

MULTISENSORY IMMERSIVE TOOLS AT THE SERVICE OF CREATIVITY

AN EXPLORATORY STUDY ON THE IDEATION OF PULSES RECIPES

CREATIVITY PLAYS A STRATEGIC ROLE IN FACING CONSUMER NEEDS AND SOCIETAL CHALLENGES

- Creativity is a multimodal process, integrating individual or multiple sensory modalities and brain networks.
- Sensory modalities influence consumers' emotional, hedonic, and behavioral responses to products.
- Research indicates that sensory modalities can stimulate divergent, convergent, or creative thinking depending on intervention types.
- Immersive technologies are used to bring contextual information to isolated sensory booths for ecological validity.
- However, applying these technologies to creativity sessions for consumers and companies remains unexplored.
- This study explores **how creative thinking may vary in multisensory immersive environments during creativity workshops.**

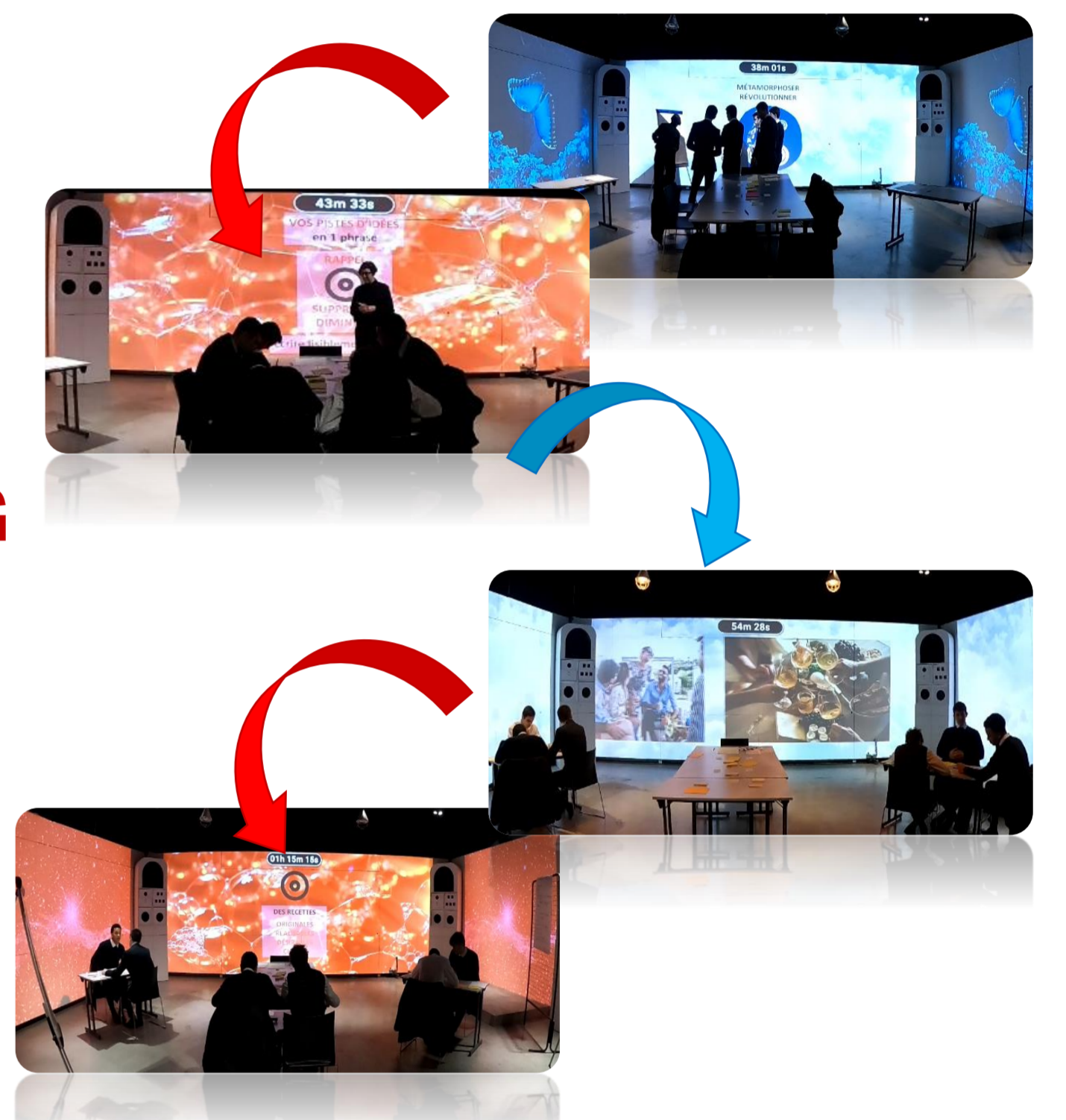
MULTISENSORY IMMERSIVE CREATIVITY WORKSHOPS VERSUS STANDARD CREATIVITY WORKSHOPS

- Four groups of 6 participants
- Split into two conditions:
 1. **Standard three-hour creativity workshop (SW)**
 - Visuals projected on a central screen
 2. **Multisensory immersive three-hour creativity workshop (MIW)**
 - Visuals projected on 3 screens with dynamism, 🔊 stimulation and 💡 during divergence phases
- In both conditions, **blue** and **red** colors were used in the divergent and convergent phases, respectively (Mehta et al., 2009).



WORKSHOP PHASES:

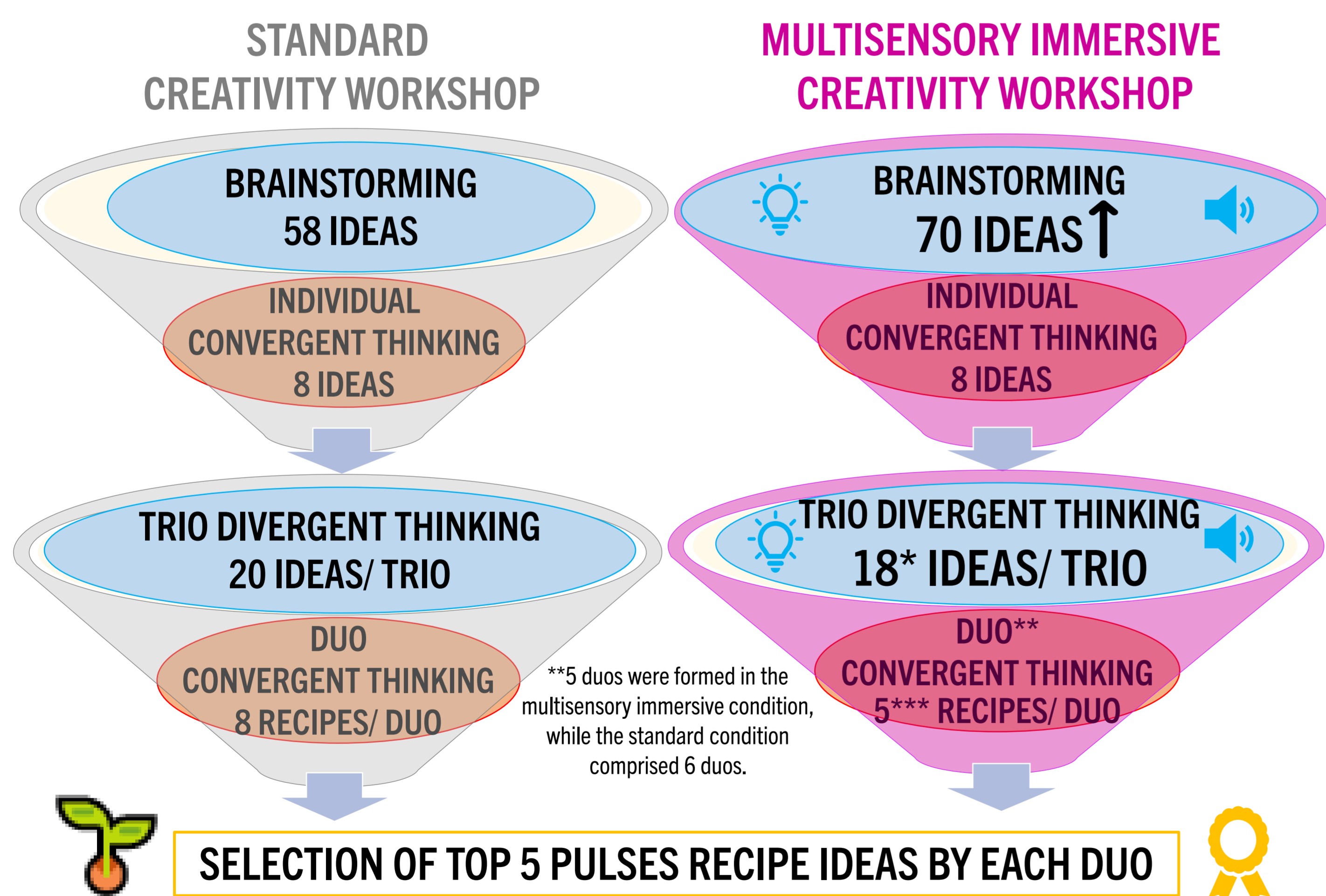
1. **BRAINSTORMING**
 - Alternative Uses Test (AUT)
2. **INDIVIDUAL CONVERGENT THINKING**
3. **TRIO DIVERGENT THINKING**
 - Alternative Uses Test (AUT)
4. **DUO CONVERGENT THINKING**
 - Remote Associates Test (RAT)



- 4 chefs evaluated the selected 52 pulses recipes ideas by using Dean et al., 2006, evaluation method.

PULSES RECIPES IDEAS SIGNIFICANTLY MORE ORIGINAL & EXHAUSTIVE IN MULTISENSORY IMMERSIVE WORKSHOPS

NUMBER OF GENERATED IDEAS PER WORKSHOP CONDITION



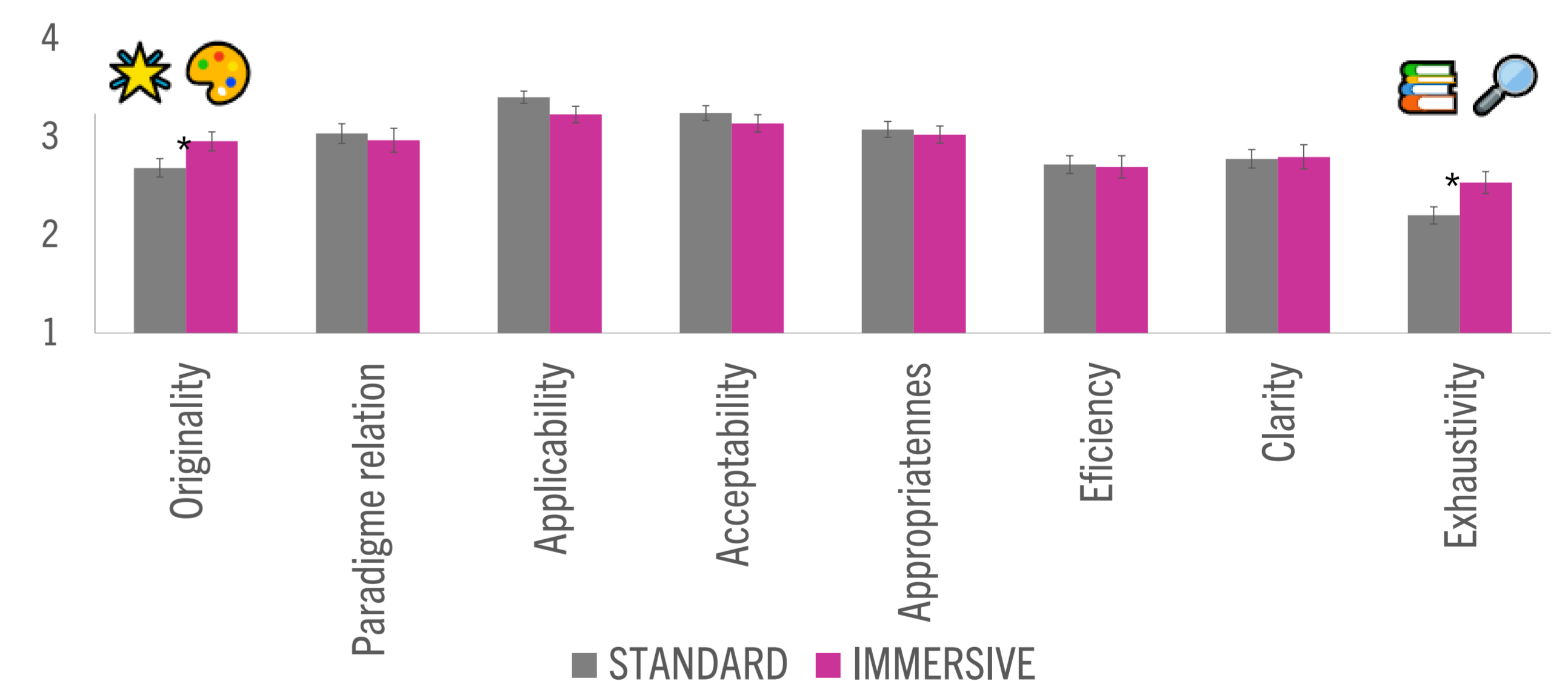
*Fewer ideas generated (18 versus 20), yet **greater content yielded, with 649 words versus 417 words** in standard condition.

***Multisensory immersive condition yielded fewer pulses recipe ideas, yet **each recipe contained more content with an average of 77 words**, compared to 63 in the standard condition.

RECIPES NAME: Bean and coffee sabayon	
Ingredients	Pinto bean sabayon / Rum brown tile lentil pickles Coffee ice cream, praline lentil nuggets Breton shortbread
Characteristics	Original dessert around the pulses but we do not see it directly. Association of new flavors. Arouses curiosity.
Consumption situation	Rather gourmet dessert
Why will this concept increase pulses' consumption?	Opens the restaurant pastry to the use of pulses in dessert. Shows the flavor potential of pulses.

Example of pulses recipe ideas sheet provided by the duos

EVALUATION OF CHEFS' TOP 52 PULSE RECIPE IDEAS PER WORKSHOP CONDITION



Amplified Ideas:

Multisensory immersion led to more original and exhaustive ideas compared to the standard condition.

Focused Engagement:

Workshop recordings revealed **multisensory immersive conditions kept participants on task**, while standard conditions saw unrelated discussions during ideation time.

Perceived Sensation: Coldness was felt under standard conditions despite consistent room temperatures → Multisensory immersion may lead participants to focus more on the task and become less concerned about external conditions.