Measuring the impact of an educational project mediated by indie games on students' personal, social and learning to learn competence: work-in-progress.

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INTRODUCTION

There is still hesitation about integrating commercial videogames in the classroom. Teachers prefer to use serious games or gamification practices, which have uncleared educational benefits (Fuchs, Fizek, and Ruffino 2014). However, sociocultural approaches, championed by Paul Gee (2014), have shown the potential of non-educational games to spark meaningful conversations and critical thinking, interpersonal skills, cooperation, decision making, conflict resolution, creativity, etc. (revision from Olivas, 2022).

Evidence suggests that this potential is greater with games made by small, independent studios (Oceja 2024). Indie games, known for their creativity and the artistic freedom of their developers (Juul 2009), provide rich opportunities for learning and developing European key competence 5 (personal, social, and learning to learn).

Competence-Based Approach in the European Context

The European Commission (2005) offered a foundational definition of key competences, stating:

> Key competences represent a transferable, multifunctional package of knowledge, skills and attitudes that all individuals need for personal fulfilment and development, inclusion and employment (p. 6).

After some changes in terminology, the Council Recommendation of May 22, 2018, proposed eight key competences essential for lifelong learning and curriculum design across member states.

Proceedings of DiGRA 2025

Among them, Competence 5 is defined as:

> The ability to reflect on oneself, manage time and information effectively, collaborate constructively with others, maintain resilience and manage one's own learning and career. It includes the ability to cope with uncertainty and complexity, learn to learn, contribute to one's own physical and emotional well-being, preserve physical and mental health, and be able to lead a healthy and future-oriented life, express empathy and manage conflicts in an inclusive and supportive context (p. 10).

Several studies (Bar-on, 2006) and meta-analysis (Shi and Cheung 2024), related with the Emotional Intelligence (EI) framework, have highlighted the challenges of explicitly addressing such dimensions with secondary education students pointing out to the potential of explicit educational projects.

PLAYCOMP Educational Project

Based on studies showing how videogames can help to develop socio-emotional skills (Carissoli and Villani 2019) the starting hypothesis of the project is that improving teacher's videogame literacy and providing them with educational activities mediated by games will allow the development of key competence 5 of secondary school students (12 to 16 years old). Thus, a set of activities (5 activities for 4 different indie games) will be designed (Universal Design for Learning), and teachers will be trained and accompanied through its implementation. Five secondary schools from Finland and Spain will participate in the study. The project, which has been funded to be implemented over the next three years is in its initial phase. The following sections show the strategies developed to define how the impact of the program will be measured.

METHOD

Measuring Key Elements of Competence 5

Selecting a framework

Among the so-called mixed models of EI, Bar-On model (2000; 2006) is one of the most widely used in educational research. EI is conceptualized as the interrelated set of competences, abilities and emotional and social facilitators that determine how effectively we understand, express ourselves and others and relate to them, as well as how we deal with daily demands.

This model is interesting as it combines cognitive abilities, which are characteristic of EI as an ability with emotional facets or dispositions relative to EI as a trait. The author proposed 15 factors of which ten are considered as basic capabilities and refer to essential aspects of the EI (emotional self-awareness, self-regard, assertiveness, empathy, interpersonal relationships, stress tolerance, impulse control, reality-testing, flexibility and problem solving); and five are considered as facilitators capabilities of EI (optimism, self-actualization, happiness, emotional independence and social responsibility). These 15 factors are organized into five main dimensions for the study of students' socio emotional dimensions: intrapersonal (skill to understand our emotions and communicate them to others), interpersonal (skill to understand and appreciate others' emotions), stress management (skill to manage

and control our emotions), adaptability (flexibility and efficacy to solve conflicts) and general mood (skill to keep a positive attitude in live).

This model is the one covering more elements from competence 5, compared with ability model of EI (Mayer and Salovey, 1997), only focused on emotional skills; Some skills not included explicitly in the model (cooperation, resilience, health, wellbeing, learning to learn) have been found to be related with EI. At the same time, EI has proved to be a valuable construct in the field of psychology and education, and it has been linked to critical aspects of human behavior and performance (Ferrándiz et al. 2012).

Selecting a validated instrument

Derived from the selected model, EQ-i:YV (Emotional Intelligence Inventory: Young Version), is a 60-item self-report developed by Bar-On and Parker (2000) and validated with Spanish population by Ferrándiz et al. (2012). Children and adolescents between the ages of 7 and 18 are asked to respond to the statements which best describe the way they feel, think, or act in most situations through a 4-point Likert scale. The instrument has five scales related with the five dimensions of the model which have shown good reliability and validity indexes. Due to its adequate length and wide use at an international level, it will facilitate school implementation and future comparative studies

Design Research

Students' improvement in their competence level will be assessed through a quasi-experimental methodology with control group. In each of the five high schools, all 4 grades of Compulsory Secondary Education will participate, with a minimum of 2 lines per school and year (one as the experimental group and the other as the control group). This would result in an N = 400 students who would apply the resource experimentally and a similar number as controls.

CONCLUSION

Although this is a work in progress and PLAYCOMP is still in its early stages, we consider essential to document the various iterations of the implementation of any educational program. In this case, our aim has been to emphasize the importance of combining educational approaches inspired by game studies with rigorous evaluation methods, such as those presented in this work.

ACKNOWLEDGMENTS

Project PID2023-148476OA-I00 funded by MICIU/AEI/10.13039/501100011033 /10.13039/501100011033 and by FEDER, UE

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