



EUROPEAN KIT TO TEACH MATHEMATICS THROUGH EDUCATIONAL GAMES

FOREWORD

The aim of **Leonardo da Vinci Multilateral Projects 'Transfer of Innovation'** is to improve the quality and attractiveness of the European VET system” in the participating countries by integrating and adapting current innovations to legal, systemic, sectoral, linguistic, socio-cultural and geographic fields.

The product presented was designed within the framework of the Project “PIT.AGORA’ – Project Innovative Training for Teachers and Trainers in math” , funded by the 2010 Programme LEONARDO DA VINCI TOI Multilateral Projects.

In line with the objectives of the Lisbon Strategy and the 2007/2013 Leonardo Da Vinci Programme , the project PIT.AGORA’ aims at transferring an innovative methodology to teach and learn mathematics . This methodology has already been devised and experimented by the Consorzio Il Giardino di Archimede in the North of Italy (Tuscany), in the South of Italy as well as in two European countries (France and Greece).

The goals of the project are the following:

- To offer an innovative methodology for teaching mathematics through the approach “learning by experimenting” and “learning by playing”
- To test the methodology in the VET field (professionals being the direct beneficiaries) and in schools (pupils and students being the indirect beneficiaries)
- To deliver a complete product such as the tool and methodology kit that meet the characteristics of different contexts and the needs of the beneficiaries identified by the partners. This product will be available to all European organisations and bodies in it.
- To disseminate the relative results by setting up a European network of organisations and bodies interested in the topic.

The project PIT.AGORA’ aims at transferring an innovative methodology to teach mathematics through educational games devised by the Il Consorzio Giardino di Archimede. Such methodology has already been experimented by :

- The school partners localised in the region of Basilicata (Southern Italy) : Lower Secondary School N. Festa, Primary School I Circolo P. Minozzi, ITIS Einstein – De Lorenzo
- The European partners: Credij (France) and Econometrica Ltd (Greece)

The methodology devised by Consorzio Il Giardino di Archimede is a highly innovative communication methodology addressed to schools. It is a methodology based on workshops and direct experimentation. The workshops are not designed for national school programmes but they suit all kinds of contexts in order to transfer the teaching methodology of mathematics to different European contexts.

The mathematics workshops suggested aims at disseminating the culture of mathematics. They focus on:

- Sumerian Numbers and Calculations
- Numbers and Counting with the Hieroglyphs of the Ancient Egyptians
- Rods for Multiplication and Division
- Pythagorean Theorem in Game Form

Within the framework of the Project PIT.AGORA' two strategic phases have been developed:

- The former deals with the training of trainers. It is designed for teachers and researchers of the partners involved in the project and aims at acquiring the innovative methodology, as well as to transfer knowledge, skills and new mathematic notions to direct beneficiaries.
- The latter concerns the direct experimentation of the innovative methodology (that is the product of the transfer) that can be studied using the relative manuals and application tools that the Professors/researchers of Consorzio Giardino di Archimede explain to students – who are the indirect beneficiaries – within different schools and geographic contexts.

The end product of the project includes suggestions and changes made by the partners to the initial product provided by Il Giardino di Archimede.

The products provided within such project were appreciated by the end users (direct and indirect beneficiaries), thus becoming a tool that can be transferred to a wider European context.

All mathematics workshops have been translated into English to allow a larger dissemination of the Kit at a European level. Therefore, teachers/researchers all over Europe can decide which workshop to use according to the different levels of difficulty and characteristics.

Each mathematics workshop is provided with special tools, applications and materials that can be purchased directly from:

Consorzio Il Giardino di Archimede

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