

GEOCUBIX: LEARNING BY PLAY

GEPPONI Sara, VIRCILLO Filippo, et al, Italy

Key words: education, young surveyor, educational training, professional training, game.

SUMMARY

1. Educational guidance
 - a. The project
 - b. The training planning

2. The game Geocubix
 - a. The story
 - b. The skills
 - c. Instructions
 - d. Cost analysis
 - e. Classroom kit

3. Example

SUMMARY (optional summary in one other language in addition to English, e.g. your own language)

1. L'orientamento scolastico
 1. Il progetto
 2. Il piano formativo

1. Il gioco
 1. La storia
 2. Le abilità
 3. Istruzioni
 3. Analisi dei costi
 4. Kit d'aula

3. Esempi

GeoCubix: Learning by Play (12167)
Sara Gepponi, Filippo Viricillo, Caterina Ferrari and Elena Paiola (Italy)

FIG Working Week 2023
Protecting Our World, Conquering New Frontiers
Orlando, Florida, USA, 28 May–1 June 2023

GEOCUBIX: LEARNING BY PLAY

GEPPONI Sara, VIRCILLO Filippo, et al, Italy

1. Educational guidance

a. The project

The project line of reference for our project deals with educational interventions to promote the knowledge of the Surveyor in schools.

The project involves exchange meetings between young and old (through intergenerational contamination interventions) that can be an opportunity for storytelling of life and work experiences.

The orientation meetings are aimed at young female students, from Institutions of Higher Secondary Education and Vocational Education Pathways with the goal of fostering knowledge of the profession of Surveyor and spreading "STEM" disciplines. In addition to providing an understanding of the surveying profession, the project is meant to talk about the professions with which it most collaborates on problem solving.

The following methods are used in the project:

- storytelling
- role playing games

The narrator who will speak on the first day of the course will use the principles of rhetoric and narratology in order to frame and contextualize the event. Storytelling can be defined as one of the methods used for persuasive and nonviolent communication, the art of interacting in telling stories aimed at strategy in communication. The stories will have a compelling emotional charge to the point of transferring the narrator's points of view and way of thinking to the trainees in an engaging way.

The second training method used is that of using role-playing games. Role-playing is a game board where players dress the part of one or more characters. Players intervene as actors, using dialectical exchange, active and nonviolent communication. Players will create an imaginary square where simulated real events will happen, related to the above narrative environment.

b. The training planning

The training project includes a course of 16 hours divided into four modules as follows.

GeoCubix: Learning by Play (12167)

Sara Gepponi, Filippo Vircillo, Giulia Ferrari and Elena Paiola (Italy)

Module 1: the history and the game

FIG Working Week 2023

Protecting Our World, Conquering New Frontiers

Orlando, Florida, USA, 28 May–1 June 2023

The first module will begin with a storytelling technique, where the narrator will tell the story of entrepreneur "Goofy" (in Italian Pippo) who came to the end of his construction career with a final housing complex consisting of a multiple condominium and a commune, namely the "Geocubix" condominium.

From the narrator's words, the trainees will begin to understand E. De Bono's key words and techniques of lateral thinking and the use of the 6 hats for thinking in professional life. Elements of behavioral analysis of people are explained during the lecture.

The goal of this module is for students to understand the many facets of the surveyor profession and the interaction with other professions in a familiar environment such as the apartment building.

Module 2: Soft skills

In this module, the trainer explains the use of soft skills in professional skills. These skills should be acquired before starting any work life: interpersonal communication, conflict, not listening, problem solving.

The trainer will form the game teams that will play together in the next module. Advanced classroom techniques will be used to form the groups.

The goal of this module and to make people understand the importance of the knowledge of soft skills.

Module 3: Geocubix

The board game "Geocubix" will be introduced, the rules of 'engagement will be explained, and the goal the teams must aim for, explaining that a goal is achievable if it is SMART (Specific, Measurable, Achievable, Realistic and Timely).

During the game, an understanding will be given of the work activities of the various professional figures, the outlets and modes of operation of the figures explained. Time will be set aside for each intervention, leaving the necessary space for further investigation (clarification questions). To advance in the game board, a six-sided die will be used with the 6 subject areas of the surveyor profession: estimation, surveyor activities, building and urban planning, environment, geomatics, cadastral activities.

Module 4: feedback

Evaluation of the course through questionnaires and discussion with students.

2. The game "Geocubix"

a. The story

Training in this modern era is challenged by the consistent need for innovative learning methodology and by the short attention span of the learner, both in school and at work. To

address such phenomenon GeoCAM and a specialized group of surveyors introduced game play during training sessions. Through this idea, the "Geocubix" was created in 2019.

Geocubix is a board game that has playful and educational aspect. The game in fact, encourages both trainer and trainee to actively participate. It can also be used for school orientation or for professional development courses. From one single game board, it can be adapted to several game scenarios according to the target player's/trainee's capacity and needs.

The world of Geocubix is set in a complex where residential, commercial, and developing areas are present. Such setting allows interaction between private and common areas, while the existence of commercial activities and offices can highlight the important social skills typical of a surveyor when relating with other key professionals – lawyers, real estate agents, building administrators, and business consultants.

The game respects the 8 'drivers' of the Octalysis Framework model (gamifications mechanics):

1. Epic meaning and calling: believing or participating in a project bigger than oneself. Players participate in teams to complete the construction of the building complex in the shortest possible time, managing their own resources.
2. Development and Accomplishment: sense of continuous improvement and by challenging activities that are appropriate to one's level of knowledge. Finding the right strategies for the team to answer questions correctly to advance in the game.
3. Empowerment of creativity and feedback: using creativity to solve problems that arise in team management of real estate.
4. Ownership and possession: to increase, improve and protect the assets through the sale/rental of the real estate, construction and management of the activities therein to achieve the common goal of the real estate complex.
5. Scarcity and impatience: motivation stemming from the desire for exclusive, hard-to-get goods. Increase the construction of the property complex with swimming pool and wellness centre.
6. Unpredictability and Curiosity: novelty and surprise that prompts users to discover new things, unpredictable and unexpected situations in the positive/negative cards.
7. Loss and avoidance: loss aversion. Either everybody wins or nobody wins.

b. The skills

GEOCUBIX is a test bed for multiple disciplines.

- The competence of the subject is the multiple roles that the Surveyor can play.
- The ability to relate in a group, working together towards a common goal, understanding group dynamics and resources.
- The opponent is not a player on the game board but rather serendipity, i.e. the uncertainty of what might happen.

GeoCubix: Learning by Play (12167)

- The ability to manage time in order to arrive at a goal within the timeframe of the game's rules of engagement by managing choices that will or will not lead the team to the goal.

FIG Working Week 2023

Protecting Our World, Conquering New Frontiers

Orlando, Florida, USA, 28 May–1 June 2023

- Leadership, the ability to appoint a leader within the group and the ability of the leader to manage the group.

c. Instructions

The game consists of a game board on which a path is laid out with squares representing the timeline along which the players, members of a single team, move. During the course the players/fellows will have to answer questions on professional subjects and topics chosen according to the lesson to be given, together the team will have to find the most suitable strategies to manage the condominium assets (monthly budget) in order to complete the condominium complex by repaying the bank loan. In addition to questions, the trainer will also propose classroom techniques to the team players involving readings, showing short films, using short games.

d. Cost analyst

Production of 10 copies of the project in 'board game' format € 4,400.00.

Indicative cost per class €. 3.000,00.

e. Classroom kit

In addition to the traditional kit (pad and pens), illustrated documents on the professional figures used in the game will be handed out.

The following books will be delivered in pdf:

- Lateral thinking and the 6 hats for thinking
- The enneagram
- Mediation in dispute management

3. Example

In this section, application and practical cases of school orientation where the game was used will be presented with photo.

GeoCubix: Learning by Play (12167)

Sara Capponi, Filippo Vircillo, Caterina Ferrari and Elena Paiola (Italy)

Mr Filippo Vircillo, filippo@studiovircillo.com, Italy

FIG Working Week 2023
Protecting Our World, Conquering New Frontiers
Orlando, Florida, USA, 28 May–1 June 2023

Ms Caterina Ferrari, caterinaferrari65@gmail.com, Italy

Ms Elena Paiola, studio.paiola77@gmail.com, Italy

BIOGRAPHICAL NOTES

CONTACTS

Sara Geponi

CNG e GeoCam

Piazza Monteoliveto 6A

Pistoia

Italy

Tel. +39 3396204723

Email: gepponisara@gmail.com

Web site:

GeoCubix: Learning by Play (12167)

Sara Geponi, Filippo Vircillo, Caterina Ferrari and Elena Paiola (Italy)

FIG Working Week 2023

Protecting Our World, Conquering New Frontiers

Orlando, Florida, USA, 28 May–1 June 2023