Supplementary Material S1

Question Banks and Item-Level Descriptive Results

This supplement summarizes the structure of the two fixed experimental question banks, their content-category and thematic-pair classifications, correct-option labels, and item-level behavioral descriptives. Each item was administered to all 22 participants under its permanently assigned experimental condition.

S1.1 Question-bank structure and item-level descriptives

Item ID	Condition	Position	Thematic pair	Content category	Thematic domain	Verified item topic	Correct option	Observed accuracy	Mean RT (s)*	Response expiration
1	Baseline	1	1	International/general	World geography	Strait of Gibraltar	A	3/22 (13.64%)	7.85	8/22 (36.36%)
2	Baseline	2	2	Ecuador-related	Ecuadorian literature	Cumandá / Juan León Mera	C	6/22 (27.27%)	7.09	2/22 (9.09%)
3	Baseline	3	3	International/general	Physics	SI unit of force / Newton	D	13/22 (59.09%)	7.65	1/22 (4.55%)
4	Baseline	4	4	Ecuador-related	Ecuadorian history	Creation of the Republic of Ecuador / 1830	C	7/22 (31.82%)	6.82	3/22 (13.64%)
5	Baseline	5	5	International/general	Art	Mona Lisa / Leonardo da Vinci	B	12/22 (54.55%)	6.73	2/22 (9.09%)
6	Baseline	6	6	International/general	Computing and technology	CPU terminology	A	14/22 (63.64%)	7.48	3/22 (13.64%)
7	Baseline	7	7	Ecuador-related	Ecuadorian geography	Sucumbíos Province	B	7/22 (31.82%)	10.25	4/22 (18.18%)
8	Baseline	8	8	International/general	Biology	Photosynthesis	B	22/22 (100.00%)	5.20	0/22 (0.00%)
9	Baseline	9	9	Ecuador-related	Ecuadorian geography	Napo River	A	16/22 (72.73%)	6.84	3/22 (13.64%)
10	Baseline	10	10	International/general	Environmental knowledge	Paris Agreement	C	4/22 (18.18%)	11.67	7/22 (31.82%)
11	Auditory deadline cue	1	1	International/general	World geography	Amazon River	A	16/22 (72.73%)	6.06	0/22 (0.00%)
12	Auditory deadline cue	2	2	Ecuador-related	Ecuadorian literature	Huasipungo / Jorge Icaza	D	13/22 (59.09%)	7.11	2/22 (9.09%)
13	Auditory deadline cue	3	3	International/general	Physics	Electron	B	16/22 (72.73%)	6.10	0/22 (0.00%)
14	Auditory deadline cue	4	4	Ecuador-related	Ecuadorian history	First Cry of Independence of Quito / 1809	C	1/22 (4.55%)	7.71	2/22 (9.09%)
15	Auditory deadline cue	5	5	International/general	Art	The Starry Night / Vincent van Gogh	A	17/22 (77.27%)	5.48	0/22 (0.00%)
16	Auditory deadline cue	6	6	International/general	Computing and technology	HTTP	D	5/22 (22.73%)	9.01	1/22 (4.55%)
17	Auditory deadline cue	7	7	Ecuador-related	Ecuadorian geography	Capital of Manabí Province / Portoviejo	C	8/22 (36.36%)	7.35	1/22 (4.55%)

18	Auditory deadline cue	8	8	International/general	Biology	Mitochondrial respiration	A	7/22 (31.82%)	9.39	2/22 (9.09%)
19	Auditory deadline cue	9	9	Ecuador-related	Ecuadorian geography	Isabela Island	B	6/22 (27.27%)	6.17	0/22 (0.00%)
20	Auditory deadline cue	10	10	International/general	Environmental knowledge	Carbon dioxide emissions	B	20/22 (90.91%)	8.33	0/22 (0.00%)

**Mean response time is calculated among submitted responses only.*

S1.2 Spanish question wording and response alternatives

The following table presents the exact Spanish wording of the experimental questions, response alternatives, and verified correct-option labels used in the two question banks.

Item	Condition	Exact Spanish question	Option A	Option B	Option C	Option D	Correct option
1	Baseline	¿Qué estrecho separa Europa de África?	Estrecho de Gibraltar	Estrecho de Bering	Estrecho de Magallanes	Dardanelos	A
2	Baseline	¿Quién escribió "Cumandá"?	Juan Montalvo	Jorge Icaza	Juan León Mera	Pablo Palacio	C
3	Baseline	¿Cuál es la unidad del SI para la fuerza?	Pascal	Joule	Watt	Newton	D
4	Baseline	¿En qué año se creó la República del Ecuador?	1822	1835	1830	1810	C
5	Baseline	¿Quién pintó "La Gioconda"?	Rafael	Leonardo da Vinci	Miguel Ángel	Botticelli	B
6	Baseline	¿Qué significa CPU?	Unidad Central de Procesamiento	Unidad de Potencia de Cómputo	Controlador Principal Universal	Centro de Procesos Unificados	A
7	Baseline	¿Qué provincia ecuatoriana limita tanto con Colombia como con Perú?	Esmeraldas	Sucumbíos	Orellana	Morona Santiago	B
8	Baseline	¿En qué proceso las plantas liberan	Glucólisis	Fotosíntesis	Fermentación	Ósmosis	B

		oxígeno?					
9	Baseline	¿Cuál de estos ríos ecuatorianos es afluente del Amazonas?	Napo	Guayas	Esmeraldas	Jubones	A
10	Baseline	¿Qué acuerdo internacional busca limitar el calentamiento por debajo de 2 °C?	Protocolo de Montreal	Convenio de Basilea	Acuerdo de París	Protocolo de Kioto	C
11	Auditory deadline cue	¿Qué río es el más caudaloso del mundo?	Amazonas	Nilo	Yangtsé	Misisipi	A
12	Auditory deadline cue	¿Qué obra es de Jorge Icaza?	Don Segundo Sombra	Doña Bárbara	El Señor Presidente	Huasipungo	D
13	Auditory deadline cue	¿Qué partícula tiene carga negativa?	Protón	Electrón	Neutrón	Positrón	B
14	Auditory deadline cue	¿En qué año se proclamó la Independencia de Quito (Primer Grito)?	1812	1830	1809	1820	C
15	Auditory deadline cue	¿Quién pintó “La noche estrellada”?	Van Gogh	Monet	Picasso	Dalí	A
16	Auditory deadline cue	¿Qué significa “HTTP” en la web?	High Transfer Text Protocol	Hyperlink Transfer Type Protocol	Host Transmission Text Protocol	HyperText Transfer Protocol	D
17	Auditory deadline cue	¿Cuál es la capital de la provincia de Manabí?	Manta	Bahía de Caráquez	Portoviejo	Chone	C
18	Auditory deadline cue	¿En qué orgánulo ocurre principalmente la respiración celular aeróbica?	Mitocondria	Cloroplasto	Retículo endoplásmico	Ribosoma	A
19	Auditory deadline cue	¿Cuál es la isla más grande del archipiélago de Galápagos?	Santa Cruz	Isabela	San Cristóbal	Floreana	B
20	Auditory deadline cue	¿Cuál es el gas de efecto invernadero más abundante emitido por actividades humanas?	Metano (CH_4)	Dióxido de carbono (CO_2)	Óxido nitroso (N_2O)	Ozono (O_3)	B

S1.3 Classification rules

- Content category: items at positions 2, 4, 7, and 9 in each bank were classified as Ecuador-related; positions 1, 3, 5, 6, 8, and 10 were classified as international/general.
- Thematic pairing: the two banks were paired by question position across ten broad domains, but the actual items differed between conditions.
- Psychometric status: the two banks were not psychometrically calibrated or empirically equated before the experiment.
- Interpretive consequence: experimental condition and fixed question-bank characteristics cannot be fully separated by the study design.