CONFERENCE PROCEEDINGS

CIVINEDU 2020

4th International Virtual Conference on Educational Research and Innovation

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redine.investigacion@gmail.com

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Instagram, a tool for teaching your students

Jaime Orellana Barrasa, Sandra Tarancón , Elena Tejado, José Ygnacio Pastor
Departamento de Ciencia de Materiales, ETSICCP, Universidad Politécnica de Madrid, España

Introduction

Instagram is nowadays a popular social network, with over 1 million users worldwide on mobile devices (Clement, 2019), so it has become an essential application among young people. This makes Instagram an excellent channel to reach students, a mainly young audience.

Anyone can have one or more Instagram accounts for free. There are many types of accounts: from professional ones, like those of famous people with millions of followers, artists to show their paintings, or sportsmen to share their daily progress, to normal accounts. This latter of ordinary people to publish their daily life, interact with other people and, most of the times, entertain themselves for hours. However, the accounts of our interest are those with a scientific approach. Ideally, these are managed by experts on a topic to share curiosities, data and findings on the subject they master.

Some examples of popular Spanish science accounts (Instagram) are *@fecyt_science* (scientific advances), Alfredo García in *@nuclear operator* (nuclear energy), Javier Santaolalla in *@jasantolalla* (physics), Jaime Altozano in *@jaimealtozano* (music), José Luis Crespo in *@quantumfracture* (physics) or Martí Montferrer in *@official_science* (science) among many other possible examples. This way of approaching science to the audience has indeed many benefits.

Methodology

As Materials Science experts, we have created an Instagram account on these topics to try to reach our students. This account is called *@mordazitas* (diminutive of “mordazas”, the Spanish name for the clamps used in tensile tests) and it is represented by a creature (a small laboratory gag that resembles a crocodile) that has been introduced as the mascot of the Materials degree -college mascots are rare in Spain, but easy to find in other countries such as the U.S. -. Through the account *@mordazitas*, we have established several dynamics of learning and communication to reach our students that would be unfeasible in any classroom, but very effective in this social network.

Results and discussion

The most successful approach has been “The Mordazitas Imperium“, with nearly 100 active participants out of 300 account followers. “The Mordazitas Imperium“ was a competitive game carried out during 5 days in a row. In this game, a series of questions related to the concepts that they have learned, are learning or will learn, at some point during the Materials Engineering Degree at the UPM were posted to the followers of Mordazitas, which are most of our students.

During the first edition of the game, “The Mordazitas Imperium”, we made a formal “Alphabet Game”, similar to the dynamics of the popular TV program in which the contestants are shown a definition for each letter of the alphabet and they must match the word defined. However, in the Second Edition of the game we decided to give it a new focus; we kept the idea of providing the definition of the word together with its first letter, but we created a more striking context for the questions by introducing these definitions in a scientific-related story.

Students' successes and errors affected their outcome in the story (being able to get weapons, spells and other objects), creating a ranking at the end of the game and giving some very interesting prizes for the students based on their results (small amounts of exotic materials such as graphene, superconductors or tungsten for nuclear fusion applications…) as well as a certificate of participation and position in the final ranking.

The story told so far has been that Schrödinger's Cat must fight the Scrap Monster and its henchmen, to defend the Gag Empire from all its waste - a nod to the ODS. To do this, Schrödinger's Cat uses its quantum power (superposition of states or teleportation) and its knowledge in Materials Science to understand the properties of the Monster during the fight via, for example, Vickers hardness tests, or to discover how to destroy the Monster by remembering the Izod test with which it could easily split its Crystal of Life. This helps students to reinforce the knowledge acquired on materials testing lessons and to acquire essential notions about concepts they will learn in future courses, depending on the course they are enrolled in.

Conclusions

Students' participation and their outcomes have been incredibly positive, for this purpose, we have decided to share this successful story so that it can be reproduced by other colleagues to engage students on materials science topics. But also to create a community of Instagram accounts (or its equivalent in the future) to share, in a reliable and funny way, our most successful dynamics and games. Furthermore, we encourage any teacher or reader to participate in our next edition of "The Mordazitas Imperium" via our Instagram account *@mordazitas*.

Keywords: Instagram, students, dynamics, gamification.

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