Routledge
Taylor & Francis Group

The Design Journal
An International Journal for All Aspects of Design

ISSN: 1460-6925 (Print) 1756-3062 (Online) Journal homepage: http://www.tandfonline.com/loi/rfdj20

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To cite this article: Isabella Patti & Roberta Vita (2017) MU.SA Method. Multimodal System Approach to the learning of the History of Design, The Design Journal, 20:sup1, S4774-S4777, DOI: 10.1080/14606925.2017.1352989

To link to this article: https://doi.org/10.1080/14606925.2017.1352989

Published online: 06 Sep 2017.

DESIGN FOR NEXT
EAD12-ROME

doi: 10.1080/14606925.2017.1352989

Design for Next

12th EAD Conference
Sapienza University of Rome
12-14 April 2017

MU.SA Method. Multimodal System Approach to the learning of the History of Design

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Abstract: The purpose of the research is to identify creative learning scenarios in the context of the education of university students attending courses of History and Criticism of Design. The idea is to integrate the principles of Educational Games in traditional training programs to enhance the potentialities of a multimodal educational system that includes Edutainment approach and the GBL (Game-Based Learning) principles, to implement a more active knowledge achieved through simulated experience. The research integrates the elements that characterize the Serious Games, understood as digital tools for education (Mu.SA Game), with the latest didactic theories related to new communication technologies and the traditional educational approaches, and connects them to a pedagogical paradigm (Mu.SA Process) that frame the data acquired within a specific learning model called Mu.SA Method. Mu.SA Method inserts the data of understanding purely historical-critical contents of the Design into conceptual maps of "enhanced information" to integrate the different learning metaphor.

Keywords: History of Design, Educational Game, Edutainment, Game-Based Learning, Serious Games

1. MU.SA Method

MU.SA method seeks to integrate into the traditional framing (lesson, group work, case study, etc.) also outside the framing (role, simulation, etc.) to show at the students something other than the habit, widening their ability to open the spaces of wonder, doubt and conflict, through the redefinition of contexts, the rethinking of the relationship between the objects and the space. MU.SA Method is based on the principle of Serious Game called *Flow*, that ”is the experience people have when they are completely immersed in an activity for its own sake, stretching body and mind to the limit in a voluntary effort to accomplish something difficult and worthwhile” (Csíkszentmihályi, M, 1975). MU.SA Method creates the *Meaningful Play Experience* that generates gratification and knowledge for the players, and it improves a non-linear vision, the critical analysis and the problem solving with level-up process. Internet browsing has used digital natives to quickly consult small

amounts of information taken from many disparate sources with the risk of compromising the habit of concentration, contemplation, and reflection typical of the more traditional learning methods (McGonigal, 2011). Therefore, it is necessary to change the phenomenology of learning, to the change of available technologies.

2. MU.SA Process

The history of design is one of those didactic activities that can be simulated and learned more and more richly by mediating technology because the reconstructing the scenario of a historical period (time, trend) allows contextualizing objects in their original context. The traditional method of teaching history is reduced and simplified by the complexity of the topics: it is a transmission of knowledge that passes from teacher to student through imitation and passive acquisition of knowledge; instead, Serious Game, more than other games or platforms E-learning, enables a true integration of students with the teacher and between them. The resources available in digital format (audio, video, navigable maps, progressive zoom, etc.) provide useful enrichment to the training activity of History and urge a different student disposition to deepen knowledge. The simulation mind is called puzzle solution because in the game you imagine scenarios and options possible and you learn by hypothesis, working and seeing the consequences of the choices you take. The MU.SA method will be to discover (guess, try) the results of the topics to be learned through the game and the help of conceptual maps provided by the teacher and integrated by the students during the course. MU.SA Process is a method to help students to build research capacity in the network and learn to select information and structural knowledge in significant aggregates: the student becomes an active participant in the creation and sharing of new knowledge. The steps for the realization of the multi-modal game based on learning are three:

preliminary stage (didactic planning of the network path, recognition of entry skills of students, content development by the teacher with different levels of interaction as text, images, lexicon, animations, role play, simulations, etc.);

virtual classroom management (development and customization of virtual classrooms. Based on the elaborate scenes, the classrooms can be equipped with different tools);

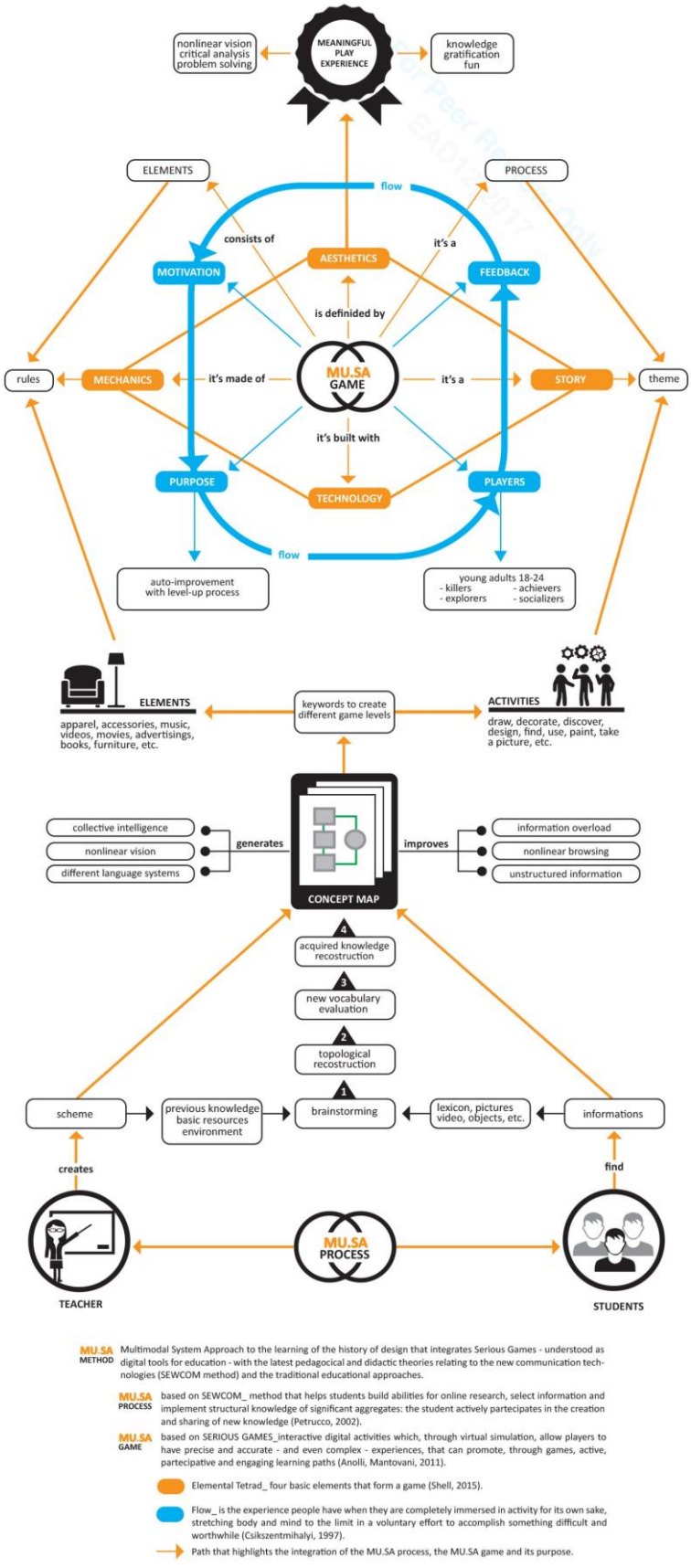
didactic management (monitoring student and teacher activities through a detailed navigation and reporting system individual and group, assessment of learning through test types, integration of multimodal training activities with traditional teaching models).

3. MU.SA Game

The recent emergence of serious games as a branch of video games and as a promising frontier of education has introduced the concept of games designed for a serious purpose other than pure entertainment: the Serious Game are interactive digital activity which, through virtual simulation, allowing players to make precise and accurate experience (even complex) can promote active paths, participants and engaging learning. If utilised alongside, or combined with conventional training and educational approaches, serious games could provide a more powerful means of knowledge transfer in almost every application domain. MU.SA Game is a project of "typical" scenarios that have been historically recreated based on the data extracted from the five ludic learning metaphors (acquisition, imitation, experimentation, participation, discovery) and from the application of the Tetrad Theory of Shell (that estimates aesthetics, technology, history and mechanics as basic principles of the structure of a game). MU.SA Game allows student-players to immerse themselves in

game world and learn concepts related to design history as a task or as a prize during the several level of game. Mu.SA game has a game loop-based structure:

1. load game world: loads the general game world based on rules and elements (Mechanics);
2. check user input: allows the teacher to control what the player wants (or not) to do during the playtest (Technology);
3. update world state: updates the state the gaming world with the player's feedback (Story);
4. render scene: return of the data inserted in the general image (Aestetics).



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