spent in visual, text and active node

with and without visual learning preferences, which may suggest that learners have a preference for visual materials regardless of their learning preference as determined by VARK. The reasons behind students, who do not have the visual mode in their profile, preferring to access visual material rather than any other requires further investigation.

Future work

In future studies, we intend to increase the proportion of material covered in each of the three nodes – as in this study only 10% of the total material on the system was presented in each of the formats described; we are also looking at the possibility of adding auditory nodes.

We also intend to carryout a large scale survey across Nottingham Trent University to investigate if trends in learning styles differ across the schools.

References

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