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Feedback Calibration

A training method for descriptive panels.

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Descriptive Analysis

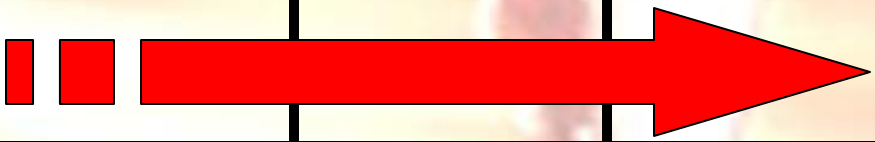
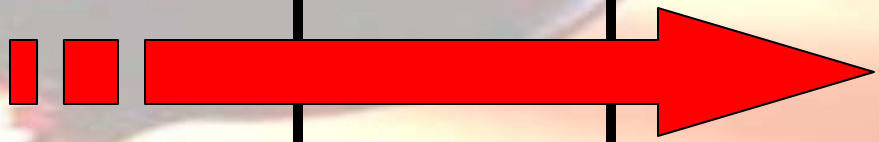
- Accuracy & precision
- Panel & panelist performance
- Replication of panel results
- Statistical treatments
- Post-hoc evaluation

- Can we get it right from the beginning?
- What is the best possible panel?

A Sensory Order of Operations

- What is an "order of operations"?
  - BEDMAS (Brackets, Exponents, Divide, Multiply, Add & Subtract)
- The Sensory Order
  - Identify the attribute
  - Rank its intensity
  - Scale the intensity

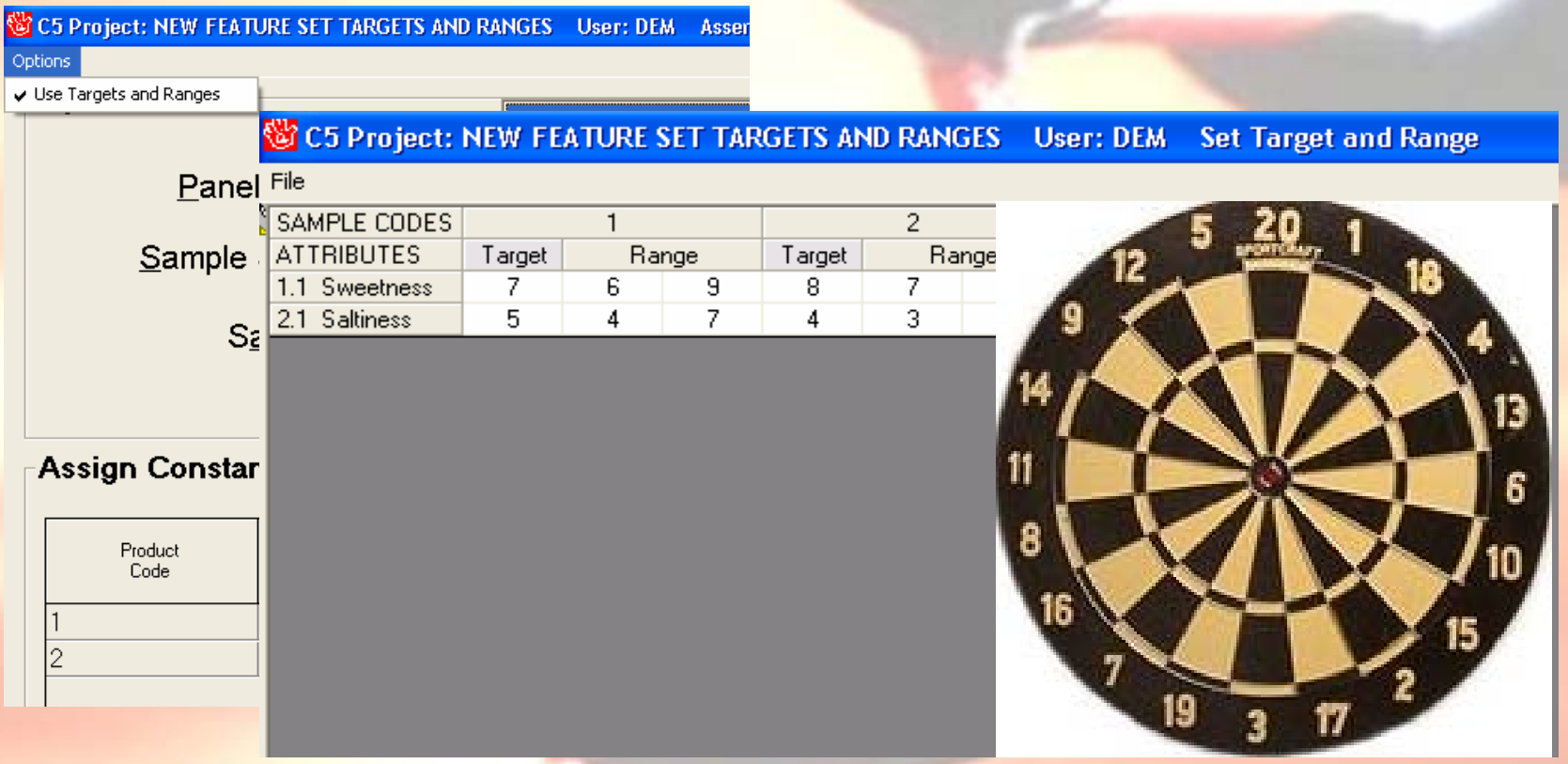
Attribute Difficulty

ATTRIBUTE	Scaling		
Identity	Full	Rankable	Off/On
Specific Standard			
Group of Attributes			
Verbal or Evocative			

Objective

- To investigate the use of immediate feedback with calibration standards as a method to improve the training process and to provide anchors which permit comparison between panels.

Targets and Ranges



The current approach

Numerical Feedback

Compusense Inc.

Panelist Result Summary

Panelist: n/a

Attribute	1	2
Sweetness		
Response	6.00	7.00
Mean	5.20	5.80
Standard Deviation (+/-)	(1.92)	(1.79)
Target & Range	7 (6-9)	8 (7-9)
Saltiness		
Response	3.70X	5.80
Mean	4.00	5.10
Standard Deviation (+/-)	(2.11)	(1.16)
Target & Range	5 (4-7)	4 (3-6)


The Red Wine Study
Using the Feedback Calibration Method
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Determination Panel

- An experienced determination panel performed descriptive profiling of 20 red wines. Their results were used to establish the attributes and targets for the second phase of the research.

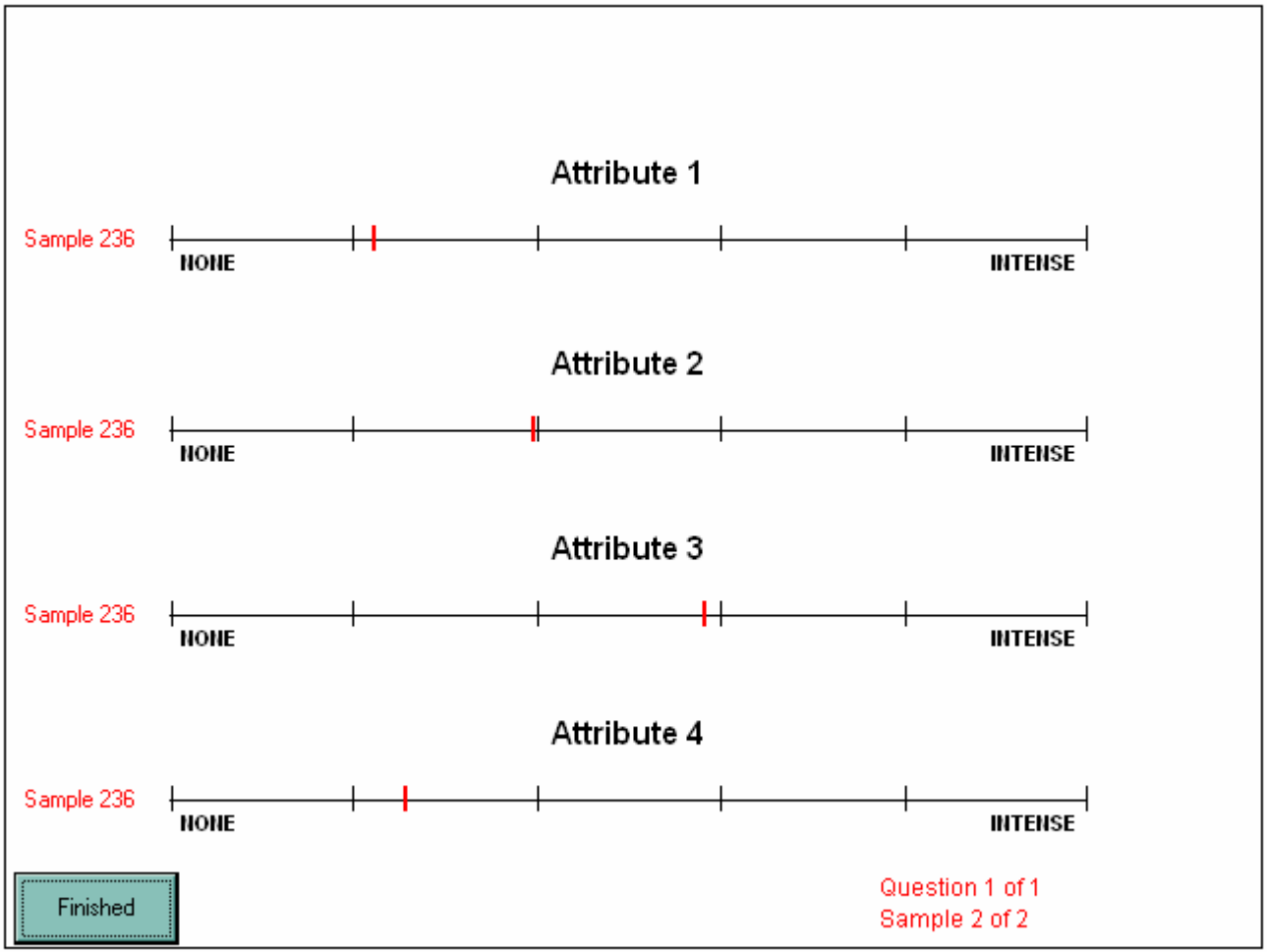
Research Panels

- Sixteen inexperienced panelists were recruited and given 20 hours of common training over 10 days. They were then divided into two panels, control and experimental, composed of 5 women and 3 men each.

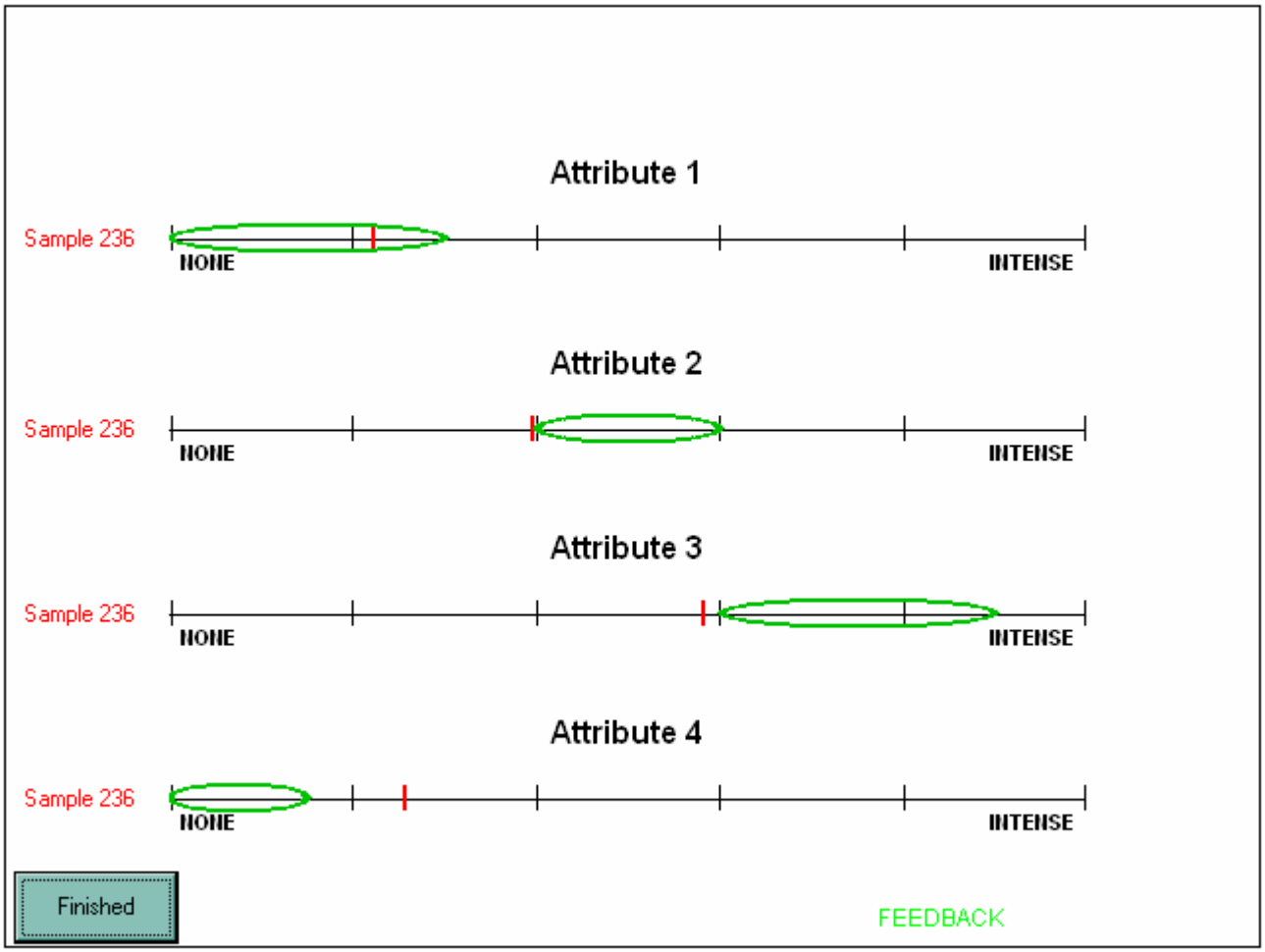
The Study

- The control panel was trained using conventional debriefing at the end of each session.
- The experimental panel only received immediate computerized feedback in the booths during evaluation.
- Both panels saw the same 10 wines and used the same scales and attributes.
- The research continued daily over a three-week period.

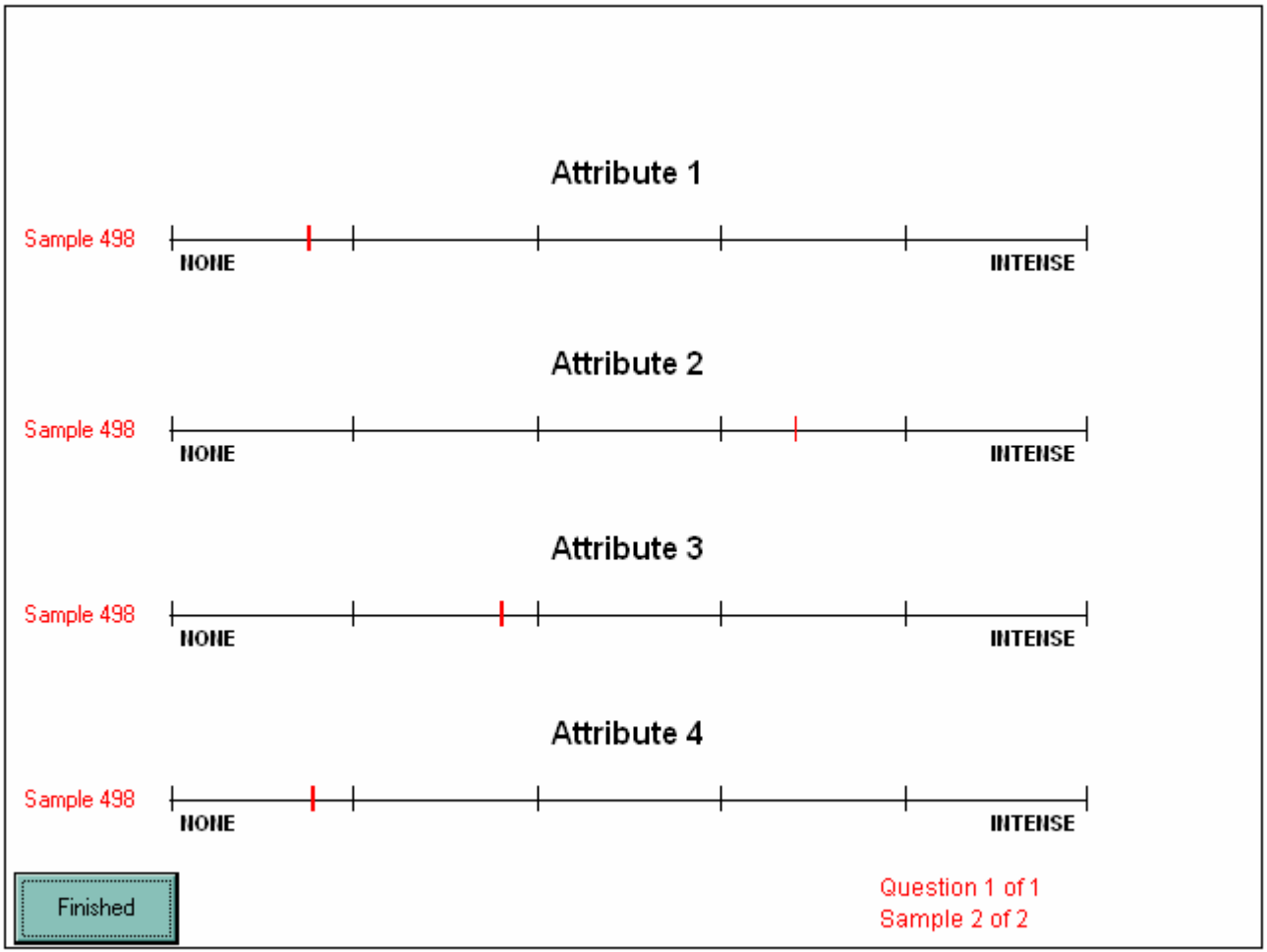
Panelist Screen



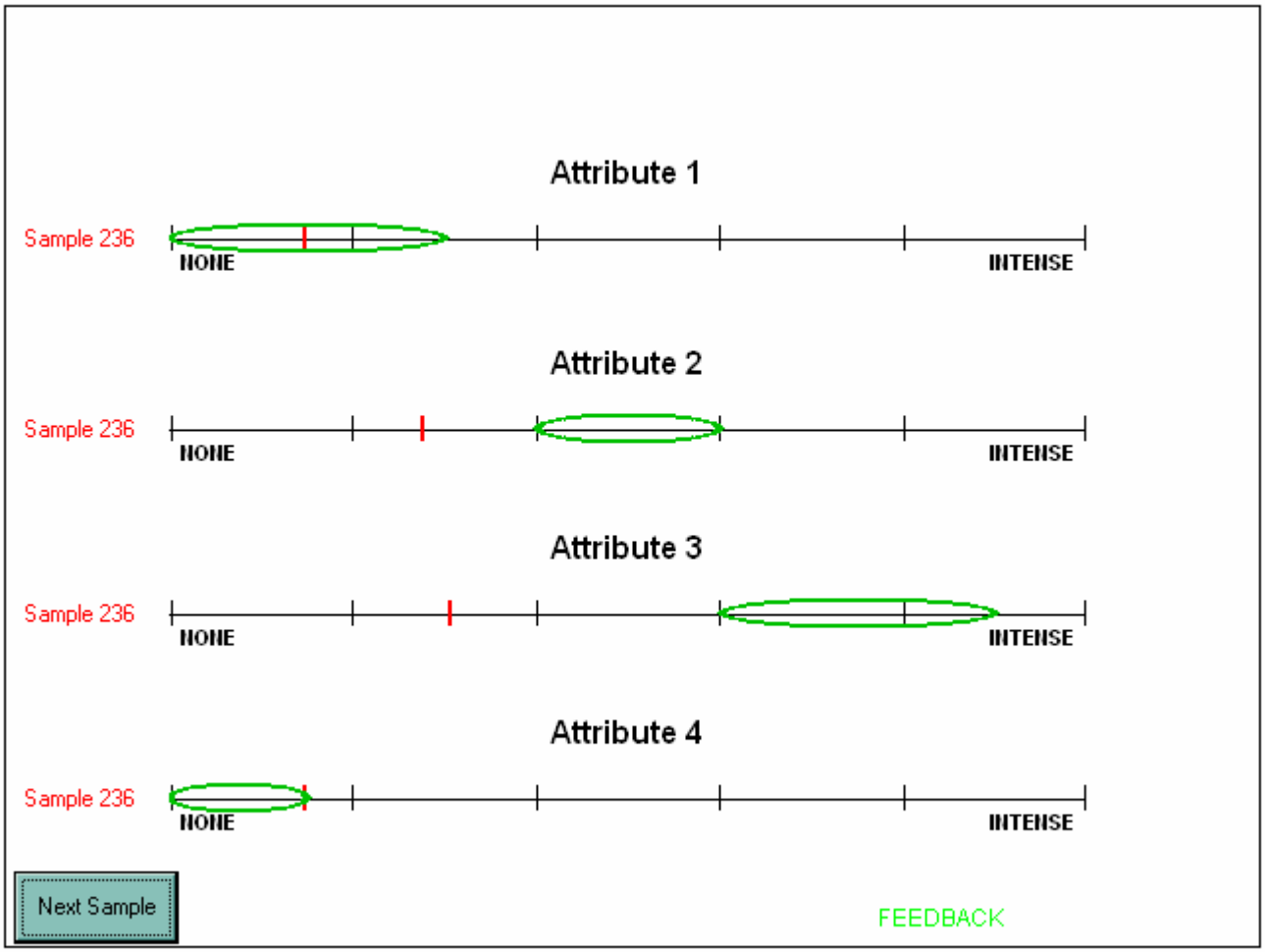
Immediate Feedback



Panelist Screen



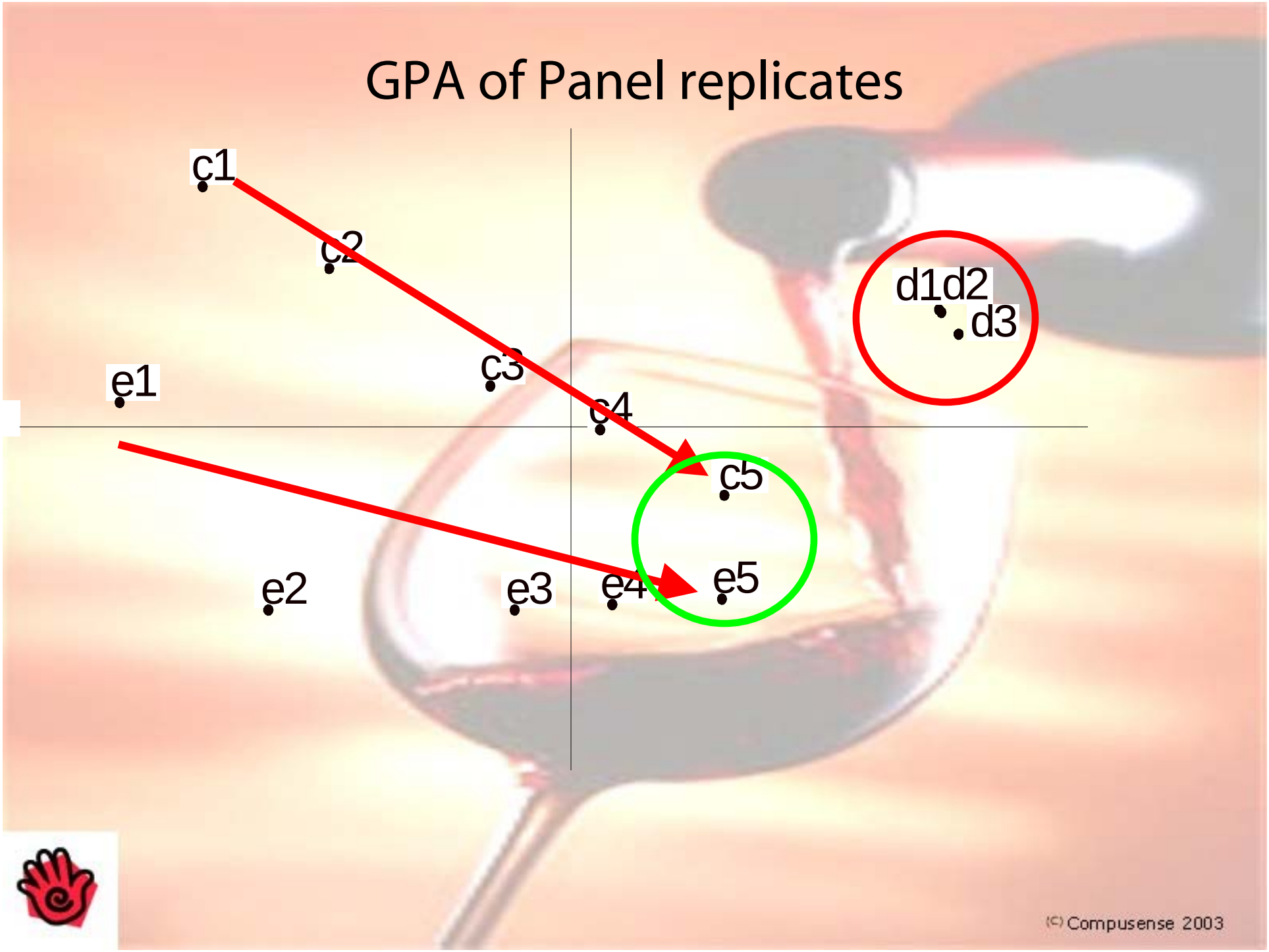
Immediate Feedback

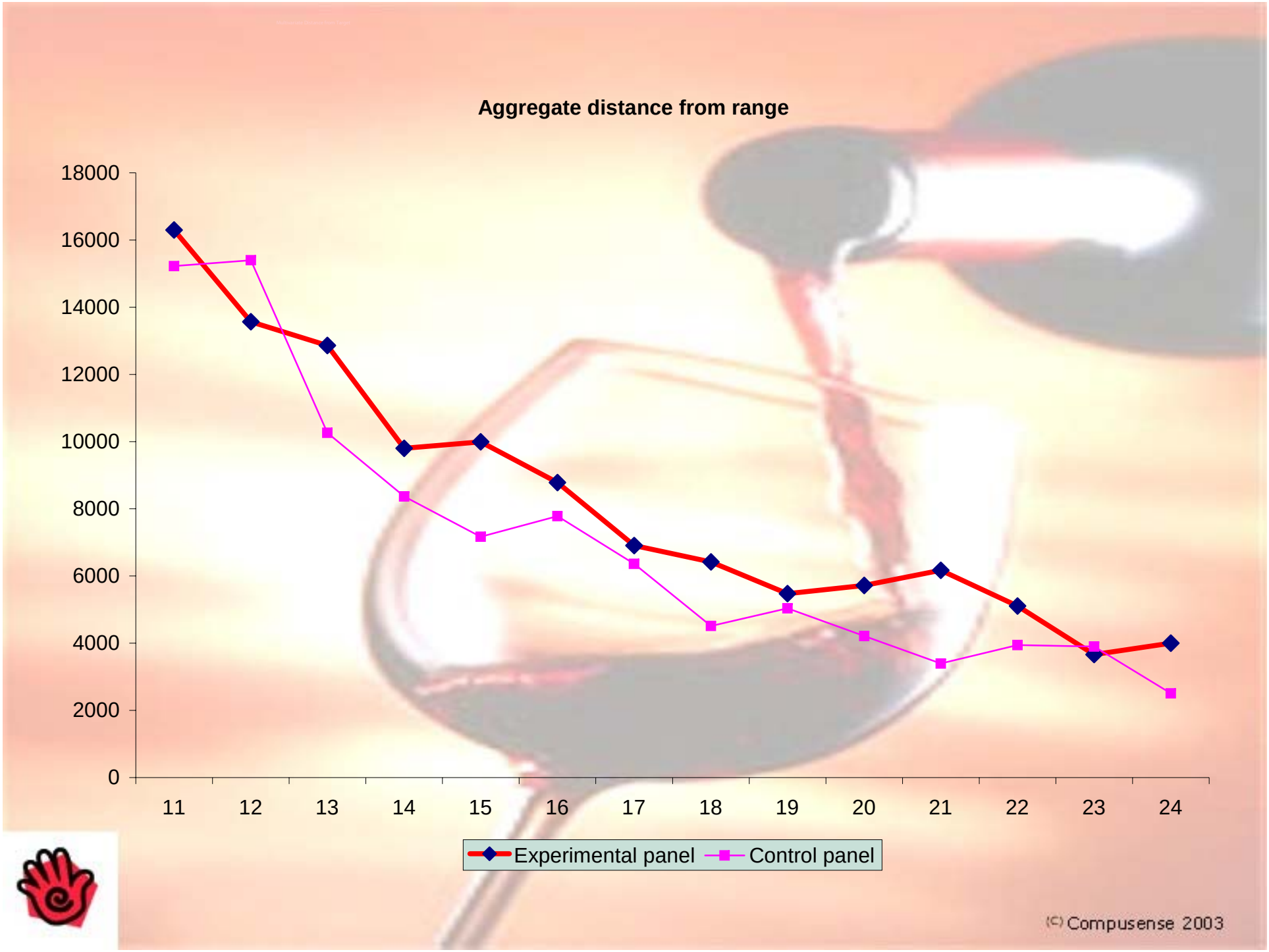


Results

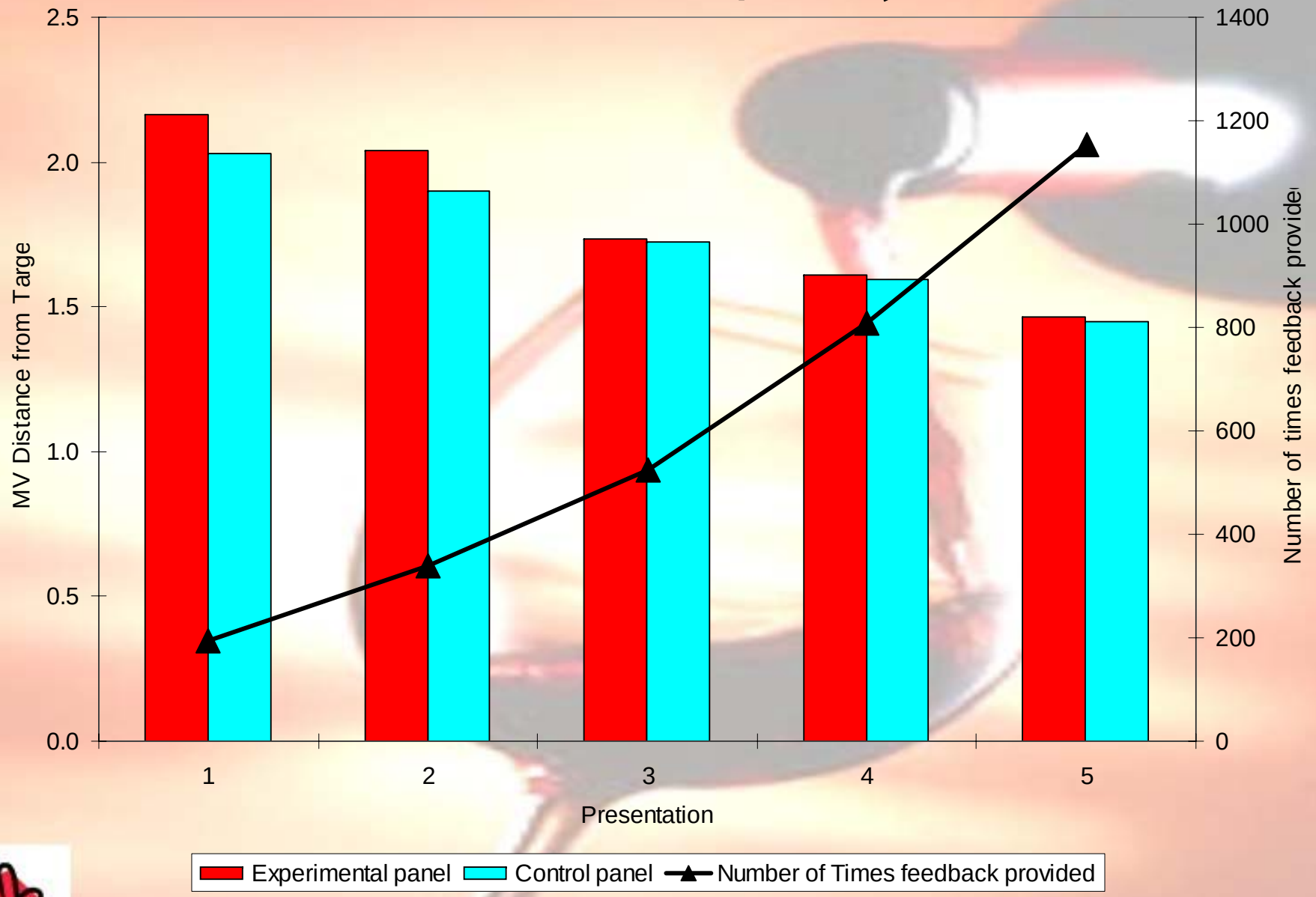
- Extensive statistical analysis indicated that both the experimental and control panels were able to reproduce the results obtained by the determination panel.
- Panelist and panel accuracy and precision were obtained by measuring the difference from the target values.
- Both panels demonstrated similar learning curves.

GPA of Panel replicates

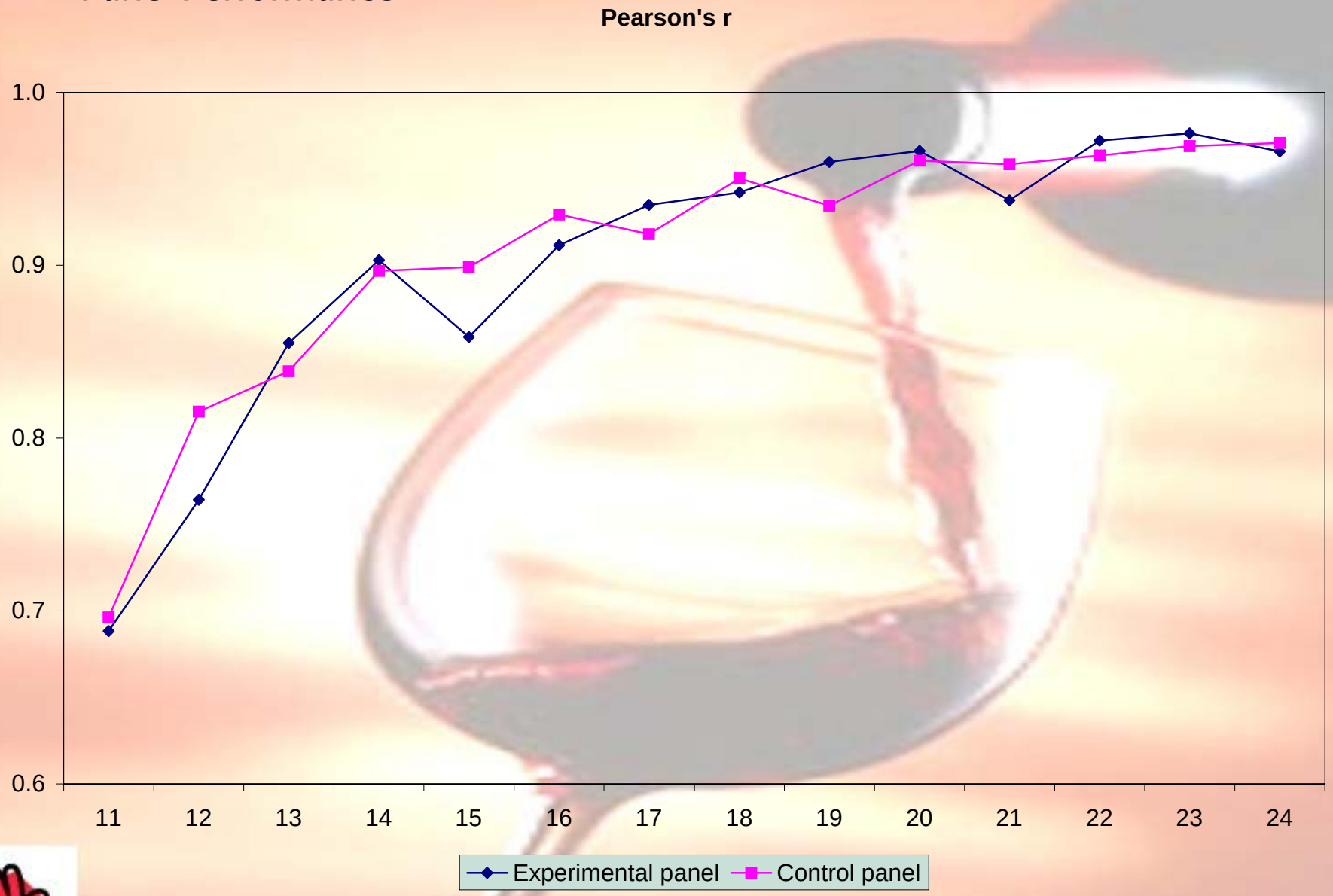



Aggregate distance from range
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Experimental panel
Control panel
(C) Compusense 2003

Feedback Frequency



Panel Performance



Conclusions

- Feedback Calibration provides an effective and unbiased training for descriptive panelists, regardless of the style, skill or experience level of the trainer.
- Training times can be cut significantly.

Acknowledgements

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Compusense Panelists

Future Work

- Further research will be conducted to determine if the combination of both techniques will result in faster or more accurate descriptive panel training.

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Suspending continual feedback and its effect on panel performance

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