

Design and Requirements of Sensory Evaluation

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There are three major components for the successful implementation of sensory evaluation:

- Adequate sensory laboratory facilities
- Sensory panels and
- Rigorous training programs



SENSORY LABORATORY SET UP AND EQUIPMENT

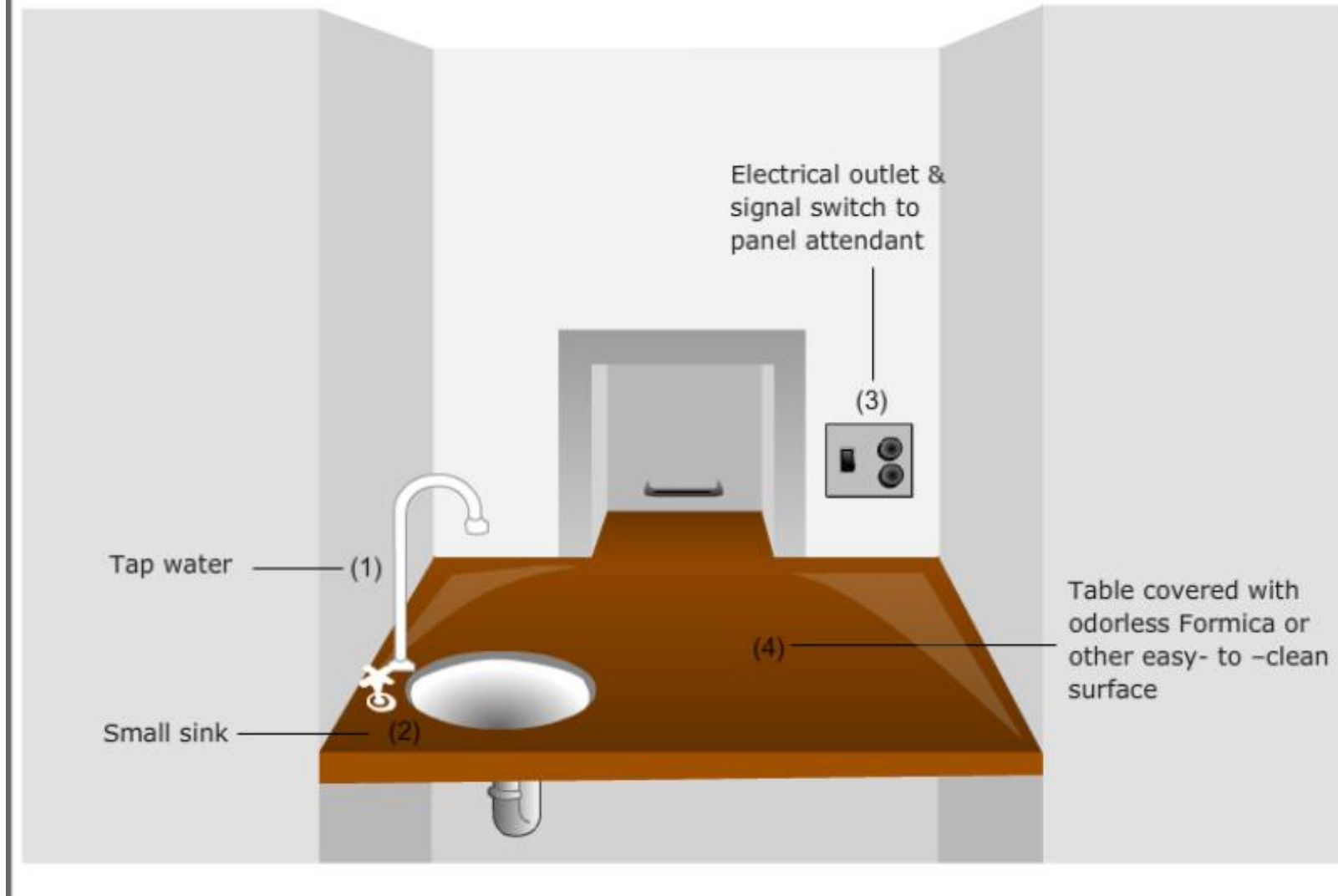
- **Reception and briefing room:**

It should be so designed as to ensure maintenance of pleasant attitudes and minimize traffic to the booths. Panel members shall assemble here, register, received the evaluation card and briefed about the test.

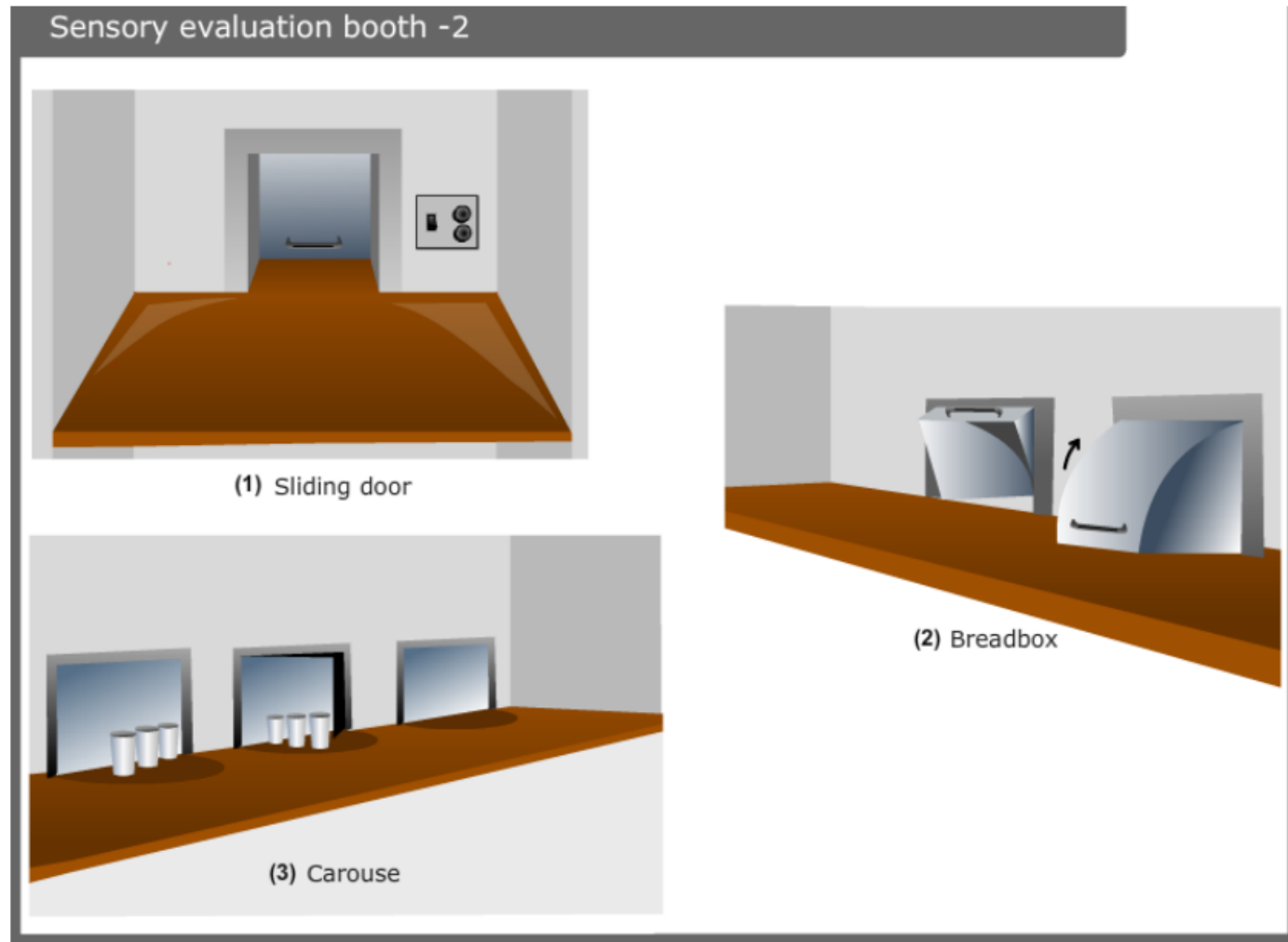
Panel booths

- The booths may be arranged all side – by side, in an L – shape, or with two sets of three to four booths facing each other across the serving area.
- The L – shape represents the most efficient use of the "work triangle" concept in kitchen design, resulting in a minimum of time and distance covered by technicians in serving samples.
- One unit of six to eight booths will accommodate a moderate test volume of 300 to 400 sittings per year of panels up to 18 to 24 members
- These booths should be located between or adjacent to the reception and preparation rooms, and should consist of test booths or identical design.

Sensory evaluation booth with Hatch

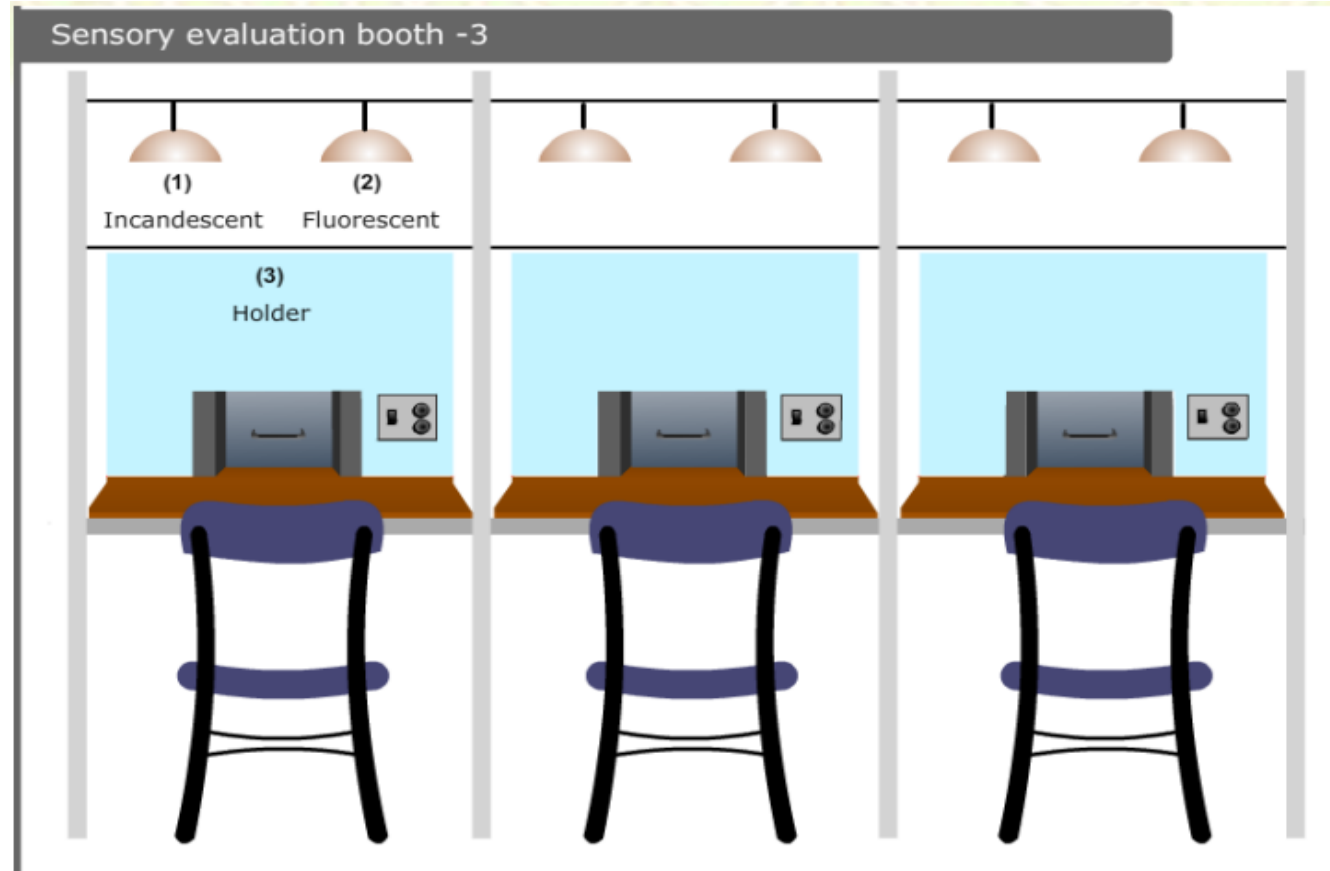


- Each booth may be 75 to 80 cm wide having adequate space to keep samples, drinking water, receptacle and writing space.
- Separated by partitions
- The dividers should extend approximately 18 in. above the countertop in order to reduce visual and auditory distraction between booths
- Space can be allowed for installation of a PC monitor and a keyboard, if required



- Revolving stool with back support or chairs should be provided with drinking water, cleansing towels and glasses and basins.

The lighting of booths should be uniform and glare free and arrangement should be made to provide white or coloured light.



A temperature of about 20°C and RH of 62% in the testing room is considered to be ideal. The entry and exit to the panel booth area by independent doors may be useful to avoid any communication between panel members.

Special booth features

- a) A small stainless steel sink and a water faucet are usually included for rinsing. Filtered water may be required if odour-free tap water is unavailable.

- b) A signal system is sometimes included so that the panel supervisor knows when an assessor is ready for a sample or has a question.

- c) The materials of construction in the booths and surrounding area should be odor-free and easy to clean. Formica and stainless steel are the most common surface materials.

- d) Walls should be off- white; the absence of hues of any color will prevent unwanted difference in appearance among the samples.

Preparation room

It shall be suitably separated from the testing room and should be equipped for preparing and serving food samples.

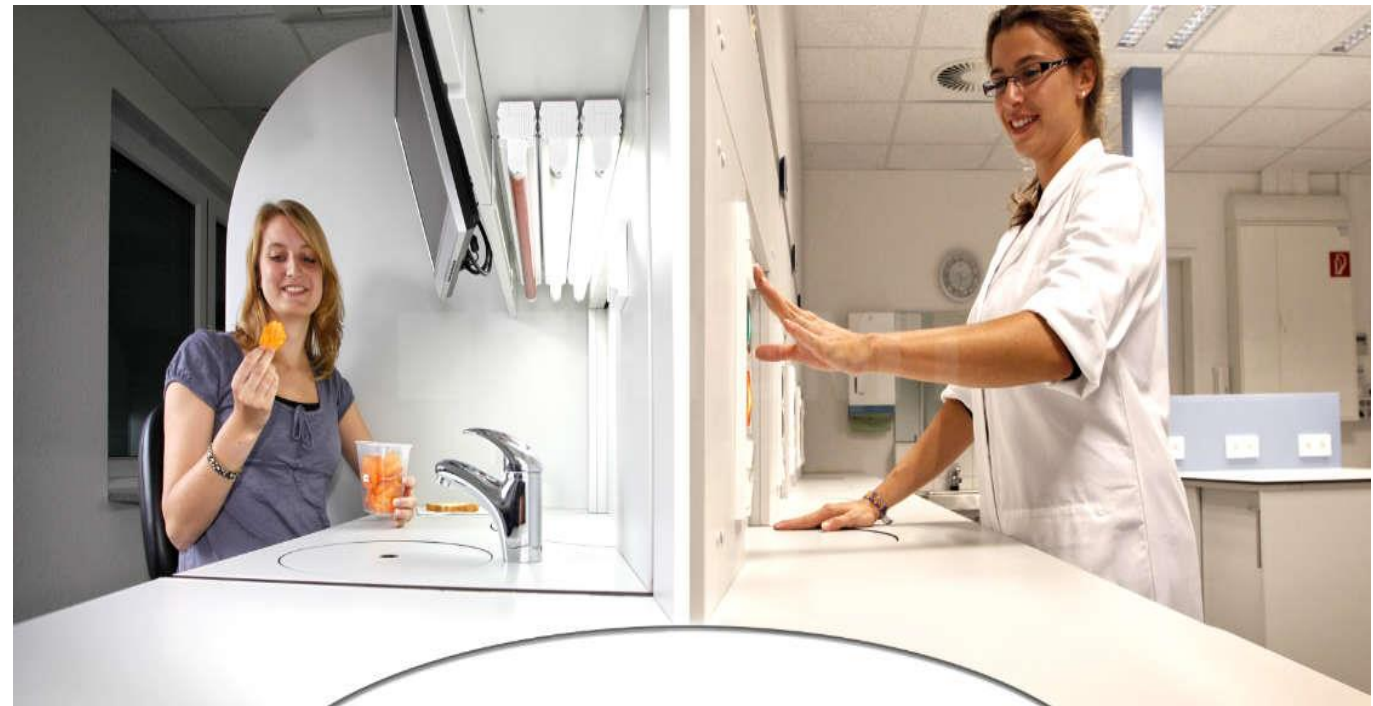


A laboratory bench flush with the hatches so that samples trays will slide through. The hatch on the service counter should preferably be constructed in such a manner that there shall be no recognition of individual or either side of partition.



- Benches, kitchen range, ovens, etc. for preparation
- Refrigerator and freezer for storage of samples
- Storage for glassware, dishes, glasses, trays, etc.
- Dishwashers, disposers, trash compactors, wastebaskets, sinks, etc.
- Large garbage containers for quick disposal of used product, etc

- The laboratory facility should be flexible enough to handle current and future testing activities, as well as to provide a workable environment for the staff. The use of computers has been recommended for sensory evaluation work



SAMPLING REQUIREMENTS / PREPARATIONS

- Sampling should be carried out by a trained and experienced person and it is essential that the sample should be representative of the lot.
- A procedure of sample preparation which is most likely to bring out the difference in the particular quality attribute under evaluation shall be selected.
- Care shall be taken that no loss of flavour occurs and no foreign tastes or odours are imported by the procedure during preparation, storage, serving etc.



- Depending upon the nature of the material and aim of the test, the need for a medium in testing auxiliary items should be decided.
- Foods like hot sauce, spices, vinegar, etc. may require dilution with some medium because of their intense physiological effects.



Indomie



Foreign rice



Spaghetti



Local rice

- The panelist should be allowed to have sufficient sample necessary to make judgement. Unless, only one sample is to be tested, full normal serving quantities shall not be served even though the material is available.
- The temperature of serving should be close to that recommended for the food product. The samples shall be served in utensils of the same type and appropriate size, shape and colour and they shall not impart any taste or odour to the sample. The test should be carried out at least one hour before or after lunch.
- Use of materials which are likely to vitiate results, such as smoking, chewing pan (betel-vine) and taking intoxicants by a panelist should have a time lapse of at least half an hour before the test. Use of strong odoriferous substances such as cosmetics, flowers hair oil should be avoided.

- The number of samples served in any one session shall depend upon the nature of the test product and upon the evaluation method used.
- In case the test product exert mild sensory effects, large number of the products exerting strong prolonged sensory effects, the number of samples may be reduced to less than 5.
- Since coding is necessary to obscure the identity of the sample, a multiple digit code generated from a table of random numbers should be used.
- Avoid constant use of certain codes or a set of codes to expedite tabulation of results.



EVALUATION CARD

- The evaluation card should be clearly printed and the matter should be arranged in logical sequence for examination which is expected under each test.
- Appropriate terminology without ambiguity shall be used.
- The evaluation card should be simple, brief, easy to follow and record what is exactly required.
- Due weightage should be given to all the sensory attributes.

Score cards

Name of the evaluator:		Gender:		Age:			
<p>Note :</p> <p>1.Please give tick (√) mark in the respective Sensory Scale Factors for each of the Sensory Quality Factors</p> <p>2.After evaluating the samples, please give marks (weightage) for each of the quality attributes out of 100</p>							
Sensory Quality Factors	Sample No.	Sensory Scale Factors					Relative weightage of Quality Factors out of 100
		Liked extremely	Liked moderately	Neither liked nor disliked	Disliked moderately	Disliked extremely	
Colour & Appearance	S1						
	S2						
	S3						
Taste & Aroma	S1						
	S2						
	S3						
Body & Texture	S1						
	S2						
	S3						
							Signature

Triangle Test		
Name:		Date:
Type of sample:		
Instructions:		
Taste samples from left to right. Two are identical; determine which is the odd sample. If no difference is apparent, you must guess.		
Samples	Which is the odd sample?	Comments
587 245 894	_____	_____
177 573 661	_____	_____
326 456 842	_____	_____

Thank you