LEARN + FUN | HOW SOCIAL MEDIA AND GAMIFICATION CAN FOSTER STUDENTS' PARTICIPATION IN AN ONLINE EMERGENCY COURSE

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BACKGROUND

Clinical teachers thrive to connect meaningfully to students in the ever-shorter clinical rotations. The consequence is the settlement of two different communities: the community of students and the community of clinical teachers. Communities of Practice (CoP) is a framework that guide the learning process in the clinical scenario, which demands meaningful and safe connections among supervisors and students. Millennial medical students feel safe interacting online. They recognize and celebrate teachers' efforts to go online to interact in students' comfort zone. In this context, social media offers creative ways to foster collaboration and co-construction of knowledge, fostering a sense of belonging and helping the creation of online CoP. In addition, gamification can also increase the engagement of students with academic activities. We explored how the CoP framework can ground the utilization of social media and gamification strategies to boost last year medical students' participation in a blended online emergency course.

SUMMARY OF WORK

This was a naturalistic experiment with a historical control. Students were divided into three groups:

STAGE 1

CONTROL GROUP

In a blended-learning strategy we provided to last-year medical students a Moodle-based course. It is neither mandatory nor provides students with grades for participation. All the online activities are related to problem-solving and based on real clinical cases.

EMERGENCY ROTATION

Mandatory
2 months
20 students/month
10 hour/day
Emergency department
Emergency ward/ICU
2 cognitive assessments and OSCE

EMERGENCY MOODLE-BASED COURSE

125 students, from 2011 to 2013

Learning strategies:
Emergency rotation
Moodle based-course

Blended-learning strategy

STAGE 2

FACEBOOK GROUP

We created a character (Jacinto Bemelhor) to send daily messages to students every time we uploaded new activities. The messages provide links [1] to ease the navigation through Moodle and are designed to be funny [2] and to create a bond with emergency medicine and emergency teachers.

[3] Students could tag Jacinto with "#WeAreAllJacintos".

[4] Students and teachers shared impressions, photos and memories about daily activities.

[5] Jacinto created several Spotify playlists sharing teacher and students music preferences.

[6] A fictional store was created to make jokes with Jacinto's name.

179 students, from 2013 to 2015

Learning strategies:
Emergency rotation
Moodle based-course
Social media (Jacinto Bemelhor)

Facilitator of an online CoP
Sense of belonging

STAGE 3

GAMIFICATION GROUP

We gather different Moodle emergency course activities in three consecutive study guides, each one comprehended sequential levels, with an increasing number of activities per level, providing the students the feeling of "leveling up".

COOL — **7** levels — **101** activities
PRO — **9** levels — **152** activities
INSANE — **11** levels — **217** activities

All emergency teachers, last-year medical students and several guests attended to "Jacinto Awards". The event was full of artistic performances, mainly musical, with teachers and students performing together.
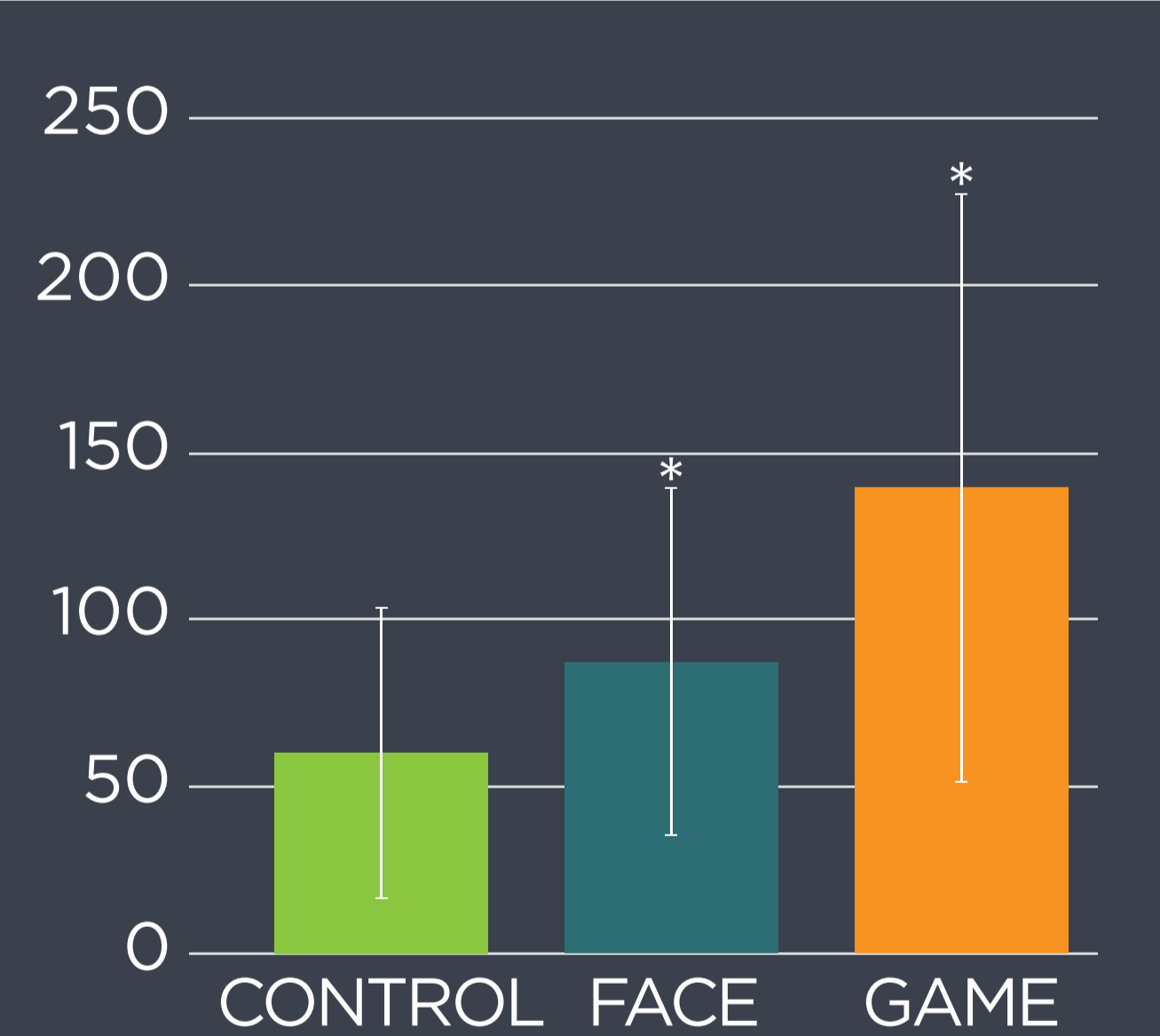

158 students, from 2015 to 2017

Learning strategies:
Emergency rotation
Moodle based-course
Social media (Jacinto Bemelhor)
Gamification

Study as a funny activity
Self-determination theory

SUMMARY OF RESULTS

1) The average number of hours logged on Moodle/student increased as we started a new strategy.

* GAME > FACE > CONTROL, p<0,001

2) There was a progressive enhancement in students' participation during the weeks preceding the assessment in all groups.

Both strategies, social media and gamification, increased students' participation in all weeks, and not only immediately before the tests.

Weeks 1-4:
GAME > FACE > CONTROL
p<0,001

Timeline: hours logged on/student – day 1 until assessment day

GROUPS
Control
Facebook
Gamefication
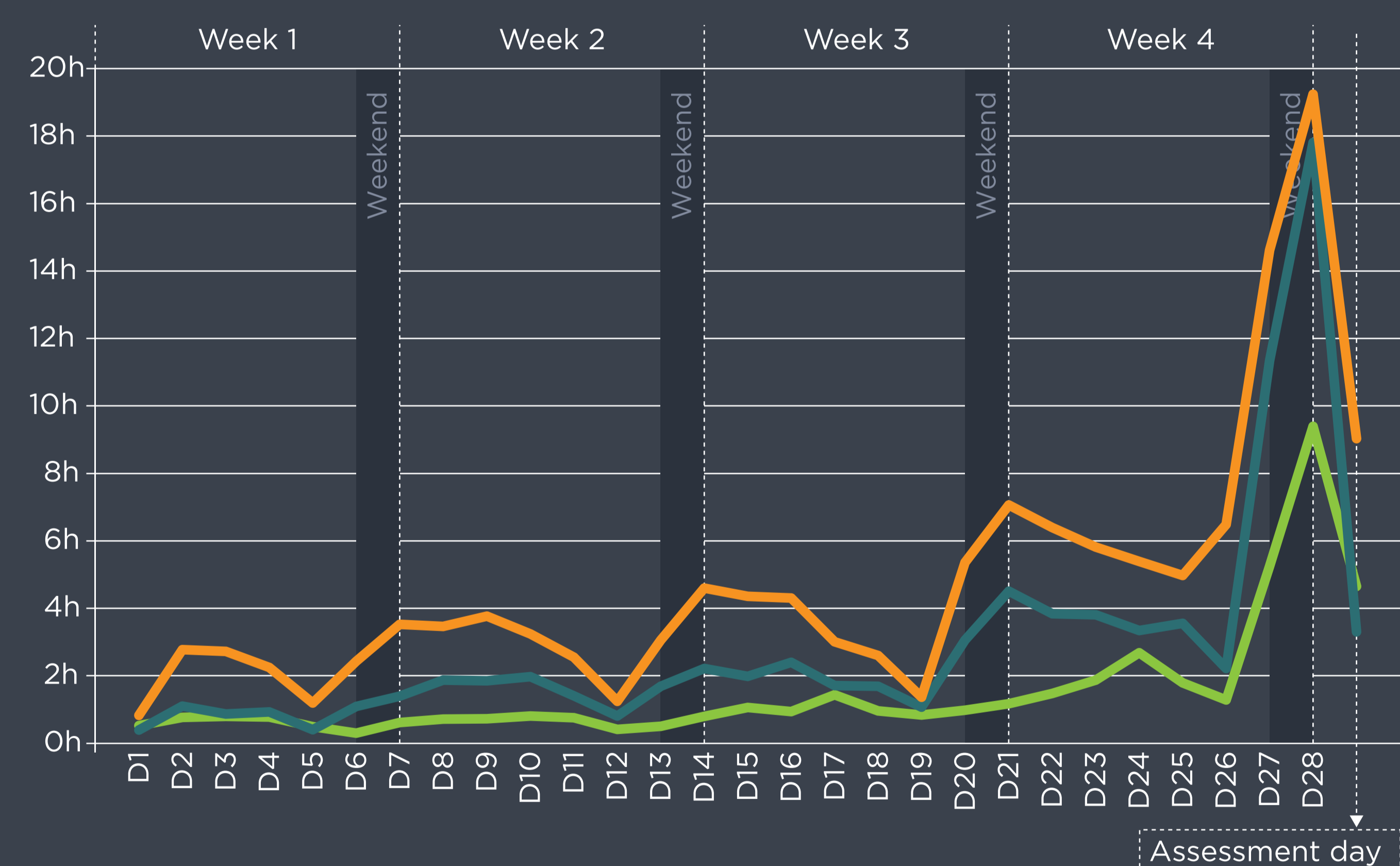
3) Sense of community: all students in Facebook and Gamification groups agreed to become Jacinto's friends and regularly received his posts.

FACEBOOK GROUP
374 posts   **8.92** likes/post
84% students interacted

GAMIFICATION GROUP
344 posts   **13.37** likes/post
89% students interacted

Jacinto was tagged 150 times in student's posts.

4) Ninety students answered to an online survey designed to understand the impact of Jacinto and gamification on students' behavior.

QUANTITATIVE
I felt closer to Emergency teachers after interaction with Jacinto Bemelhor — **84.4%** agree
Accomplishing different levels of each study guide gave me a sensation of competence — **80.3%** agree

QUALITATIVE
☑ Increased sense of belonging
☑ Improvement of self-regulation to study
☑ Studying as a potentially entertaining activity

"Jacinto is a wonderful character that is the face of this wonderful emergency team! He funnily brings us the Moodle content and keep us aware of the new activities. To our class, I believe that he has an even more loving meaning, because he enabled us to live intensely unique moments with you [teachers], moments that were far beyond learning medicine." - Student's comment

CONCLUSION

The thematic analysis of students' survey revealed three important aspects to increase the online participation: a heightened sense of belonging, an improvement in the self-regulation to study and the understanding of studying as a fun activity. Both strategies fostered a sense of belonging enhancing self-studying time and engaging students in an online CoP. The study pattern suggests a shift from extrinsic motivation (tests) to intrinsic motivation. Three explanations are possible: the engagement in social media activities full-fielded the need of relatedness; gamification nurtured the feeling of competence as students leveled up; and, students felt more autonomous to choose their path towards the study material and time. Take-home message: social media and gamification can improve self-regulation and the sense of belonging of students during clinical rotations.

1. Grangeia TdAG, de Jorge B, Franci D, Santos TM, Setubal MSV, Schweller M, et al. Cognitive load and self-determination theories applied to E-learning: impact on students' participation and academic performance. PloS One. 2016;11(3):e0152462. **2.** Wenger E. Communities of practice and social learning systems. Organization. 2000;7(2):225-46. **3.** Morris B, Croker S, Zimmerman C, Gill D, Romig C. Gaming science: the "Gamification" of scientific thinking. Frontiers in psychology. 2013;4:607.