

The relationship between user types and story-based gamification: Analysis of preference and accomplishment in educational context

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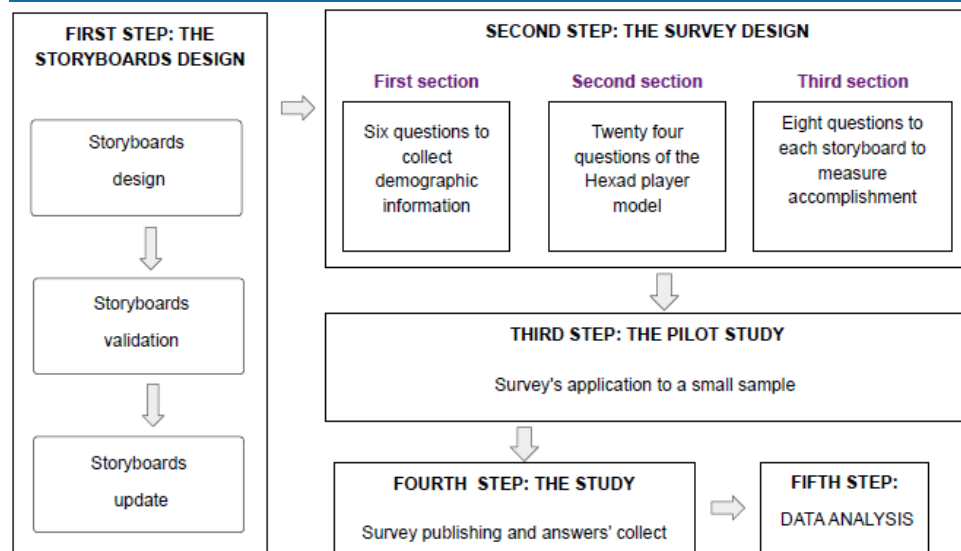
1 - INTRODUCTION

Gamification have been used in recent years to increase motivation in educational gamified environments [Koivisto and Hamari, 2019] but some studies have also reported that the gamification can bring negative effects on the students behavior. One possible reason is that the gamified educational systems are developed on a way called “one-size-fits-all”, ignoring the users’ preferences for game elements and their player/user types [Oliveira and Bittencourt, 2019].

2 - OBJECTIVES

- Identify if the user type affects the preference and the feeling of accomplishment for gamification designs in gamified educational systems.

3 - STUDY DESIGN



References:

- J. Koivisto and J. Hamari, “The rise of motivational information systems: A review of gamification research,” *International Journal of Information Management*, vol. 45, pp. 191–210, 2019.
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- A. M. Toda, A. C. Klock, W. Oliveira, P. T. Palomino, L. Rodrigues, L. Shi, I. Bittencourt, I. Gasparini, S. Isotani, and A. I. Cristea, “Analysing gamification elements in educational environments using an existing gamification taxonomy,” *Smart Learning Environments*, vol. 6, no. 1, p. 16, 2019.
- K. N. Truong, G. R. Hayes, and G. D. Abowd, “Storyboarding: an empirical determination of best practices and effective guidelines,” in *Proceedings of the 6th conference on Designing Interactive systems*, pp. 12–21, 2006.
- G. F. Tondello, A. Mora, A. Marczewski, and L. E. Nacke, “Empirical validation of the gamification user types hexad scale in english and spanish,” *International Journal of Human-Computer Studies*, vol. 127, pp. 95–111, 2019.
- J. Hogberg, J. Hamari, and E. W. Astlund, “Gameful experience questionnaire (gamefulquest): an instrument for measuring the perceived gamefulness of system use,” *User Modeling and User-Adapted Interaction*, vol. 29, no. 3, pp. 619–660, 2019.

4 - MATERIALS AND METHOD

- Gamification taxonomy:** “Analysing gamification elements in educational environments using an existing gamification taxonomy”, Toda et al. (2019);
- Gamification designs:** “Storyboarding: an empirical determination of best practices and effective guidelines”, Truong et al. (2006);
- Hexad user type:** Empirical validation of the gamification user types hexad scale in english and Spanish”, Tondello et al. (2019);
- Accomplishment:** “Gameful experience questionnaire (gamefulquest): an instrument for measuring the perceived gamefulness of system use”, Hogberg et al. (2019).

5 - PARTICIPANTS AND USER TYPES



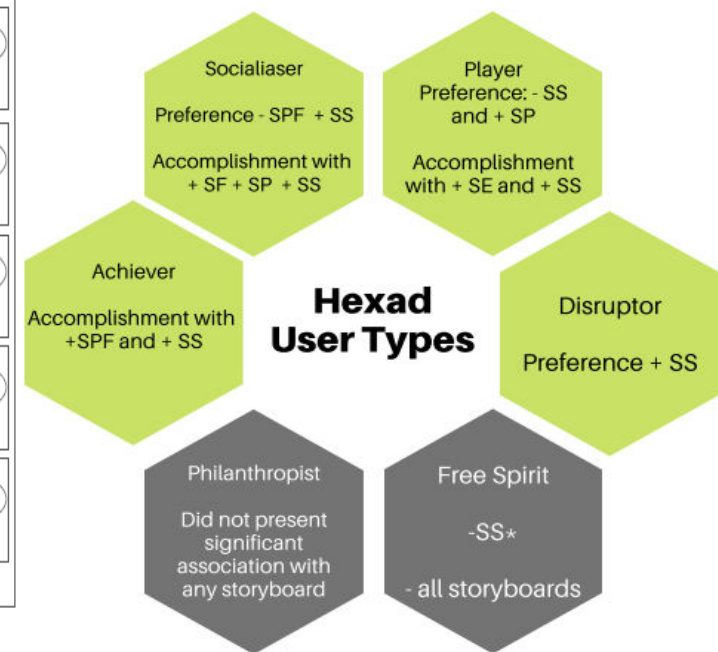
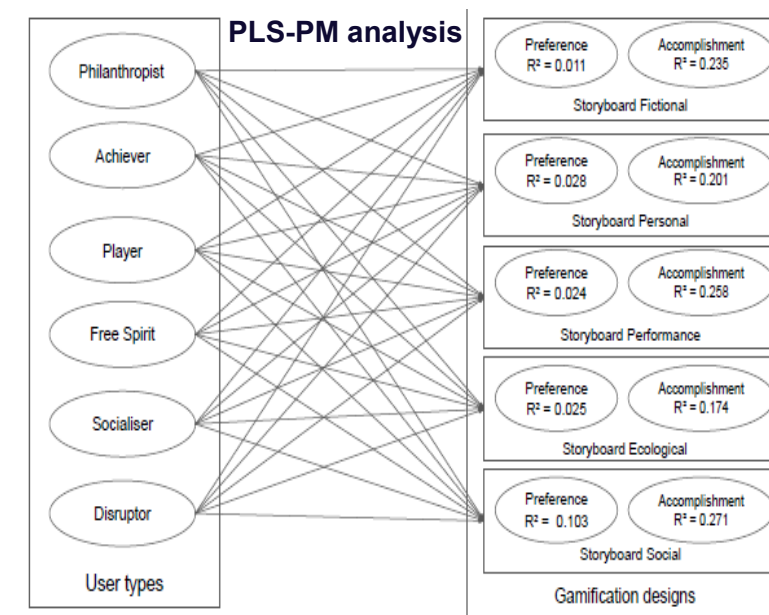
User Type	Hexad	Our study
Philanthropist	26%	35%
Achiever	18%	30%
Player	15%	12%
Free Spirit	22%	12%
Socialiser	16%	10%
Disruptor	3%	1%



6 - RESULTS



- The internal reliability were acceptable (Cronbach's > 0.70, Composite Reliability > 0.70, Average Variance Extracted > 0.50) for all gamification designs and user types, except for the Disruptors;
- The gamification design “Performance” was the favorite of the respondents and the one with the higher means in the accomplishment’s measurement.



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