Engaging, Motivating, and Strengthening Learning Preferences with Kahoot! in Higher Education

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Abstract

Many college learners, especially first-generation and multilingual students, benefit from instruction that is interactive and culturally responsive. This article presents a practical framework for using Kahoot! (1) to boost motivation and engagement, and (2) to help students surface and strengthen their learning preferences through metacognitive reflection. We map core Kahoot! formats (Quiz, Type Answer, Slider, Drop Pin, Puzzle, Poll/Scale, and Word Cloud) to learning modalities (visual, auditory, read/write, kinesthetic; social/collaborative), student-centered pedagogy (active learning, inclusive design, culturally sustaining practices), and flexible delivery modes (online synchronous and in-person with technology). We include ready-to-adopt prompts (e.g., chart interpretation, digestion-sequence puzzle, affective scenario polling) that pair each activity with a brief reflective question, allowing students to identify what helped them learn and why. This approach reframes Kahoot! from a game to a guided practice with rapid feedback and metacognitive checks, supporting persistence while honoring the expressive cultural strengths common among Hispanic/Latinx learners. Faculty can implement

this framework in online, HyFlex, and face-to-face courses to increase participation, reduce performance anxiety, and make learning-strategy awareness an explicit outcome.

Keywords: Kahoot!, student engagement, learning preferences, metacognition

Resumen

Muchos estudiantes universitarios, especialmente los de primera generación y los multilingües, se benefician de una enseñanza que sea interactiva, culturalmente receptiva y adaptada al Diseño Universal para el Aprendizaje (DUA). Presentamos un marco práctico para utilizar Kahoot! con el fin de (1) aumentar la motivación y el compromiso, y (2) ayudar a los estudiantes a identificar y fortalecer sus preferencias de aprendizaje mediante la reflexión metacognitiva. Vinculamos los formatos principales de Kahoot! (evaluaciones interactivas, respuesta por pin, escrito breve, control deslizante, rompecabezas, encuestas con escala, nube de palabras) con modalidades de aprendizaje (visual, auditiva, lecto-escritura, kinestésica; social/colaborativa), pedagogía centrada en el estudiante (aprendizaje activo, diseño inclusivo, prácticas culturalmente sostenibles) y modos de enseñanza flexibles (en línea sincrónica y presencial con tecnología). Incluimos ejemplos listos para usar (p. ej., interpretación de gráficos, rompecabezas de secuencia del proceso digestivo, encuestas sobre escenarios afectivos) que combinan cada actividad con una breve pregunta reflexiva, lo que permite a los estudiantes identificar qué les ayudó a aprender y por qué. Este enfoque replantea la visión de Kahoot! como un juego a considerarlo una práctica guiada con retroalimentación rápida y revisiones metacognitivas, fomentando la persistencia y al mismo tiempo honrando las fortalezas culturales expresivas comunes entre los estudiantes hispanos/latinos/latinx. El cuerpo docente puede implementar este marco en cursos en línea, HyFlex y presenciales para aumentar la participación, reducir la ansiedad ante las

evaluaciones formales y hacer que la concientización sobre las estrategias de aprendizaje sea un verdadero resultado.

Palabras clave: Kahoot!, participación del estudiante, preferencias de aprendizaje, metacognición

Significance of the Problem

Higher education today faces urgent challenges in meeting the diverse needs of its students. According to the National Center for Education Statistics (NCES), 21% of undergraduate students reported a disability in the 2019–2020 academic year, a figure confirmed by the U.S. Government Accountability Office (NCES, 2024). Tdata highlight the need for teaching practices that go beyond lecture-based instruction and instead reflect the principles of Universal Design for Learning (UDL) to ensure equitable access and participation. These realities underscore why learner-centered, problem-centered approaches are becoming increasingly crucial for student success.

Hispanic/Latinx Student Experiences

Latino diaspora experiences are collective and deeply narrative, embodying what Zayas and Solari (1994) described as *el cuento*, the story of navigating complex educational landscapes in pursuit of a better life. Latino expressive culture values storytelling, affirmation, and emotional openness (Gay, 2018, Zayas & Solari, 1994), which translates into learning preferences emphasizing collaboration, dialogue, and interactive engagement. First-generation and multilingual students often bring strong relational and cultural assets but face systemic barriers such as limited social capital and economic pressures that can affect persistence. Effective instruction for these learners affirms cultural strengths while building academic confidence through active participation and reflective learning.

Motivation and Engagement as Drivers of Student Success

Motivation and engagement are among the most reliable predictors of persistence and achievement in higher education (Bosch et al., 2021; Kuh et al., 2008). Post-pandemic research further links engagement to resilience, self-efficacy, and professor–student rapport. Evidence-based, interactive activities that integrate immediate feedback and social collaboration have been shown to enhance attention, critical thinking, and long-term retention. Strengthening metacognitive awareness allows students to connect motivation with learning strategies, promoting self-regulation and deeper understanding.

Kahoot! in Online and Multicultural Classrooms

Gamification applications such as Kahoot! are particularly useful in online settings, where traditional teaching methods may fail to motivate students (Singh et al., 2024). By providing practical tools for interaction and assessment, Kahoot! improves student satisfaction and engagement, particularly for English as a Second Language (ESL) learners (Singh et al., 2024). Additionally, Kahoot! allows anonymous participation, enabling shy or less confident students to engage more actively (Pham & Nguyen, 2024). For non-native English speakers, warm-up activities with Kahoot! can help ease linguistic barriers and improve comfort levels during classroom participation (Pham & Nguyen, 2024). This demonstrates the platform's flexibility in meeting the needs of diverse student populations.

Learning Styles and Metacognitive Reflection

Understanding learning preferences provides a framework for inclusive, learner-centered pedagogy. Active learning encourages analysis and reflection (Bonwell & Eison, 1991), social learning emphasizes modeling and collaboration (Bandura, 1977), and expressive-cultural learning affirms collective meaning-making (Zayas & Solari, 1994). While rigid learning-style

categorizations are debated (Pashler et al., 2008), structured reflection on sensory and cognitive preferences strengthens metacognition and resilience (Dinsmore & Parkinson, 2013). Embedding reflective prompts within Kahoot! for example, asking students which format or question type best supported their understanding turns engagement into a self-assessment of learning processes rather than mere performance. Carroll and Clancy (2024) described game-based learning to embed the principles and social dynamics of gaming into education, enabling instructors to design cooperative, immersive activities that strengthen real-world understanding while incorporating multiple means of representation, engagement, and expression.

Kahoot! and Student Learning

Studies demonstrate that Kahoot! enhances students' learning abilities by promoting active participation and engagement (Fuchs, 2022). Students using Kahoot! show improvements in problem-solving, critical thinking, and content review, while also retaining knowledge in a psychokinetic way (Fuchs, 2022). Furthermore, Kahoot! transforms the classroom dynamic by making lessons more interactive, reducing boredom, and fostering attentiveness (Fuchs, 2022). Kahoot! has also been shown to enhance emotional and social aspects of learning. Motivation in the classroom is closely tied to student engagement, and Kahoot! activities contribute to positive emotional responses, teamwork, and classroom dynamics (Licorish et al., 2018). Game-based learning integrates the tactics, regulations, and social dynamics of gaming into educational settings. This approach enables instructors to focus on specific activities that strengthen students' practical understanding of concepts in real-world scenarios, fostering cooperative and immersive learning experiences while aligning with Universal Design for Learning (UDL) principles that emphasize multiple means of representation, engagement, and expression (Carroll & Clancy, 2024).

Methods

This paper is positioned within the pedagogical Scholarship of Teaching and Learning (SoTL) field, focusing on interactive, reflective, and culturally sustaining pedagogy using Kahoot! as a tool for engagement and metacognition. The methodological foundation draws on Schön's reflective practice framework, initially developed in 1983 and reissued in 2017 as *The Reflective Practitioner: How Professionals Think in Action* (2017), which explains how educators develop knowledge through continuous reflection. Schön's (2017) approach guided each phase of course redesign, from problem identification to reflection in action, documentation, and revision. During COVID, when all classes shifted online, it became clear that students required more than lecture-based instruction to remain engaged. Many also needed additional one-on-one support and advising beyond class hours. Drawing on my background in health behavioral studies and anthropology, and as a bilingual instructor working with multilingual, first-generation students, I began forming small study groups and rethinking how to make learning more interactive and motivating. In keeping with reflection in action, I regularly asked students how they learned best and how class design affected them. When engagement waned, I introduced Kahoot! to refocus attention and gauge comprehension. These real-time adjustments revealed which activity formats visual, sequential, or collaborative most improved participation. Over time, Kahoot! evolved from a review game into a way for students to think critically about test-taking, apply knowledge through brief discussions, and build self-awareness.

After returning to in-person teaching, I continued using Kahoot! in both synchronous and classroom settings, monitoring participation and student engagement. I introduced a brief questionnaire on learning preferences and perceptions of Kahoot!'s usefulness and recorded post class reflections identifying strategies that improved comprehension and motivation. Over two

years, reflective journaling, peer dialogue, and student surveys confirmed that learning

preferences varied and could be supported intentionally. Reflection in action became central to

redesigning lectures and activities to foster deeper learning and inclusiveness. This iterative

process aligned with the SoTL framework described first in 2011 and reaffirmed by Hutchings et

al.in 2022, which recognizes reflective teaching as legitimate scholarly inquiry when it is

systematic and theory-driven. Grounding pedagogical decisions in reflection and collegial

dialogue, I triangulated insights with co-authors whose expertise expanded interpretation. The

second author, also bilingual, previously served in the Peace Corps and with the Alaska

Department of Health, working with linguistically and culturally diverse communities that

included Alaska Native populations. The third author is a state-certified teacher specializing in

behavioral sciences and health education. Collaborating with these colleagues validated

interpretations, deepened understanding of culturally responsive pedagogy, and strengthened

analytical rigor. This reflective process continues to evolve, informed by my current coursework

in Universal Design for Learning (UDL), which refines my understanding of learner variability

and inclusive design.

Pedagogical Application

Using Kahoot! to Surface and Strengthen Students' Learning Preferences

Research has shown that Kahoot! not only fosters engagement and motivation but also

provides students with opportunities to recognize how they learn best and adapt their strategies

accordingly (Licorish et al., 2018). For example, incorporating visual prompts such as diagrams

and images allows students to identify whether they respond more effectively as visual learners,

while activities involving sequencing (e.g., ordering steps or concepts with their finger or mouse)

highlight kinesthetic tendencies. Similarly, using body-based analogies, such as hand estimations

to represent portion sizes, can identify kinesthetic and embodied learning preferences. Word-definition challenges and less familiar vocabulary allow auditory or read/write learners to test their retention and processing styles, while collaborative elements embedded in Kahoot! resonate with social learning preferences and expressive-cultural strengths (Zayas & Solari, 1994). By embedding these varied question formats within Kahoot!, instructors create structured opportunities and reflective prompts that allow students to identify their learning style in real-time, thereby fostering metacognitive awareness. This process not only affirms diverse learning preferences but also equips students with practical insights into how they can tailor their study strategies, thereby strengthening their capacity for academic success.

Figure 1

*Logical Analysis of the Blood Glucose Chart*
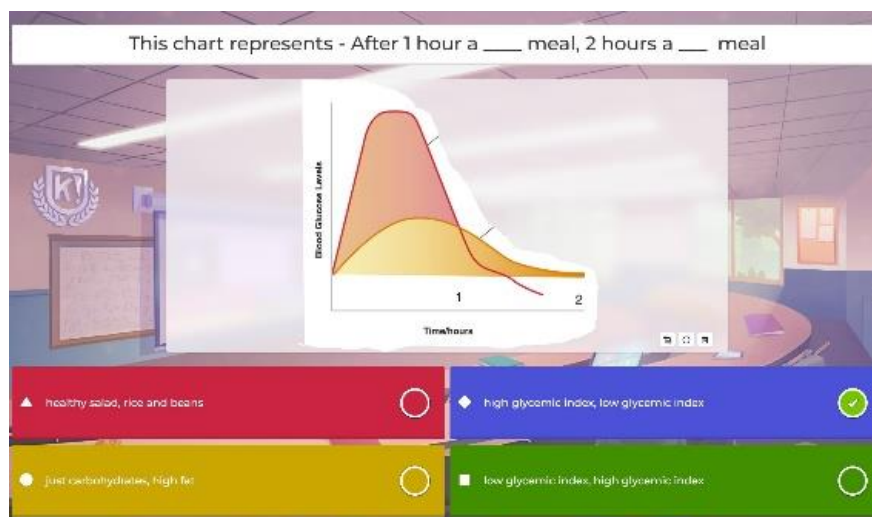
Using a Quiz with a chart/graph visual prompt, students interpret a diagram comparing four multiple-choice responses, with one answer representing the correct interpretation of high- and low-glycemic index foods.

The design highlights logical/analytical learning, encouraging pattern recognition, reasoning, and application of cause-and-effect relationships.

Reflective prompt for students: "*When reading this chart, did you focus on the patterns and logic of how glucose rises and falls? Do you prefer learning when you can analyze data, track changes, or look for patterns?*"

Figure 2

Sequential Thinking Through Digestion Sequencing
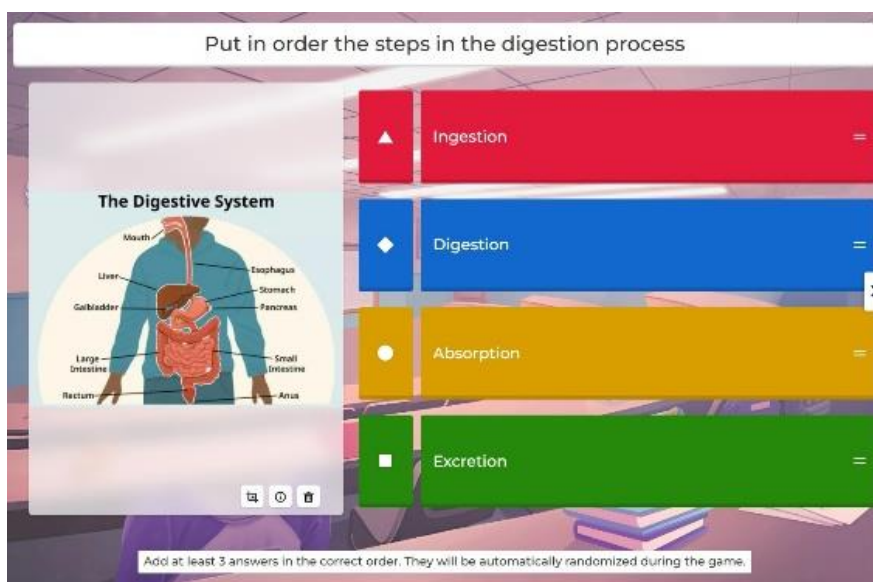
Using a Puzzle (drag-and-drop) question, students organize the steps of the digestion process in the correct order.

This reinforces sequential/logical-mathematical learning styles, supporting students who thrive in structured, step-by-step problem solving.

Reflective prompt for students: *"Did putting the digestion steps in sequence make the process clearer? Do you prefer when learning is organized in a step-by-step fashion?"*

Figure 3

*Kinesthetic Learning with Portion-Size Analogy*
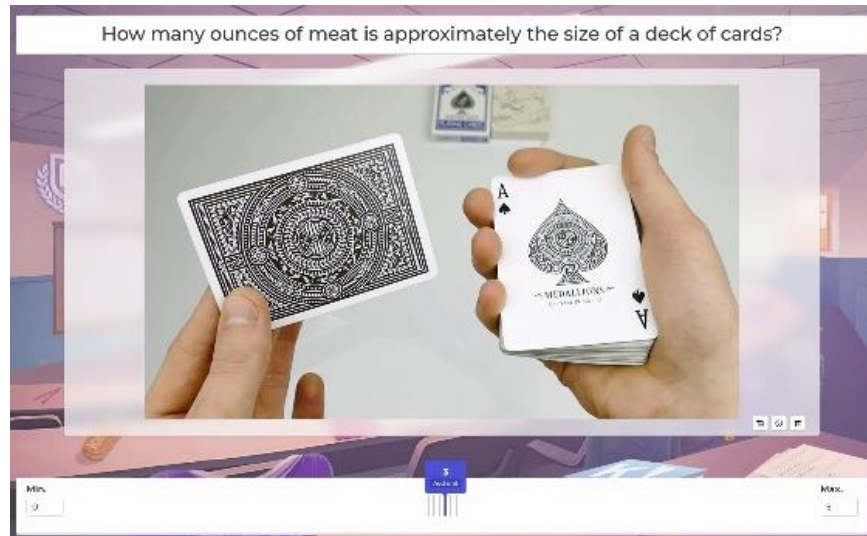
Using a Quiz question with image support, students recall the meat portion size by comparing it to a deck of cards.

The use of a concrete, physical object supports kinesthetic learning, as students link body-based or tactile analogies to abstract nutrition concepts.

Reflective prompt for students: *"Did comparing meat portions to a deck of cards make the serving size easier to remember? Do you often recall better when you use your body, objects, or movement to connect to ideas?"*

Figure 4

Integrative Learning Through the Application of Key Nutrition Concepts
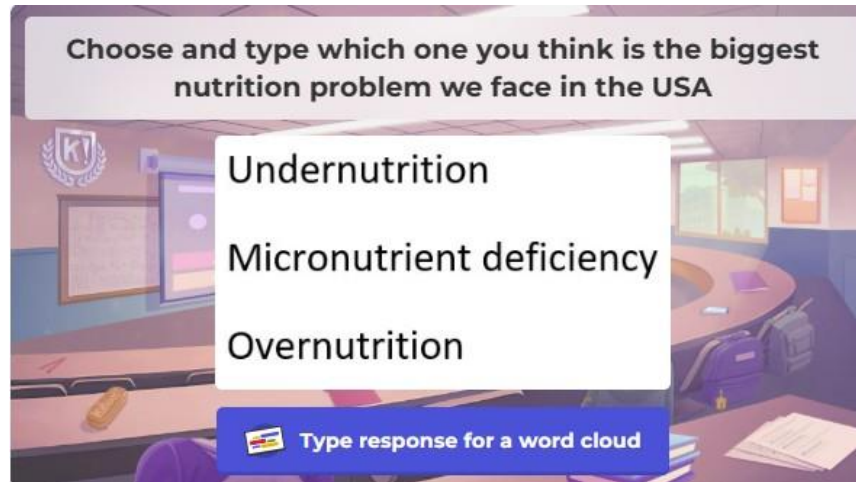
Using a Word Cloud question, students are asked to select and type which they believe is the most pressing U.S. nutrition problem: undernutrition, micronutrient deficiency, or overnutrition.

This task emphasizes Active learning by requiring students to connect definitions and concepts from class to a real-world public health issue. In doing so, students not only recall terms but also analyze their broader significance in context.

Reflective prompt for students: *"When you decided between the three options, did you find yourself applying course definitions to a real-world issue? Do you notice that you learn best when making connections between what you study and how it applies to society?"*

Figure 5

*Visual/Spatial Interpretation of a Food Swamp*

Students are shown an image representing a "food swamp" (fast food environment) and asked to identify the concept. It is a multiple-choice question with only one correct answer.

This activity emphasizes visual/spatial learning, engaging students who rely on diagrams, imagery, and visual association to understand concepts.

Reflective prompt for students: *"Did seeing this image help you understand the concept better than just reading the definition? Do pictures, charts, or visual examples make learning stick for you?"*

Figure 6

*Auditory Processing Through Patient Narratives*
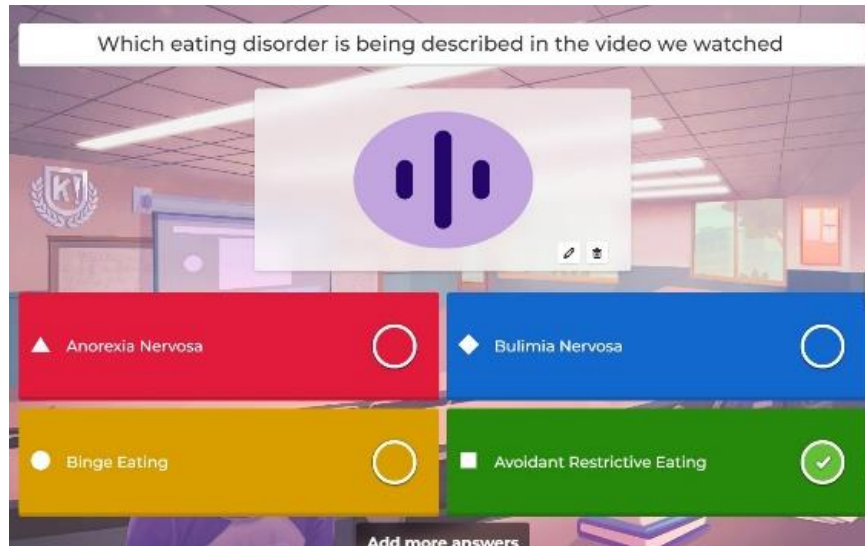
Using a Quiz with an audio clip, students listen to a patient describe their eating disorder and select the correct condition.

This aligns with auditory learning styles, as students rely on tone, rhythm, and verbal cues to understand the material.

Reflective prompt for students: *"When you listened to this voice clip, did it feel easier to recall and connect the story than if you had only read a description? Do you learn better through listening to lectures, podcasts, or conversations?"*

Figure 7

Social and Affective Awareness Through Scenario Recognition
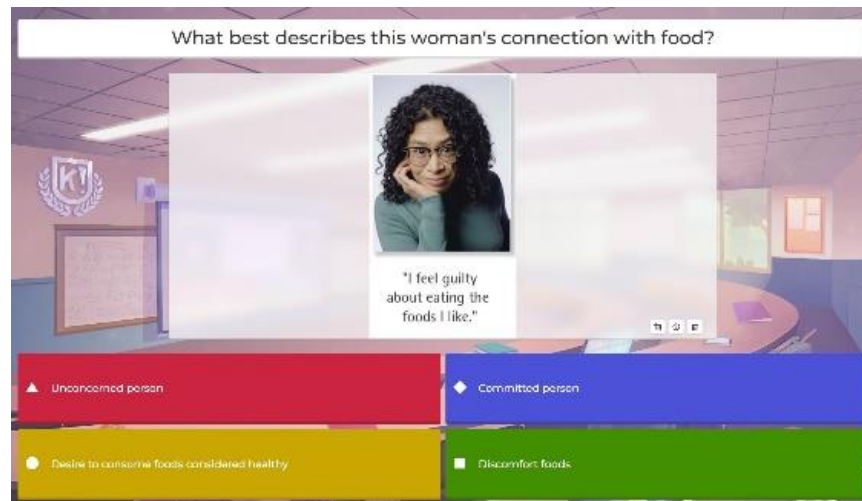
Using this Quiz question, students respond to a prompt where a woman states, *"I feel guilty about eating the foods I like."* It is a polling question that then provides the percentages of students who selected each response.

This activity aligns with social-directed and affective learning styles, as it emphasizes reflection on emotions, stigma, and social pressures around food. Students are encouraged to consider how emotions influence their own choices and learning.

Reflective prompt for students: *"Did connecting this question to a person's feelings about food help you understand the topic more deeply? Do you find it easier to learn when concepts are tied to emotions, values, or social conversations?"*

Limitations

When integrating Kahoot! into the classroom, it is important to recognize that student familiarity with technology varies widely and can influence both engagement and performance. Some students may have grown up using digital tools or participated in high school programs that incorporated iPads or interactive learning platforms, while others may have recently migrated to the country or come from households with limited computer access or unreliable

internet. These differences highlight the importance of assessing technological readiness alongside learning preferences. Focusing too narrowly on learning styles can unintentionally label students and obscure broader issues such as access, confidence, and prior experience with digital tools. Instructors should also consider accessibility needs, such as visual or auditory disabilities that may limit participation in video or sound-based Kahoot! activities and ensure that all students have equitable opportunities to engage. The design and clarity of Kahoot! Games such as accurate grammar, clear visuals, and simple navigation support comprehension and inclusion. Reliable internet access is essential for both instructors and students, particularly for those joining remotely. Because creating well-structured Kahoot! sessions require time and planning, educators should balance design efforts with instructional goals to ensure both equity and engagement.

Conclusion

Kahoot! serves as more than a game-based quiz platform; it is a bridge between traditional lecture-based instruction and learner-centered, problem-centered pedagogies. By integrating diverse question types, it encourages students to engage actively, reflect on their own learning preferences, and build metacognitive awareness of how they learn best. While technical and time-related limitations exist, Kahoot! provides instructors with a flexible, culturally responsive tool to sustain motivation, foster collaboration, and adapt instruction in real time. Its greatest value lies in how it complements lectures, pausing delivery of content to invite active participation with the material, while empowering students to take greater ownership of their learning.

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