Fostering geogaming pedagogical integration: a case study within a Portuguese School

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Abstract. This paper presents results emerged from the ENAbLE project. The project focused on the development of a Geogaming app - the OriGami tool – with the intention of contributing to students' spatial literacy. The app was developed by a multidisciplinary team (educational researchers, experts in technology, experts in Geography; and teachers and students from a Portuguese school. Following a case study, data was collected (2015 to 2017) in order to evaluate the usability of the OriGami tool and to identify the impact of the project (e.g., development of spatial literacy of students). Following a research-based-design approach, teachers and students were involved in the evaluation process of the app. Potentials, constrains and suggestions for improvement of the OriGami tool emerged through the monitoring activities (e.g., usability tests, virtual meetings and teacher-training workshops with students and teachers). Results showed that the coordinator' leadership, and the active involvement of project's team, allowed to sustain the outcomes of the project (e.g., the involvement of teachers and students of this school in upcoming projects focused on the development of spatial literacy). A good leadership is the key for sustaining a CoL&P: creating proper conditions for all members to be involved in activities, leading momentarily if they so wish. From different levels of participation, depending on whether the elements belong to the 'active group' or to the remaining members, different roles emerge as promoting activities, events, etc. OriGami provides some developments arising from UCD process undertaken by students in the Portuguese ENAbLE project case. Developments based on students UCD reports and virtual meeting allow to deepen the feedback possibilities given to the teacher on learning, while simultaneously multiplying the gamification elements of OriGami in order to promote a more enjoyable student experience. To involve teachers and the educational community in this study, the following activities were undertaken: a workshop for teachers organized by students, to present ENAbLE and explain the educational potential of OneNote®, inviting teachers to create thematic tasks for each subject and share them on OneNote®; a workshop for teachers lead by the students on OriGami, where teachers will create games and compete with each other; a dissemination activity with four Classes (5th to 9th grades) to make OriGami and its educational potential known; an international project meeting where results of the Portuguese case will be announced, with the presence of two teachers and two students. After 2015/2016, to foster the pedagogical integration of the game, validate and test the pedagogical integration capabilities of OriGami, the pedagogical methodology developed was replicated in the German and Spanish contexts, based on the evaluation of OriGami usability, students' collaborative work methodology, teacher-training, co-constructed didactic materials (including students and teachers), where students, teachers and the educational community became both evaluators and contributors of the OriGami pedagogical integration.

Keywords: Geogaming; Monitoring; Spatial Literacy; Pedagogical integration.

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