Feedback Calibration Methodology

Efficiently and Effectively Train Your Descriptive Analysis Panel

FCM™ uses scientifically-proven practices to develop high-quality descriptive panels more timely and cost-effectively than traditional descriptive analysis training methods.

Identifying and measuring the sensory properties of your product is crucial in truly understanding your product and subsequently making the smartest decisions for your business. Descriptive Analysis (DA) is a sensory technique that uses trained panels to evaluate product attributes on scales of perceived intensity (Lawless & Heymann, 1998) and it is one of the most powerful and valuable tools in sensory science. Some sensory professionals tend to shy away from Descriptive Analysis Testing on the assumption that traditional DA training is costly and time consuming. However, advancements in training methodology have come a long way in recent years, allowing for faster and more efficient panel training. With the Feedback Calibration Method (FCM™), training descriptive panels can be surprisingly cost and time-efficient while producing repeatable and reliable results in comparison to non-calibrated DA tests.

What is FCM™?

FCM™, as a calibration technique, was developed by Compusense Chairman, Chris Findlay, PhD, et al (2006). It uses immediate feedback in line scales to train descriptive sensory panelists rapidly and reliably. As panelists complete a set of line scales, they receive immediate feedback, comparing their scores with the established range values set for each product attribute. The feedback is immediate and accurate, allowing panelists to see where they evaluated the sample compared to the established range, so the next time they receive that sample, their response will be more calibrated to the target range. Panelists complete line scales and receive feedback for up to five attributes at a time.

"Users can see training time reductions of up to 50 per cent."

What are the benefits of FCM™?

FCM™ has been shown to produce more reliable results in half the time and half the cost. Due to the efficiency of training and speed of panelist learning, users can see training time reductions of up to 50 per cent. For example, where traditional Descriptive Analysis training may take 45 hours of paid panelist training, with FCM™ this is reduced to 22 hours (Findlay et al, 2006). This reduction in training time also translates to a potential 50 per cent reduction of cost and resources. Better still, even with a significant time and cost reduction, FCM™ produces reliable and repeatable results. In addition, FCM™ permits re-training and panelist calibration in as little as two two-hour sessions. Calibration makes shelf life testing effective and reliable and provides a benchmark for inter-laboratory training and testing.

How does FCM™ compare to traditional Descriptive Analysis training?

In traditional Descriptive Analysis training, panelists receive a sample and submit their response. Following the training session, some time later, the panel leader provides feedback to the entire group. This feedback is not immediate or specific and after tasting multiple samples, it is very difficult for panelists to recall each sample and their responses. With FCM™, there is no doubt, confusion or time delay.

> *"FCM™ is a valuable tool when establishing and using Gold Standards for a product line. Gold Standards can be used for quality control, and as a focal point when profiling new or competitive products."*
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> Elisabeth Valeriote,
> Manager, Sensory Services
> Compusense Inc.

How does it work? What's the science?

How does feedback relate to learning? There is a physiological response that takes place in the brain when you receive feedback. Dr. Gregory Ashby of University of California, Santa Barbara, has conducted much research surrounding Implicit Category Learning. His work demonstrates that implicit (information-integration) learning requires associating a response goal with a stimulus. Although, the timing in which the respondent receives feedback must be precise. Evidence suggests that response strengthening happens within the first two to three seconds following the stimulus to ensure learning has taken place. During this short period of time, dopamine (the feel-good hormone) reinforces the learning effect at the appropriate synapse, consequently strengthening the learning (Ashby & Casale, 2003). In addition to implicit learning, FCM™ also utilizes the science behind intermittent reinforcement, where panelists do not receive feedback for every attribute they evaluate. This designed feedback greatly reduces invalid feedback due to guessing while further strengthening the learning process.

FCM™ is a highly valuable instrument that can be used in conjunction with traditional Descriptive Analysis training methods to produce useful, high-quality data and results while still reducing time and costs.

If you have any questions about FCM™ or more information about how it can be used in training your descriptive analysis panel, please contact Compusense at info@compusense.com.

References

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