

Contents

<i>INTRODUCTION</i>	<i>I</i>
<i>OBJECTIVE OF THE BOOK</i>	<i>II</i>
<i>THE STRUCTURE OF THE BOOK</i>	<i>IV</i>

SECTION 1

THEORETICAL FOUNDATION OF BUSINESS GAME-BASED LEARNING IN MANAGEMENT EDUCATION ... 1

Chapter 1 - What is a Business Game? Historical background and evolution of business games in serious games context.....3

<i>1.1 Introduction</i>	<i>3</i>
<i>1.2 Games, serious games and business games</i>	<i>4</i>
<i>1.3 Brief history and evolution of business games</i>	<i>12</i>
<i>1.4 Taxonomy of business games</i>	<i>15</i>
<i>1.5 The evolution: Massive Multi-Player Online Role-Playing Business Games and App-based Business Games</i>	<i>18</i>
<i>References</i>	<i>21</i>

Chapter 2 - Learning objectives and application contexts of business games in management education..... 25

<i>2.1 Introduction</i>	<i>25</i>
<i>2.2 Learning by doing and the experiential learning process</i>	<i>27</i>
<i>2.3 Innovation in teaching methodology</i>	<i>32</i>
<i>2.4 Business game-based learning</i>	<i>35</i>
<i>References</i>	<i>43</i>

Chapter 3 - The learning player assessment in serious games..... 47

<i>3.1 Introduction</i>	<i>47</i>
<i>3.2 Why should we track the player?</i>	<i>48</i>
<i>3.3 Learner assessment design</i>	<i>48</i>
<i>3.4 Feedback</i>	<i>53</i>
<i>3.5 Conclusion</i>	<i>58</i>
<i>References</i>	<i>59</i>

SECTION 2
BUSINESS GAME-BASED LEARNING DESIGN 61

Chapter 4 - The features of multimedia learning products or tools 63

4.1 Introduction..... 63
4.2 E-Learning categories..... 64
4.3 Technologies 70
References 77

Chapter 5 - Key criteria for Game Design. A Framework..... 79

5.1 Introduction: a new culture of Learning..... 79
5.2 Game: from artifact to situation..... 79
5.3 Game-Based Learning: underlined theoretical assumptions..... 80
5.4 Aims & purposes 81
5.5 Motivation 81
5.6 Content..... 83
5.7 Freedom, rules & feedback 85
5.8 Mistakes, failure & emotional aspects..... 86
5.9 Game integration in the learning process 87
5.10 Conclusion - Ensuring acceptability, usability & utility..... 88
References 93

Chapter 6 - Course and business game-based learning process design 97

6.1 Introduction..... 97
6.2 Learning through the use of business game 99
6.3 Strengths of Business Game..... 105
References 107

Chapter 7 - Technological design and implementation of a web-based business game..... 109

7.1 Introduction: development of a Business Game 109
7.2 Design of the software..... 111
7.3 The UML schema 114
7.4 Information structure of a Business Game..... 116

SECTION 3

**MEET PROJECT: A SUCCESSFUL IMPLEMENTATION
OF BUSINESS GAME IN LEARNING PATHWAYS**

REFERRED TO EQF LEVELS 4-5..... 119

**Chapter 8 - The Management E-learning Experience for Training
secondary school students – MEET Project 121**

8.1 Introduction..... 121
8.2 National Priorities..... 122
8.3 Aims and objectives of the project..... 124
8.4 Methodology and work plans 126

Chapter 9 - Pedagogical Adaptation in line with EQF criteria129

9.1 Introduction..... 129
9.2 The European Qualification Framework (EQF)..... 129
9.3 Legal texts and strategic objectives 131
9.4 Referencing processes in different partner countries 132
9.5 State of the art of the referencing processes in MEET core partner countries 134
9.6 MEET Project Model..... 140
9.7 Users' needs 145
9.8 Teachers needs..... 148
9.9 Learner Needs 151
9.10 Needs related to communication..... 153
9.11 The link of pedagogical expectations to the EQF standard..... 154

**Chapter 10 - Technological adaptation and criteria to design
the testing phase..... 161**

10.1 Introduction 161
10.2 The Business Game economic model 161
10.3 The performance model..... 165
10.4 Improvements 165
10.5 New things the teacher can do during a tournament 171
10.6 The design of the test phase..... 172
10.7 The test cycle 174
10.8 Tips for a test cycle..... 176

Chapter 11 - Testing phase: results and observations.....179

11.1 Introduction 179
11.2 Objectives and Target-Groups 182

11.3 Duration.....	183
11.4 Methodology and Tools.....	183
11.5 Main Results.....	184
11.6 Benefits and Advantages.....	188
11.7 Acceptability, Usability and Utility.....	191
11.8 Conditions for Success.....	194
Chapter 12 - Examples of Units Expressed in Learning Outcomes by using MEET Business Game	195
12.1 Introduction.....	195
12.2 Theoretical Background.....	195
12.3 Examples of Units Expressed in Learning Outcomes.....	197
12.4 Report on the Advantages and Benefits of Expressing Units in Learning Outcomes.....	212
Chapter 13 - Project Sustainability	217
13.1 Introduction.....	217
13.2 Testing in partner countries in Eastern Europe.....	217
13.3 The Units of learning outcomes.....	221
13.4 Synthesis of the testing results.....	227
13.5 Project sustainability.....	238
ANNEX 1 - MEET business game student handbook	243
Introduction.....	245
What is The MEET Business Game?.....	245
The Tournament.....	245
The Software.....	246
Quick Start.....	246
Market analysis.....	249
Parameters.....	249
Product definition.....	249
Price-Quality Ratio (PQR).....	251
Sales forecast.....	251
Game output.....	254
Expected Results.....	254
Summary of Last Quarter.....	255
Previous decisions.....	255
Financial statement.....	255
Summary of the effects.....	255
Competitors.....	256
Results (Definition of company success).....	257

<i>Fundamentals of finance</i>	258
<i>The Balance Sheet</i>	258
<i>The Income Statement</i>	259
<i>Economic Indexes</i>	259
ANNEX 2 - MEET business game teachers' guide	261
<i>Introduction</i>	263
<i>Essential requirements for the use of the game</i>	264
<i>Procedures to be carried out during the Business Game tournament</i>	265
<i>Before the game</i>	265
<i>During the game</i>	272
<i>After the game</i>	276
<i>Description of the Platform</i>	276
<i>Impact of decisions in the game</i>	278
Index	289

Figures

Figure 1-1: Categorization of business games.....	5
Figure 1-2: Rank order of the five major educational and learning objectives of business games in the last decades (source: Faria et al., 2009).	12
Figure 2-1: The Experiential Learning Cycle and Basic Learning Styles (Source: adapted from Kolb, 1984).	28
Figure 2-2: The Problem Based Learning cycle (Source: Hmleo-Silver, 2004).	33
Figure 3-1: Bloom taxonomy.....	50
Figure 3-2: Levels of the SOLO taxonomy.....	50
Figure 3-3: The feedback of exploragraph.	54
Figure 3-4: Screen shots of StarBank the game.	55
Figure 3-5: Screen shots of StarBank the game.	56
Figure 6-1: Simulation decision-making cycle.....	98
Figure 6-2: Business Game delivery steps.	101
Figure 6-3: Deming cycle.	103
Figure 7-1: Multi – layer architecture.	112
Figure 7-2: Business Game information structure	117
Figure 10-1: The Business Game economic model.	162
Figure 10-2: The Business Game general model.....	163
Figure 10-3: Levers, internal and external performances.....	165
Figure 10-4: Types of report teachers can download.	169
Figure 10-5: Example of excel report grouped by companies.	170
Figure 10-6: Example of excel report grouped by periods of game.....	170

Tables

Table 1-1: Serious games’ features and what is useful to obtain serious games’ effectiveness.	9
Table 1-2: Phases in the development of Business Gaming.	14
Table 1-3: Dimensions of the proposed taxonomy (Source: Baldissin et al. 2007).	16
Table 1-4: Market complexity.	17
Table 1-5: Business model flexibility.	17
Table 1-6: Complexity of the business environment.	17
Table 1-7: Smartphone market penetration (source: Comscore, 2012).	20
Table 2-1: Kolb’s modes of learning and teaching methods.	29
Table 2-2 – Kolb’s learning styles and didactic approaches.	30
Table 2-3 - Relations between the basic learning styles and the five levels of behaviour (source: Kolb et al., 2002)	31
Table 4-1: evaluation of some LMS platforms	69
Table 4-2: Communication tools and types of interaction.	70
Table 4-3: Type of e-learning tools.....	73
Table 7-1: Software needed to create a business game is.....	113
Table 9-1: Correspondence of levels established between the French qualifications framework and the EQF	136
Table 9-2: Correspondence of levels established between the Italian qualifications framework and the EQF	137
Table 9-3: Levels correspondence established between the Dutch qualifications framework (NLQF) and the EQF	139
Table 9-4: Correspondence of levels established between the Portuguese qualifications framework (QNQ) and the EQF.....	140
Table 9-5: Target classes.....	147
Table 9-6: Specification of target classes and contexts for MEET Business Game use	155
Table 9-7: Specification of technical requirements for MEET Business Game use	157
Table 9-8: Specification of need for MEET Business Game use.....	159
Table 10-1: Grid for the testing phase.	177
Table 11-1: Summary of the first test activity.	181
Table 11-2: Summary of the second test activity.....	181
Table 11-3: Analysis of the results of the first testing phase.....	191
Table 11-4: Analysis of the results of the second testing phase.....	192
Table 12-1: Job Profile related to the Qualification/Unit.....	198
Table 13-1: Professional profiles.....	218
Table 13-2: The units of learning outcomes.	221