

## **CHEMmunicate: A chemical structure drawing game for building scientific communications skills and enhancing engagement of first year students**

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Students' overall experience and assessment outcomes are partly determined by their engagement with teaching activities provided by academic institutions. Studies have shown that feeling part of a cohesive learning community can influence student's individual engagement. Gamification, or the incorporation of game mechanics in learning situations, provides strategies to increase students' motivation and develop their adaptability and responsiveness skills while enjoying themselves. With the aim of encouraging higher engagement among new first year chemistry students post-COVID, we have introduced a new chemical drawing game; CHEMmunicate. Across one semester we held 8 sessions with ca 15 students where two teams compete to draw chemical structures using yes/no questions (total 120 participants). At the end of the session having played 3-4 rounds, students were asked to fill out an anonymous questionnaire evaluating whether they enjoyed the game and found it useful for building their scientific communication skills. The results showed that the overwhelming majority of students found the game fun and felt the session had benefits for their learning experience. In the presentation, instructions and tips for playing CHEMmunicate will be shared and its effectiveness in improving student engagement will be discussed.

**Keywords:** student engagement, learning community, sense of belonging, pastoral support, gamification.