Ciclo de Talleres “Compartiendo experiencias de innovación docente”.

Foro innovación docente Facultad de Ciencias y Tecnologías Químicas.
#AprendiendoFCTQuclm

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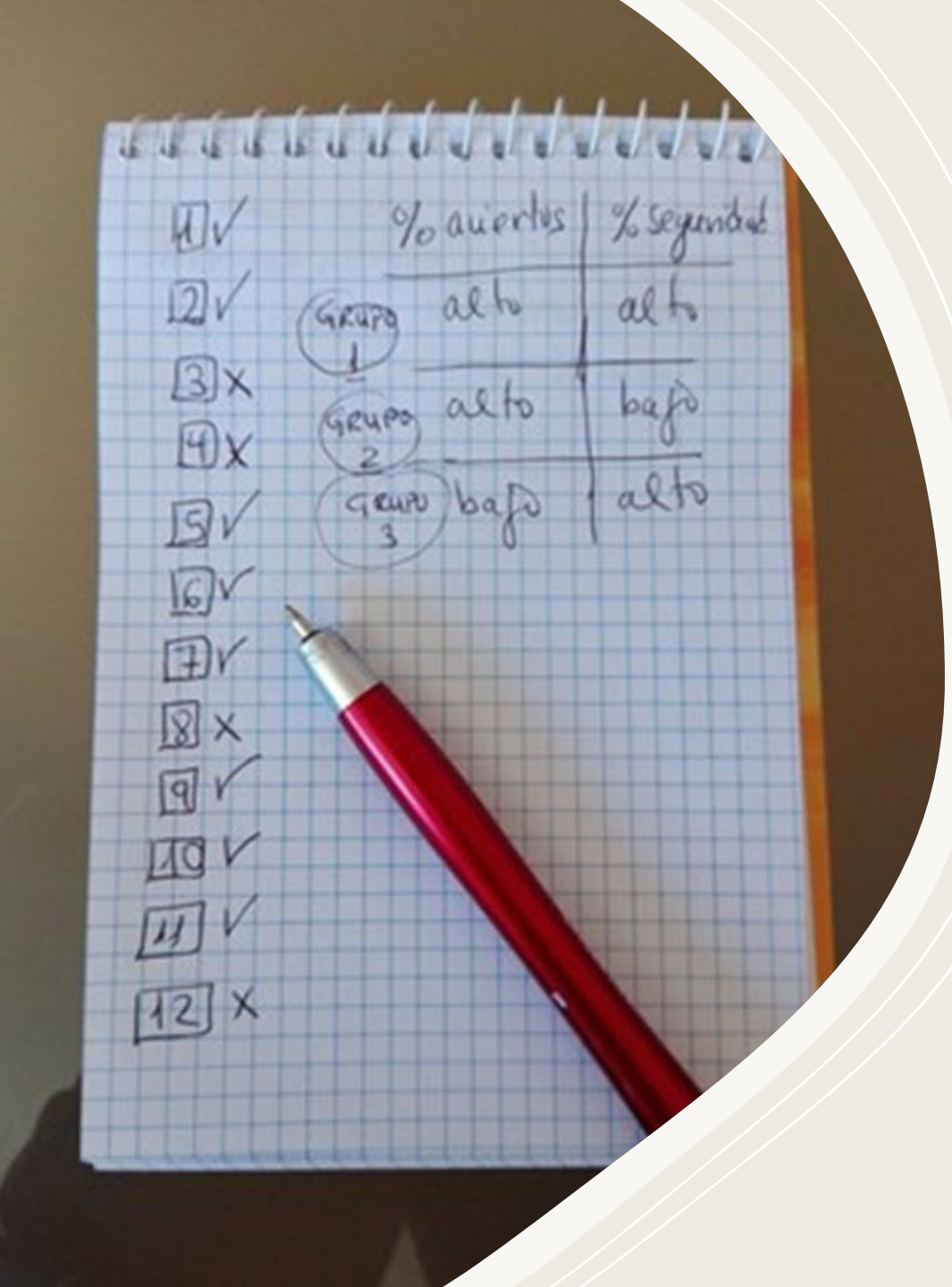
5º Taller:
¿Qué he cambiado en mi docencia? Mi experiencia

Facultad de Ciencias y Tecnologías Químicas
3 noviembre 2021

Desde 2016 hasta ahora


Estudiantes
Activos


feedback



Autoevaluación

La capacidad de los estudiantes para autoevaluar con precisión su comprensión de un tema es muy importante. Esta habilidad es muy útil, por ejemplo, al decidir en qué tema enfocarse durante el tiempo de estudio o cuánto tiempo dedicar al estudio de cada tema

Los estudiantes con menor rendimiento tienden a sobreestimar su capacidad, mientras que los de alto rendimiento tienden a subestimarla: efecto Dunning-Kruger

Source: © Klaus Vedfelt/Getty Images

Lower performers tend to have more confidence in their abilities than higher performers

Understanding self-assessment skills. Education in Chemistry by Fraser Scott, 27-July-2021

Fuente: Adobe Stock archivo Archivo N.°: 62894568

...¿Y lo que sigue?

- **Estrategias óptimas de studio *vs.* estrategias sub-óptimas**

Enfoque adoptado por los estudiantes en sus estudios en la universidad, fundamental no sólo para su éxito académico, sino igualmente importante en el aprendizaje permanente para su carrera y desarrollo profesional

- **Se debería incluir en los programas de los grados**

JOURNAL OF CHEMICAL EDUCATION

pubs.acs.org/jchemeduc Article

Insights into Study Strategies and Habits: A Study with Undergraduate Students in Spain and the U.K.

Suzanne Fergus,* Amy Heelan, Sara Ibrahim, Hasan Oyman, Yolanda Diaz-de-Mera, and Alberto Notario

Cite This: *J. Chem. Educ.* 2021, 98, 3084−3089 Read Online

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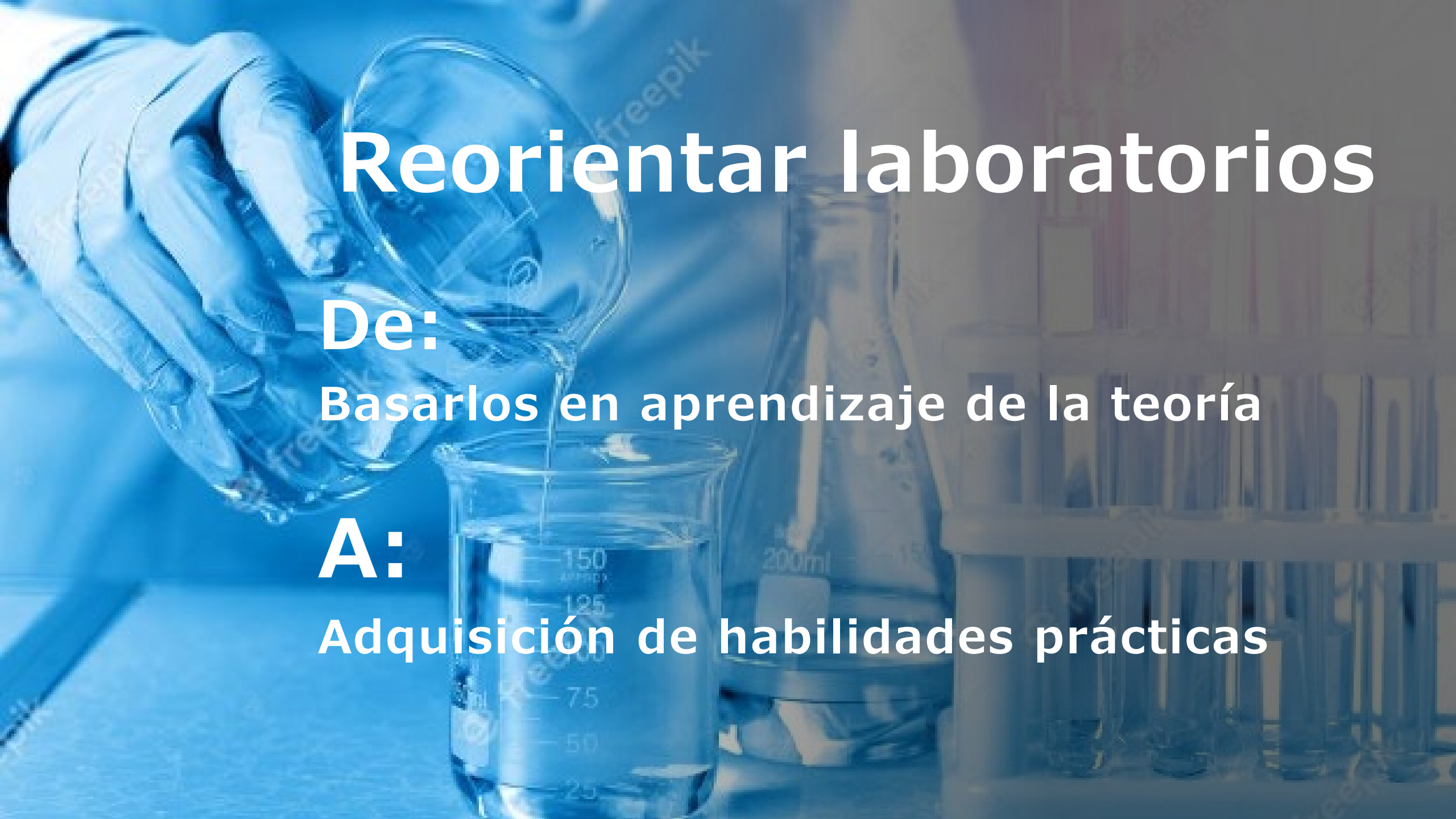
ABSTRACT: The approach that students take in their studies at university is critical not only for their academic success but is equally important in life-long learning for their career and professional development. Cognitive science has demonstrated that retesting oneself on material when learning enhances and promotes greater retention of knowledge compared to rereading the material. Learning that is spaced out over multiple study sessions also allows for greater retention of knowledge in the longer-term compared to "cramming" of information. A survey study with first- and second-year undergraduate students (n = 135) at a university in Spain and in the U.K. was carried out to investigate the study strategies and habits prevalent in these cohorts and to explore the extent of their metacognitive awareness.

It was found that most students endorsed self-testing but also suboptimal study methods such as rereading, copying notes, and cramming. There was evidence of differences between the U.K. and Spain in relation to decisions for prioritizing studying, returning to review course material, and time of study. A key conclusion is the need to embed and emphasize effective strategies for learning into curricula and for faculty to have metacognitive awareness in their teaching.

KEYWORDS: *General Public, Interdisciplinary/Multidisciplinary, Distance Learning/Self Instruction, Learning Theories*



Reorientar laboratorios

De:

Basarlos en aprendizaje de la teoría

A:

Adquisición de habilidades prácticas

Deben aprender como aprenden

Asegurar en futuro desarrollo profesional que puedan resolver problemas a los que se enfrenten

Fuente: Adobe Stock

“… Del mismo modo, cuando un estudiante hace algo bien, es crucial hacer una pausa y descubrir cómo y por qué, demostrando nuevamente la importancia de una discusión metacognitiva de alta calidad…Es mucho más que resaltar lo positivo, facilita la comprensión de toda la clase sobre cómo se logró el éxito. ¿Por qué es tan buena una respuesta? ¡Es importante desglosarlo y compartirlo! Dejar tiempo hacia el final de la clase es clave …".

”…La enseñanza y el aprendizaje no es un enfoque único para todos, y la metacognición de alta calidad que busca desafiar a los estudiantes de manera adecuada les ayuda a desarrollar sus fortalezas…la importancia de desarrollar la autorregulación de los alumnos al ofrecer el nivel adecuado de desafío para mantenerlos motivados, **sin sobrecargarlos** ".

Dispatches from the classroom: Metacognition in English, by Adam Pritchard, Local Research Lead at Norwich Research School. by Norwich Research School on the 12th November 2020. https://researchschool.org.uk/norwich/news/dispatches-from-the-classroom-metacognition-in-english

Education Endowment Foundation

METACOGNITION AND SELF-REGULATED LEARNING

Summary of recommendations

1

Teachers should acquire the professional understanding and skills to develop their pupils' metacognitive knowledge

- Self-regulated learners are aware of their strengths and weaknesses, and can motivate themselves to engage in, and improve, their learning.
- Developing pupils' metacognitive knowledge of how they learn—their knowledge of **themselves as a learner**, of strategies, and of **tasks**—is an effective way of improving pupil outcomes.
- Teachers should support pupils to **plan, monitor**, and **evaluate** their learning.

2

Explicitly teach pupils metacognitive strategies, including how to plan, monitor, and evaluate their learning

- Explicit instruction in cognitive and metacognitive strategies can improve pupils' learning.
- While concepts like 'plan, monitor, evaluate' can be introduced generically, the strategies are mostly applied in relation to specific content and tasks, and are therefore best taught this way.
- A series of steps—beginning with **activating prior knowledge** and leading to **independent practice** before ending in **structured reflection**—can be applied to different subjects, ages and contents.

3

Model your own thinking to help pupils develop their metacognitive and cognitive skills

- Modelling by the teacher is a cornerstone of effective teaching; revealing the thought processes of an expert learner helps to develop pupils' metacognitive skills.
- Teachers should verbalise their metacognitive thinking *('What do I know about problems like this? What ways of solving them have I used before?')* as they approach and work through a task.
- Scaffolded tasks, like worked examples, allow pupils to develop their metacognitive and cognitive skills without placing too many demands on their mental resources.

4

Set an appropriate level of challenge to develop pupils' self-regulation and metacognition

- Challenge is crucial to allow pupils to develop and progress their knowledge of tasks, strategies, and of themselves as learners.
- However, challenge needs to be at an appropriate level.
- Pupils must have the motivation to accept the challenge.
- Tasks should not overload pupils' cognitive processes, particularly when they are expected to apply new strategies.

5

Promote and develop metacognitive talk in the classroom

- As well as explicit instruction and modelling, classroom dialogue can be used to develop metacognitive skills.
- Pupil-to-pupil and pupil-teacher talk can help to build knowledge and understanding of cognitive and metacognitive strategies.
- However, dialogue needs to be purposeful, with teachers guiding and supporting the conversation to ensure it is challenging and builds on prior subject knowledge.

6

Explicitly teach pupils how to organise and effectively manage their learning independently

- Teachers should explicitly support pupils to develop independent learning skills.
- Carefully designed **guided practice**, with support gradually withdrawn as the pupil becomes proficient, can allow pupils to develop skills and strategies before applying them in **independent practice**.
- Pupils will need timely, effective feedback and strategies to be able to judge accurately how effectively they are learning.
- Teachers should also support pupils' motivation to undertake the learning tasks.

7

Schools should support teachers to develop knowledge of these approaches and expect them to be applied appropriately

- Develop teachers' knowledge and understanding through high quality professional development and resources.
- Senior leaders should provide teachers with time and support to make sure approaches are implemented consistently.
- Teachers can use tools such as 'traces' and observation to assess pupils' use of self-regulated learning skills.
- Metacognition shouldn't be an 'extra' task for teachers to do but should be built into their teaching activities.

Fuente: Adobe Stock archivo Archivo N.°: 62894568