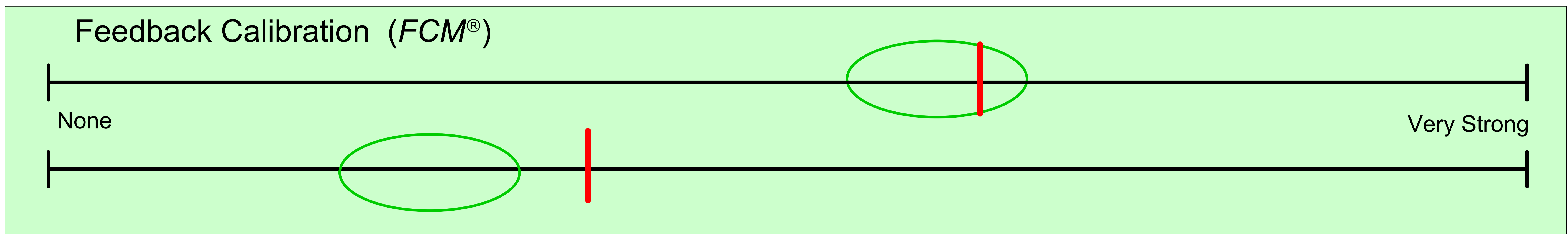




Applying enhanced descriptive sensory analysis training: A case study

C. J. Findlay, K. S. Phipps, S. Pitts, S. Fortune, L. Moore and J. C. Castura,
Compusense Inc., Guelph, Canada
Email: cfindlay@compusense.com - Fax +1 5198369898 - Phone +1 5198369993



INTRODUCTION

The cost and time required for training descriptive analysis panels is often cited as a major barrier to the routine application of descriptive sensory analysis. Compusense FCM[®] was developed as a method to accelerate the training of descriptive panels and to provide a mechanism for calibration that would stabilize descriptive analysis data over time and across panels. By providing individuals with immediate and accurate feedback during training sessions, these panels have been shown to require fewer sessions to achieve accuracy and precision comparable to well-trained conventional panels (Findlay *et al.*, 2006; Findlay *et al.*, 2007). Previously published research on the feedback calibration method (FCM[®]) was designed to test specific hypotheses on the performance of panels as a whole. This case study addresses the effect of the routine application of FCM[®] on panelists who are members of ongoing descriptive panels.

THE PANELS AND PANELISTS

Three different product panels with a total of 14 panelists were used to measure individual performance before and after the application of FCM[®] in their training.

Panelist Code	Product A Dec 2003 vs. Feb 2006	Product B Feb 2003 vs. Aug 2006	Product C Dec 2003 vs. Feb 2004	Trained Panel Experience in Years	Year of First Panel
203	X	X	X	8	1998
219	X		X	4	2002
320	X		X	5	2001
340			X	2	2002
563			X	2	2002
808		X	X	7	1999
978			X	2	2002
1298			X	6	1998
1618	X	X	X	7	1999
1669		X	X	7	1999
3184			X	2	2002
3186	X	X	X	7	1999
3582	X	X	X	4	2002
3826	X		X	5	2001

STATISTICAL METHODS

Individual panelist performance was examined across panels that spanned a period of three years using PanelCheck as a statistical tool (Tomic *et al.*, 2007). Correlations were used to compare individual panelists to the panelist consensus and to give a measure of scale usage. Eggshell plots were used to determine panelist performance across the range of individual attributes. p*MSE plots compare relative accuracy and precision of each panelist and the panel as a whole.

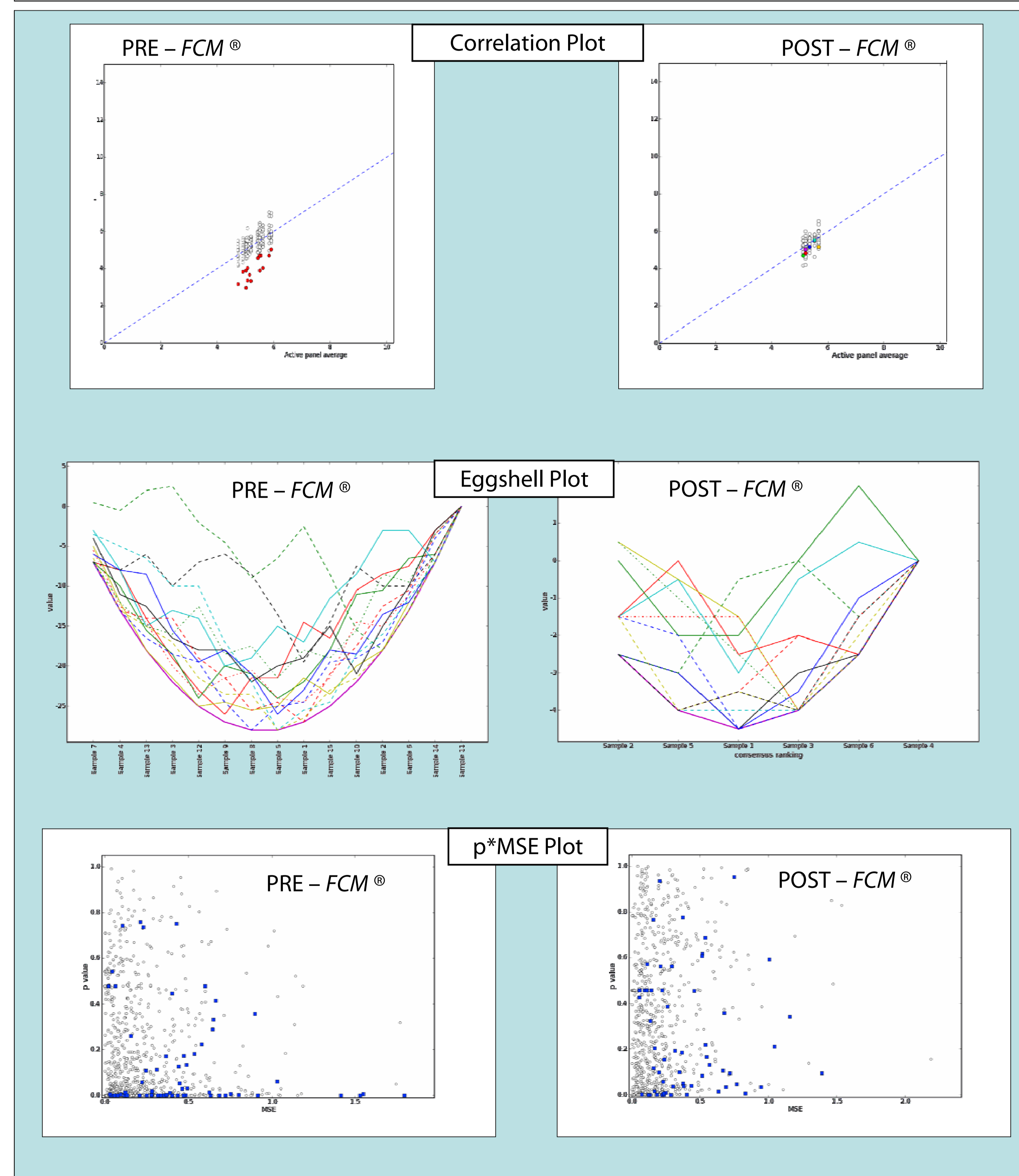
PANEL LEADER'S COMMENTS

Comment on your experience before and after FCM[®].

Analyst #1
Before FCM[®]
 A lot of time spent in group feedback.
 Too much time spent on preparing feedback for panel.
 Delayed re-tasting not effective.
 Subjective learning for panelists.
After FCM[®]
 Immediate feedback with more confidence.
 More time to spend on difficult attributes.
 Better focus on individual panelists.
 Hit and miss report provides detailed information quickly.

Analyst #2
Before FCM[®]
 2 or 3 hours reviewing Summary Reports.
 Feedback delayed until next day.
After FCM[®]
 Two or three projects completed in the same time frame.
 More interaction with panelists.
 Objective targets for consistent training.
 Calibration is essential.

PANELCHECK PERFORMANCE MEASURES



PANELIST'S COMMENTS

Seven long term panelists were interviewed for their reactions to FCM[®]. Some of their unedited comments appear below.

How useful is FCM[®] (scale of 0 to 9)?
 Unanimous answer = 9.

Think back to your first experience with FCM[®] and your reactions. Please tell me what you recall.
 Loved it right away.
 Vastly superior method.
 I had to change my thinking, why change? The teaching was different and it was difficult to change.
 Loved it.
 It was OK.
 It was validating and rewarding. I got more information, it was impersonal.

What do you like most about FCM[®]?
 Immediacy, try out the sample again.
 Checking samples right away.
 Instant, reevaluate the sample. Delayed feedback is not useful, relying on memory, no sample.
 Can re-taste, instant response.
 Knowing where the group is and where I should be.
 Sense of satisfaction with information given, see progress, I feel more involved, it helps us see if the product has changed, particularly with reference samples.
 We can tune ourselves to certain attributes, although the value can switch at the beginning.

What do you dislike most about FCM[®]?
 Want to give a comment when not inside the range.
 Want more feedback, especially with difficult attributes. If I am uncertain, the absence (of feedback) makes it tough.
 I am not happy when I am not always in the circle.
 With new projects the first time I get FCM I do not rely on the ellipses because I know the panel will adjust, so I don't worry
 Knowing I am outside the group.
 Nothing.

CONCLUSIONS

1. Feedback calibration can be implemented efficiently by panel leaders.
2. FCM[®] is preferred by panelists and significantly reduces panelist training time, while maintaining or improving individual proficiency.
3. The method provides an effective technique to integrate new panelists into existing panels and to retrain panels that have suffered from protracted breaks between testing sessions.

SELECTED REFERENCES

Findlay C. J., Castura, J. C., Schlich P., & Lesschaeve, I., 2006. Use of feedback calibration to reduce the training time for wine panels. Food Quality & Preference 17: 266-276.

Findlay C. J., Castura, J. C., & Lesschaeve I., 2007. Feedback Calibration: A training method for descriptive panels. Food Quality & Preference 18: 321-328.

Tomic O., Nilsen A., Martens M., Næs T. 2007. Visualization of sensory profiling data for performance monitoring. LWT 40: 262-269.