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## IMPLEMENTATION GUIDE

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April 2018



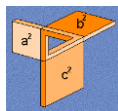
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**KidVenture – increasing the entrepreneurial culture of children through gaming, is a project co-financed by the Erasmus+ Programme, under the Key Activity 2 – Cooperation for innovation and the exchange of good practices for school education**

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**Project no. 2016-1-UK01-KA201-024262**

*This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*



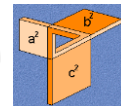


## Executive Summary

The 'Implementation Guide' is one significant deliverable of the KidVenture Project. The core aim of the Project is the design and implementation of an innovative computer learning game for Entrepreneurship Education of children (6 -10 years old), that can be easily implemented in formal, non-formal and informal education settings. This deliverable is the outcome of a literature research aiming at identifying the most significant competences for Entrepreneurship Education, allowing the consortium to select those which can better be treated via the final product (game).

During the 3<sup>rd</sup> and the 4<sup>th</sup> meeting the partners exchanged information and ideas regarding this issue. UOWM as the leading partner of the corresponding task undertook the responsibility to form a draft version of this guide and share it with the partners for reviewing and proposing additions and modifications. Some of the consortium members undertook the role of the critical reviewer in order to ensure the quality of the deliverable.

This deliverable comprises of three sections. In the first section, after the introduction, a theoretical background is introduced briefly, in order for this document to serve as a stand-alone resource (all the terms and issues are more extensively discussed in the Framework (Deliverable O1/A1) that the consortium created. In the second section, the Game is also briefly described as a distinct game manual is also provided by the consortium. In section three, the way in which this game can be exploited for teaching and integrated in the classroom are explained. Three ways are proposed in total. Finally, the Appendix provides a template for describing full lesson plans which includes game utilization.





## Acknowledgments

We acknowledge the support and funding provided by the European Commission for this research project.

*In addition, we gratefully acknowledge the contribution from the KidVenture research team members:*

### O1/A6 – Implementation Guide

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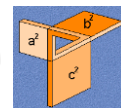
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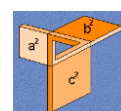
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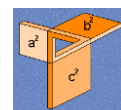


## Introduction

Lately, Entrepreneurship Education has been one of the main topics of consideration, of the European Union. Developing and implementing entrepreneurship education programs has been one of the main objectives in EU's policy. Although there is not a common definition about entrepreneurship education across the member states, it seems that most of the "national" definitions (about half of them) reflect a broad understanding of the subject as the European Key Competence definition (Eurydice, 2016). According to that, "Entrepreneurship education is about learners developing the skills and mind-set to be able to turn creative ideas into entrepreneurial action. It is considered as a key competence for all learners, supporting personal development, active citizenship, social inclusion and employability. It is relevant across the lifelong learning process, in all disciplines of learning and to all forms of education and training (formal, non-formal and informal) which contribute to an entrepreneurial spirit or behaviour, with or without a commercial objective".

KidVenture – increasing the entrepreneurial culture of children through gaming is an EU funded project with the aim to create an innovative computer learning game for Entrepreneurship Education of children between 6 and 10 years old, for use in formal, non-formal and informal education settings, and that will be available completely free Europe wide. In order to reach this goal, the consortium studied thoroughly the notion of Entrepreneurship Education discipline in order to determine the aspects of the final product which would better serve its purpose. The design of the game was based on this literature review and represents the convergence of three involved pillars: the academia, the in-service teachers and the private enterprise sector.

This implementation guide is based on a framework which is the outcome of the literature review. It is intended to operate as a supplement for the teacher who wishes to quickly get familiarized with the project, the game and the corresponding issues in order to integrate the game in his/her teaching practice without the need of time consuming trainings and studying. Apart from a quick overview of the background of the project, this guide describes how the game can be exploited for teaching purposes, spanning throughout the whole curriculum. Some lesson plans are also presented in a single-template format, thus assisting the teachers with ready to implement teaching practices.





## Theoretical Framework

Entrepreneurship education concerns the provision of a variety of skills, knowledge and attitudes that are central to developing an entrepreneurial culture and also shape the mind-sets of young people. EU is gradually more aware of the potential of young people to launch and develop an individual commercial or social venture and become innovators in the areas they live or work in (Eurydice, 2016).

“A practical entrepreneurial experience is understood as an educational experience where the learner has the opportunity to come up with ideas, identify a good idea and turn that idea into action. It should be a student led initiative, either individually or as part of a small team, involving learning-by-doing and should produce a tangible outcome. The aim of such an opportunity is for learners to develop the skills, confidence and capability to spot opportunities, identify solutions and put their own ideas into practice” (European Commission, 2012).

The common European understanding of entrepreneurship as a key competence indicates a dual focus. Firstly, the development of entrepreneurial attitudes, skills and knowledge should enable the individual to turn ideas into action. Secondly, entrepreneurship is not only related to economic activities and business creation, but more widely to all areas of life and society. Innovative and creative action can be taken within a new venture, or within existing organizations (Eurydice, 2016).

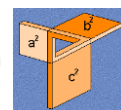
The main goal of most entrepreneurship education systems is to develop the entrepreneurial competences. Entrepreneurial competences are defined as knowledge, skills and attitudes that affect the willingness and ability to perform the entrepreneurial job of new value creation. Entrepreneurial competences can be divided in cognitive and non-cognitive competences (Lackeus, 2015).

Eurydice (2016) suggests specific learning outcomes of entrepreneurship education under three areas, following the already mentioned contemporary trend:

- Attitudes (self-confidence and sense of initiative)
- Skills (creativity, planning, financial literacy, managing resources, managing uncertainty/risk, teamwork)
- Knowledge (knowing how to assess opportunities, understanding the role of entrepreneurs in society and awareness of entrepreneurial career options).

According to Gibb (2008) the child should be in the center of focus, in primary education, in order for entrepreneurship education to be embedded into the primary education system.

Entrepreneurial education is often categorized into three approaches. Teaching “about” entrepreneurship regards a content-laden and theoretical approach aiming to provide a general understanding of the topic/discipline. Teaching “for” entrepreneurship is about an occupationally oriented approach aiming at giving budding entrepreneurs the requisite knowledge and skills. Teaching “through” entrepreneurship concerns a process based and often experiential approach where students go through an actual entrepreneurial process, while learning at the same time. This approach is often described with the term “action-based entrepreneurial education” (Lackeus, 2013).



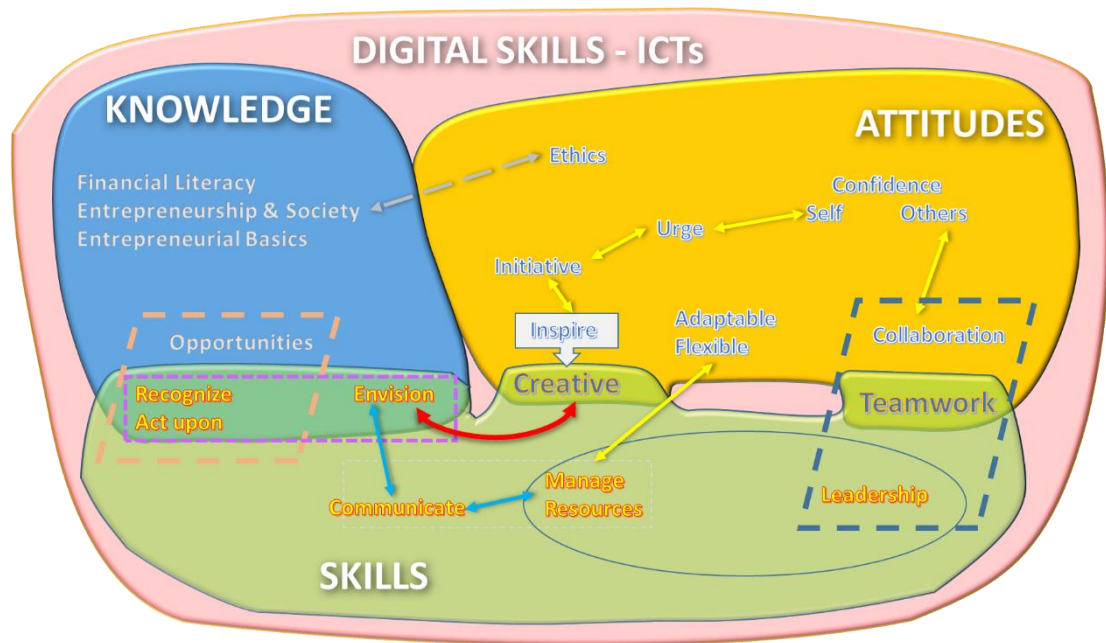


Figure 1. KidVenture Framework for entrepreneurial key competences

Examining all the aforementioned approaches and following the contemporary EU-proposed approach of examining a competence as a set of knowledge, skills and attributes, the consortium designed a framework for the Entrepreneurship Education key competences (Figure 1). Moreover, the 21st century skill-set was taken into account. More details can be found in the official report created by the KidVenture consortium (<http://www.kidventure.eu>).





## Game Description

This computer game was designed to facilitate the learning of Entrepreneurship-related topics. In the game, players – individually or in group – will create their own company and cooperate with each other to reach success by making decisions and developing joint activities (in-game and off-game) in response to different challenges (e.g. assigning different management roles to each member of the group – role playing). At the same time, they compete with other companies in the virtual market. By creating both a cooperative and a competitive environment, this learning tool expects to act on knowledge, behaviors and attitudes, contributing to the development of a wide set of Entrepreneurship skills, like creativity, teamwork, leadership, market functioning, etc.

The general idea of the game is to simulate a necessarily simplified product development process for a Toy Robot in which the Players, playing individual roles but cooperating under the same objective, have to make decisions on product design, marketing, finances, production, to launch a successful product on the market, while facing competition of a toy factory.

The Players represent a group of 4 friends with a high entrepreneurial mindset who set themselves the objective of creating and releasing in the market a Toy Robot. With the help of an investor – that finances and guides this endeavor – they will go through several phases of the development process of their product, where each of them takes a specific role according to their interests: a) Finances, b) R&D (Research and Development), c) Marketing, and d) Production.

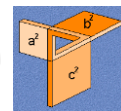
## Exploiting the KidVenture Game for teaching

The KidVenture Game can be embedded in the curricular activities and teaching of Schools as a complementary teaching and assessment tool. These are the three possible scenarios of the KidVenture Game within the curriculum:

- The game as an introduction to Entrepreneurship concepts, notions and Entrepreneurship literacy
- The game as an in-classroom tool for parallel teaching of Entrepreneurship concepts and game play
- The game as a feedback-assessment tool

### *The game as an introduction to Entrepreneurship concepts, notions and Entrepreneurship literacy*

In this way of exploiting the game, it can be used to exemplify and initiate discussions about all the concepts, notions and issues which are related to Entrepreneurship Literacy. Depending on the age of the students/players, different elements can be discussed upon. For example, 6 year old students are not familiar (in general) with currency and its uses. On the contrary, 10 year old students use money and conduct transactions. Thus in this age group it is more





appropriate and convenient to discuss about more complicate issues, such as loan interests. This approach follows three steps of implementation:

1. Students explore the game and they are introduced into new knowledge. Depending on their age, more or less facilitation and support by the teacher is required.
2. Group discussions follow the game. The teacher supports the students' deeper understanding of the new concepts about Entrepreneurship Literacy by providing explanations, examples and additional information.
3. Additional exercises, work sheets and definitions are provided by the teacher

### *The game as an in-classroom teaching tool for parallel teaching of Entrepreneurship concepts and game play*

In this way of exploiting the game, the students are to be familiarized with all the necessary terminology, concepts and notion while playing the game. This is a multiple phase approach in which an issue is discussed and then confronted through the game. This approach follows three steps of implementation:

1. Groups discussions are introduced by the teacher to raise the interest of the students about Entrepreneurship Literacy concepts
2. The teacher and the students explore the game in classroom
3. Final group discussions are implemented in order to define the Entrepreneurship concepts they learned

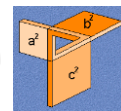
For example, a teacher can initiate a discussion about Market requirements and how these are provided, exploited and finally taken into consideration. Considering that within the game a Requirements Summary Form has to be fulfilled by the players, the corresponding issue can be discussed. How the players will manage to gather information about the product they want to release in market? what the important requirements are for their product and why? These are some of the main topics that may arise during this approach.

### *The game as a feedback - assessment tool*

In this way of exploiting the game, the students are to be familiarized with all the necessary terminology, concepts and notion before playing the game. Then the game serves as an assessment tool in order to examine if the new knowledge has been assimilated by the students. This approach is applicable mainly in the higher end of the age span of the game's target group and follows three steps of implementation:

1. In classroom teaching about Entrepreneurship literacy (definitions, concepts, etc.)
2. Students utilize their new knowledge in order to play the game
3. Students could play the game in school or at home and the teacher can use the experiences and the difficulties that students may have faced in order to provide feedback in classroom, consequently.

When teaching, it is not uncommon for teachers to deploy evaluation tools and mechanisms in order to examine how well the new knowledge has been acquired by the students. A very common tool of this kind is a knowledge test. The KidVenture game can be used in a similar





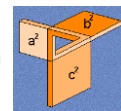
way, replacing tests with a more fun evaluation approach. Also, playing the game individually gains some value, in the case the teacher wishes to examine individual performance and thus how each student puts the acquired knowledge into use, through the game.



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# APPENDIX I

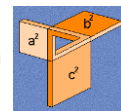
## Lesson Plan Description Template



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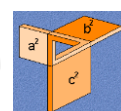


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<u><b>Lesson Plan</b></u>	
<b>Title</b>	<i>Identification Title and Use of the game</i> (A description and in which of the three ways will the game be implemented)
<b>Cognitive areas</b>	<ul style="list-style-type: none"> <li>• Enlist the cognitive areas which are involved</li> </ul>
<b>Equipment</b>	<ul style="list-style-type: none"> <li>• Describe the necessary equipment (if any. E.g. computers, markers, cartons, etc.)</li> </ul>
<b>Sources</b>	Online & other sources which can be used (e.g. a book, a website)
<b>Method</b>	Description of the method
<b>Existing knowledge</b>	<ul style="list-style-type: none"> <li>• Describe any prerequisite knowledge</li> </ul>
<b>Teaching/learning goals</b>	Describe the teaching/learning goals and competences <ul style="list-style-type: none"> <li>• Competences</li> <li>• Skills</li> <li>• Attitudes</li> <li>• Knowledge</li> </ul>
<b>The plan</b>	Detailed description of the intermediate steps for realizing the lesson plan, including indicative durations





## APPENDIX II

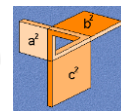
### Indicative Lesson Plans



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<u>Lesson Plan #1</u>	
<b>Title</b>	<i>Market Analysis (parallel teaching and game play)</i>
<b>Cognitive areas</b>	<ul style="list-style-type: none"> <li>• Entrepreneurship concepts</li> <li>• Language (use of language and terms)</li> <li>• Mathematics</li> </ul>
<b>Equipment</b>	<ul style="list-style-type: none"> <li>• Laptop/s</li> <li>• A white board and markers</li> </ul>
<b>Sources</b>	<ul style="list-style-type: none"> <li>• School book (if any)</li> <li>• Digital resources</li> </ul>
<b>Method</b>	Collaborative work in groups – discussing or information seeking
<b>Existing knowledge</b>	<ul style="list-style-type: none"> <li>• Basic Math skills</li> <li>• Computer use</li> </ul>
<b>Teaching/learning goals</b>	<p>Teaching/learning goals:</p> <ul style="list-style-type: none"> <li>• Competences: Managing - Predicting - Planning</li> <li>• Skills: Financial planning, accounting skills, managing, teamwork etc.</li> <li>• Attitudes: being able to manage financial issues, being adaptable, visionary, sense of initiative, collaboration</li> <li>• Knowledge: basic of entrepreneurship</li> </ul>
<b>The plan</b>	<p>Students form groups</p> <p><u>Activity 1 (10 minutes)</u></p> <ul style="list-style-type: none"> <li>• Introduction with the game - The Players have to assess the needs of potential clients regarding their Toy Robot (stage 1). The team (players) also manage the expenses and the incomes</li> </ul> <p><u>Activity 2 (20 minutes) OFF-GAME ACTIVITY</u></p> <ul style="list-style-type: none"> <li>• Children seek more information on the internet or other resources about market analysis, needs, desires, etc. ,</li> <li>• They organize their next steps as entrepreneurs (they have to design a toy for the school),</li> <li>• they organize interviews with their classmates or others,</li> <li>• they are planning their own Requirements summary form,</li> <li>• they work collaboratively in order to design their product</li> <li>• they present their toy</li> </ul> <p><u>Activity 3 (10 minutes)</u></p> <ul style="list-style-type: none"> <li>• Children continue with the game</li> <li>• They visit all the available buildings to gather important information</li> <li>• they complete the Requirements Summary Form about the Toy Robot</li> </ul>

<u>Lesson Plan #2</u>	
<b>Title</b>	<i>Prototyping &amp; Testing (parallel teaching and game play)</i>
<b>Cognitive areas</b>	<ul style="list-style-type: none"> <li>• Entrepreneurship concepts</li> <li>• Language (use of language and terms)</li> <li>• Mathematics</li> <li>• ICT</li> </ul>
<b>Equipment</b>	<ul style="list-style-type: none"> <li>• Laptop/s</li> <li>• A white board and markers</li> <li>• Cardboards</li> <li>• Scissors etc</li> </ul>
<b>Sources</b>	<ul style="list-style-type: none"> <li>• School book (if any)</li> <li>• Digital resources</li> </ul>
<b>Method</b>	Collaborative work in groups – discussing or information seeking
<b>Existing knowledge</b>	<ul style="list-style-type: none"> <li>• Basic Math skills</li> <li>• Computer use</li> <li>• Basic Art skills</li> </ul>
<b>Teaching/learning goals</b>	Teaching/learning goals: <ul style="list-style-type: none"> <li>• Competences: Managing - Planning - Implementing</li> <li>• Skills: collaboration, managing, teamwork etc.</li> <li>• Attitudes: being able to have a group decision, being adaptable, visionary, sense of initiative, collaboration</li> <li>• Knowledge: basic of entrepreneurship</li> </ul>
<b>The plan</b>	Students form groups  <u>Activity 1 (10 minutes)</u> <ul style="list-style-type: none"> <li>• Introduction with the game - the Players will have to define the particular parts &amp; assemble a prototype and then test it. The team (players) also manage the expenses and the incomes.</li> </ul> <u>Activity 2 (20 minutes) OFF-GAME ACTIVITY</u> <ul style="list-style-type: none"> <li>• To define the robot parts, the Players have to consider the requirements list from the game and match them to particular Robot prototype parts that are available</li> <li>• They list their next steps as entrepreneurs (they have to design a toy for the school) and they record the possible drawbacks and advantages of the prototype</li> <li>• In groups they create their own prototype based on the game using recycling materials,</li> <li>• they are planning their own test of the prototype,</li> <li>• they work collaboratively in order to design their final product</li> <li>• they present their toy</li> </ul> <u>Activity 3 (10 minutes)</u> <ul style="list-style-type: none"> <li>• Children continue with the game</li> <li>• They visit all the available buildings to gather important information</li> </ul>





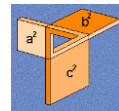
	<ul style="list-style-type: none"><li>• they implement any changes needed to product a satisfactory prototype</li></ul>
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<b><u>Lesson Plan #3</u></b>	
<b>Title</b>	<i>Product Release (parallel teaching and game play)</i>
<b>Cognitive areas</b>	<ul style="list-style-type: none"> <li>• Entrepreneurship concepts</li> <li>• Language (use of language and terms)</li> <li>• Mathematics</li> <li>• ICT</li> </ul>
<b>Equipment</b>	<ul style="list-style-type: none"> <li>• Laptop/s</li> <li>• A white board and markers</li> <li>• Cardboards</li> <li>• Paper and markers</li> <li>• Scissors etc</li> </ul>
<b>Sources</b>	<ul style="list-style-type: none"> <li>• School book (if any)</li> <li>• Digital resources</li> </ul>
<b>Method</b>	Collaborative work in groups – discussing and crafting
<b>Existing knowledge</b>	<ul style="list-style-type: none"> <li>• Language skills</li> <li>• Computer use</li> <li>• Basic Art skills</li> </ul>
<b>Teaching/learning goals</b>	Teaching/learning goals: <ul style="list-style-type: none"> <li>• Competences: Managing - Planning - Implementing</li> <li>• Skills: collaboration, managing, teamwork etc.</li> <li>• Attitudes: being able to have a group decision, being adaptable, visionary, sense of initiative, collaboration, being able to communicate the results</li> <li>• Knowledge: basic of entrepreneurship and marketing</li> </ul>
<b>The plan</b>	Students form groups  <u>Activity 1 (10 minutes)</u> <ul style="list-style-type: none"> <li>• Introduction with the game - The Players will have to set up a marketing campaign, by choosing a name for the toy and composing an advertisement. The team (players) also manage the expenses and the incomes.</li> </ul> <u>Activity 2 (20 minutes) OFF-GAME ACTIVITY</u> <ul style="list-style-type: none"> <li>• The players in groups have to present their final product in an efficient way</li> <li>• They list their next promotion steps as entrepreneurs (they have to design a toy for the school) and they record the possible chances to sell their final product</li> <li>• In groups they create their own promotional poster</li> <li>• In groups they use video recording to create their own advertisement</li> <li>• The players organize their own final presentation of the product</li> </ul> <u>Activity 3 (10 minutes)</u> <ul style="list-style-type: none"> <li>• Children continue with the game</li> </ul>



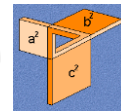
	<ul style="list-style-type: none"><li>• They visit all the available buildings and the Marketing Expert to gather important information</li></ul>
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