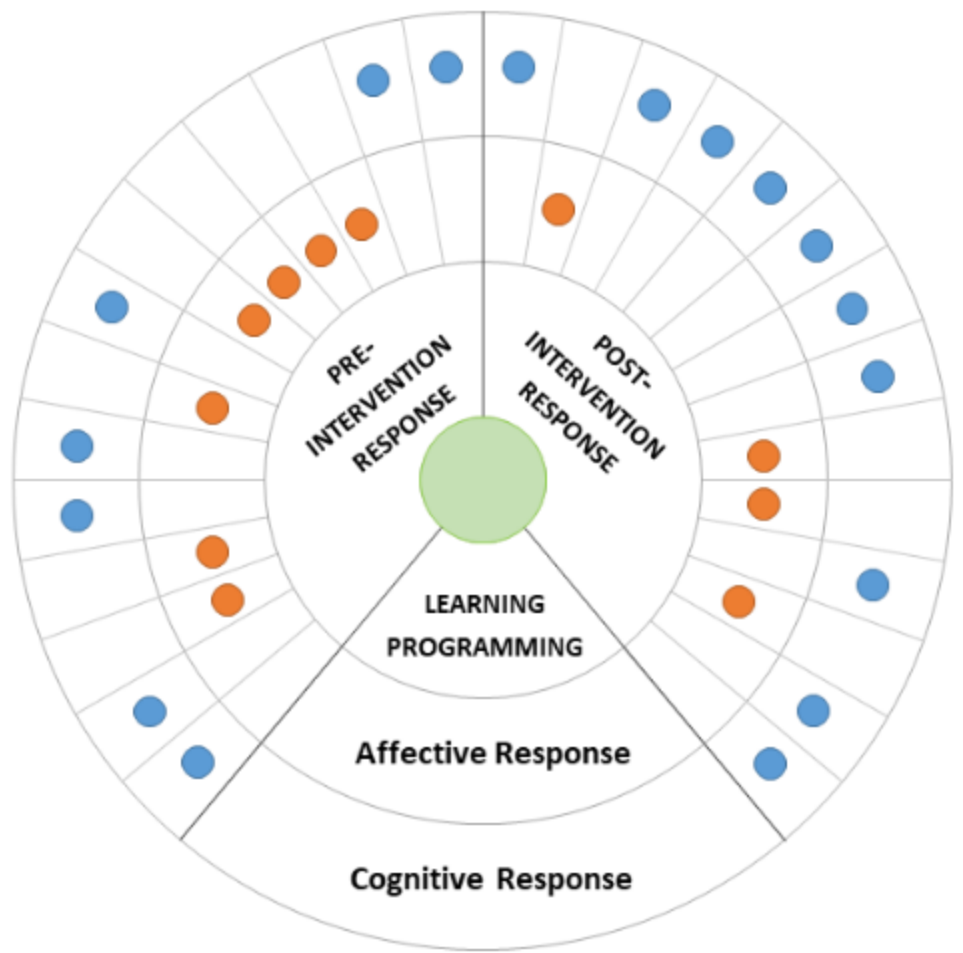


# WHAT DID WE FIND?

Students' responses to what they thought about computer programming tended to be either **cognitive** (relating to the challenge of the subject) or **affective** (focused on their emotional response).

By the end of the module, participants' responses were **more focused on the cognitive aspects** of learning programming and **less on the stress or anxiety** they felt about it.



## LESS STRESSFUL



**-29%**

At the end of the module, the number of students reporting that they found programming stressful had reduced by 29%

## REDUCED ANXIETY -22%

At the end of the module, the number of students reporting that they felt anxious about learning programming had reduced by 22%.



## IMPROVED CONFIDENCE

The most striking finding from our study was the impact of the different teaching, assessment and feedback approaches on students' levels of confidence in their ability to learn programming. The students' confidence improved by:

**+36%**

Feed-forward feedback

**+43%**

Workshop followed by tutorial

**+65%**

Open-book assessment

