

# P4G Tool for Self-evaluation and Evaluation for Guidance



## PLAY4GUIDANCE

A European Business Game to train and guide students and young unemployed on entrepreneurial, transversal and mathematical skills

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### Short Description:

The aim of the "Self-evaluation tool" is to provide participants and users of the P4G Business game with simple and clear feedback so that they can use it to self-evaluate their skills and competences. The tool was designed and implemented in the P4G Business Game on the basis of: (1) the 02. Initial Assessment- "Greatest Common Denominator Skills Matrix" intellectual output and (2) the 03. Pedagogical framework of the Business Game.

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### **03. Tool for Self-evaluation and Evaluation for Guidance**

#### **1. P4G Self-evaluation tool Objectives**

For output 03. P4G Business game, NKUA was responsible for designing the tool of self-evaluation and evaluation for guidance. In collaboration with LIUC, NKUA transformed the Greatest Common Denominator Matrix (02. A4) into a grading system, able to be implemented and processed automatically by the business game.

The self-evaluation tool is one of the core elements of PLAY4GUIDANCE Business Game and it aims to provide users with simple and clear feedback they can use to self-evaluate their skills and competences by being engaged in the game. The self-evaluation tool may be also used as a tool for evaluation and guidance by P4G indirect target groups and stakeholders (centers for guidance, employment centers, SMEs and personnel of companies, etc). The self-evaluation tool provides feedback on:

- (1) how the users (teams and/or single players) have managed their company,
- (2) several types of managing such as managing investments, managing workers and training, managing production, managing sales, managing supplies, etc. and
- (3) skills and/or competences that users should strengthen

Taking into consideration the technical affordances of the computer operated business game we decided on providing users with two evaluation tools: a) an internal evaluation tool and b) an external evaluation tool. The former was developed by LIUC to be implemented into the business game and automatically inform the P4G Business game users on their performance. The internal evaluation tool appears in the form of feedback provided to participants directly on the game site at the end of the game session. In addition, users' decisions and intervention on the values of the parameters implemented in the game are registered and constantly tracked to inform them on their pace of progress and enable them to make a comparative analysis. Considering the fact that the internal evaluation tool could not address all competences identified in the Greatest Common Denominator Matrix, NKUA was responsible for filling the gap by providing an external evaluation tool that would enable users to develop and evaluate the total of the competences addressed in the Matrix even the affective ones (see Table 1). Therefore, NKUA designed and developed an external evaluation tool in the form of worksheets that could be used as flexible supporting material by both users and trainers in order to enable them to evaluate more subtle competences and engage them in a more challenging tracking of their strategic decisions and their self-evaluation process.





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## 2. Theoretical context of the Design of the P4G Self-evaluation tool

The P4G Self-evaluation tool supports the design and development of a serious business game morpheme that is based on the simulation-based assessment structure. The distinction between designing simulations for **learning** and designing simulations for **assessment** is that the former requires focusing on the features of situations that provoke the targeted knowledge and skills while the latter requires focusing on the knowledge and skills provoked by a specific situation and evaluate how they were provoked, what the response was, and what the results were (Mislevy, 2011). This distinction necessitates the identification of principles and development of tools that differ from those required to merely build simulations (Melnick, 1996) although the rationale in designing both simulation approaches in certain design aspects seems to overlap (Mislevy, 2011). Assessment-based simulations have additional processes integrated that provide feedback about performance by evaluating examinees' capabilities, either in terms of overall proficiency or focusing on more specific aspects of knowledge and skill (Mislevy, 2011).

In addition, the creation of valid assessment in simulation environments requires expertise from disparate domains and exploitation of different approaches and strategies that would enable the acquisition and development of skills and competences considering the users' individual needs, expertise and cognitive background. The P4G consortium differentiated expertise is applied in the design of a shared framework that additionally considers the different cultural contexts that each country member brings. This way an-all inclusive and shared framework is adopted and we are enabled to track and examine the way different expertise fits in with others, further develop the P4G skills matrix which merges the different aspects addressed in the project and result with valuable and measurable data on the effectiveness of co-existence and interaction among different methodologies in terms of cognitive and skill development.

### The P4G Evaluation for guidance tool as a product deriving from the P4G learning goals

The P4G self-evaluation tool was designed and informed by taking into account both the literature review on competence classifications and specifications, and empirical research data occurring from surveys conducted in all project member countries addressing three targeted groups (Output 2 – Initial Assessment): unemployed, students,





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teachers. As a result a) **the inclusion of learning goals supported by the literature was validated**, b) **the adoption of a generic competence scheme was enhanced to include differences between countries and target groups** and c) dimensions such as **affective skills** that had been neglected in previous research on entrepreneurial skills and corresponding training concepts have sprung up.

Both users' skill development and users' cognitive development should be assessed either by the system or through external evaluation tools at different periods (before, during and after a game session) during the users' engagement with the game. However, the evaluation conditions and criteria will heavily depend on the structure of the scenarios in terms of users involved: 1. single player (online, with one player) and 2. "team" player (in presence, 3 or 4 players or online against other team/s).

**Table 1. Identification of the competence evaluation methodology**

Learning goals  Learn how to...	Ways / Methods	Skills / Knowledge	Type of Evaluation		Evaluation of learning goals	
			Internal (computer- managed)	external (to the computer system)	By the system (analyzing player's decisions)	asking direct questions to players
<b>users' skill development</b>						
<b>Seek out information/evidence</b>	Research information	Critical thinking				
<b>Organize information</b>	Use Spreadsheet	Spreadsheet skills  Problem solving				
<b>Examine data</b>	Research information	Spreadsheet skills				
<b>Sort out relevant and irrelevant factors</b>	Use Spreadsheet	Problem solving				





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<b>Prioritize evidence for a given goal</b>	Seeing interrelationships Reading in context strategising	Analytical Thinking, Problem solving				
<b>Develop a strategy for monitoring evidence</b>	Apply innovative thinking	Analytical Thinking, Creative Thinking				
<b>Plan a business strategy</b>	Discovering meaning Understanding how knowledge is stored Applying learning from problems to later ones	Analytical Thinking, Creative Thinking Resourcefulness, making links, reasoning				
<b>Transform resources into performance</b>	Reflecting and strategizing	Analytical Thinking, Creative Thinking Problem solving				
<b>Adapt effectively to a variety of situations</b>	planning, revising, reflectiveness	Analytical Thinking, Creative Thinking Problem solving				
<b>users' affective skill development</b>						
<b>High risk factor decisions based on a long run strategy plan</b>	Apply innovative thinking (possessing relevant attitude)	Optimistic attitude, creative, out-of the box thinking, insight				
<b>Demonstration of readiness for understanding</b>	(Empathy-possessing relevant attitude)	Interpersonal skills				



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<b>and commitment to the care of others</b>						
<b>Tackling and mastering states of stress and anxiety</b>	(Self-control-possessing relevant attitude)	Ability to positively react to different situations				
<b>Ability to successfully present and express skills in a business environment</b>	(Self-Confidence-possessing relevant attitude)	Communicative, Interpersonal skills				
<b>users' cognitive development</b>						
<b>Relevance of resources to business domains</b>	Research information Seeing interrelationships Reading in context strategising	Analytical Thinking, Problem solving				
<b>Set priorities for each strategy</b>	Research information, planning	Analytical Thinking, Problem solving				
<b>Prioritize business financial expenses</b>	Research information, planning	Analytical Thinking, Problem solving				
<b>Consider relevance between financial expenses and long-term profit</b>	Research information Seeing interrelationships Reading in context strategising	Analytical Thinking, Resourcefulness, making links, reasoning, Problem solving				





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<b>Interpret the conditions relating to production management</b>	Research information	Analytical Thinking				
<b>Meet the needs of customers (in quality &amp; quantity)</b>	Research information Seeing interrelationships , strategising	Analytical Thinking, Problem solving				
<b>Control product quality</b>	Reflect on conditions	Problem solving				
<b>Recognize the power relationships in organizations</b>	Seeing interrelationships Reading in context strategising	Analytical Thinking, Creative Thinking Problem solving				
<b>Set performance objectives and measures</b>	Reflecting and strategizing	Analytical Thinking, Creative Thinking Problem solving				





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### **3. Design and Implementation of the P4G Tool for Self-evaluation and Evaluation for Guidance**

#### **3.1 The P4G Internal Self-evaluation tool**

##### 3.1.1 Competences assessed automatically from the game

The competences that can be assessed automatically from the game are:

- Analytical Thinking
- Business Acumen
- Commitment to Learning
- Order and Quality
- Expertise
- Flexibility
- Information Seeking
- Innovation
- Results Orientation
- Decision making

Having thoroughly analysed the competences definition in relationship with the Business Game and especially with the different actions needed to play the game in a successful way, a strong interrelationship among certain competences was found; in the sense of a sort of dependence of one competence from certain others.

The following table illustrates the existing interrelationship among certain competences as identified and analysed in the context of the P4G BG.



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Table 2. Interrelationship among competences

<b>Category of competences and their relationship</b>	
<b>Competence</b>	<b>Related competences</b>
Analytical Thinking	Information seeking
	Order and Quality
Expertise	Order and Quality
	Result Orientation
Flexibility	Innovation
Decision Making	Result Orientation
	Analytical Thinking
	Flexibility



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### 3.1.2 Assessment Parameters – Overall consideration

In all assessments we use the results from different game variables that, for better balancing, are always normalized in the form of [0:1]

After normalization, a general rule is that given “X” the score of a given competence, the evaluation will be:

LOW:  $X < 0.25$

MEDIUM:  $0.25 < X < 0.75$

HIGH:  $X \geq 0.75$

(Every competence can have different values. E.g.: Basic Competences Low<0,27; High>0.75)

The reason for the explained assessment balance follow general game development rules in which an oversensitivity in obtaining a non-medium score will influence the player in trying to maximize the assessment by reverse engineering the more sensitive variables.

The “dependence” of a competence in the assessment of another, that can be found in some of the below calculations, is to be understood as the full assessment value [0:1] added to the equation of values that will be then normalized in a new [0:1] value range for the assessment of the “depending” competence.

E.g. Flexibility = Mix of suppliers index\*0.5 + Innovation assessment\*0.5

Given Mix of suppliers index = 0.1,

Innovation assessment = 0.9 [Innovation assessed as HIGH]

Flexibility =  $0.1 * 0.5 + 0.9 * 0.5 = 0.5$  [MEDIUM]

Furthermore, a set of questions addressing specific competences are implemented into the game which the players will have to answer. The rationale for the use of direct questions to the players is to have a complete understanding of the reasons why the players have made certain strategic decisions; this way the evaluation tool manages to identify casual moves that bear no related strategy. In addition, by answering the questions the players will be prompted to apply strategic competences and skills in next rounds.



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### 3.1.3 Identification of the Assessment Parameters for each Competence

In this section we present the different assessment parameters that are applied to identify the assessment process for each of the competences that can be assessed automatically from the game (See section 3.1.1).

#### **Information Seeking**

*The ability to find and capture information to increase knowledge or find solutions*

It is calculated monitoring the purchase frequency of Market Data during the game and 9 related assessment questions.

Weight is divided equally between game behaviour and assessment questions

As for balancing, being “perfect” in just one of the 2 factors OR average in both will score up to a medium valuation.

#### **Business Acumen**

*The ability to discover opportunities and transform resources into performance*

It is calculated monitoring:

- Suppliers usage [20%] (*Do players use correctly the foreign supplier?*)
- Advertising usage [20%] (*Do players buy advertising when necessary?*)
- Sales Management [20%] (*Do players sell the whole production?*)
- *Result Orientation* dependence [20%] (*Do players increase company’s value?*)
- Assessment questions [20%]

#### **Decision Making**

*The ability to create new problem solutions also in highly complex situations and in large teams / organizations*

It is calculated monitoring:

- *Result Orientation* dependence [33.3%]
- *Analytical Thinking* dependence [33.3%]
- *Flexibility* dependence [33.3%]





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### Commitment to learning

*The ability to actively pursue learning and develop competitiveness*

It is calculated monitoring:

- Commitment in workers training versus needed training expenditure [33.3%]
- *Information Seeking* dependence [33.3%]
- Assessment questions [33.3%]

### Analytical Thinking

*The ability to analyze problems systematically.*

It is calculated monitoring:

- *Order and Quality* dependence [50%]
- *Information Seeking* dependence [50%]

### Order and Quality

*The ability to reduce uncertainty and to control quality.*

It is calculated monitoring:

- Correct usage of production capacity [25%] (*Do players use the entire production capacity to maximize the number of final products?*)
- Number of stock-outs [25%] (*Do the supply meet the demand?*)
- Correct leveraging of Stocks [25%] (*Do players use a lean production to minimize stocks?*)
- Correct leveraging of production efficiency [25%] (*Do players increase the available production capacity?*)

### Expertise

*The ability to perform professional jobs.*

It is calculated monitoring:

- *Order and Quality* dependence [50%]
- *Result Orientation* dependence [50%]

### Flexibility





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*The ability to effectively adapt to a variety of situations.*

It is calculated monitoring:

- Mix of suppliers chosen [50%] (*Do players use correctly the foreign supplier?*)
- Innovation dependence [50%]

#### **Result Orientation**

*The ability to set performance objectives, resulting targets and measures.*

It is calculated monitoring:

- Growth of company value [25%] (*Do players increase company's value?*)
- Player's company value versus System's company value [25%]
- Strategy [50%]  
(*If the player hire new workers, does he invest the correct budget in training?; Do players invest constantly?*)

#### **Innovation**

*The ability to make something new and to improve performance.*

It is calculated monitoring:

- New technology expenditure [50%]
- Player's actions that favour company's innovation [50%]



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### 3.1.4 Implemented functionalities for formative and summative assessment

The P4G Internal Self-evaluation tool was developed by LIUC to be implemented into the business game and automatically inform the P4G Business game users on their performance. The P4G Business Game accommodates a set of functionalities that enable users' self-evaluation both regarding formative and summative assessment. The former type of assessment is facilitated by the game's function to register users' decisions and intervention on the values of the parameters implemented in the game and thus enables users to make a comparative analysis regarding their decisions and results and keep a track on their pace of progress. In particular, users by clicking on the "**General view**" and '**Decision History**' buttons in the game, have a display of the data (general view, parameters, and decision history) from all the rounds already played in the current session. This way they are enabled to reflect on their decisions and engage themselves in applying analytical and critical skills to identify their right or wrong strategic planning and take informed next steps. Furthermore, users are facilitated in this reflective process by the functionality of the game to enable them to download the General View and the Decision History data in a .csv format which is imported in an Excel File.

Summative assessment is implemented in the game in the form of an assessment report that appears at the end of the game sessions. This assessment report identifies and informs users on their performance on all key business competences, providing them with explicit feedback on their strengths and areas that need improvement. The table below illustrates the ranking categories as assessed by the game considering the assessment parameters that were discussed in section II. Assessment Parameters.

**Table 3. Final Assessment report on level of competence mastery**





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ACHIEVEMENT CHART				
Category of competence	Description of the competence	Description of level of mastery		
		Weak	Average	Good
The players at this level:				
<b>Analytical Thinking</b>	<p><b>The ability to analyze problems systematically.</b></p> <p>Objectively assess the situation, including facts and events related to the business. Analyze alternatives and make choices for the development of qualifications and focusing on perspective areas.</p>	At peace with the situation. Unable to make effective conclusions based on the situation of the company. Unable to analyse and understand the connections between variables. Waiting passively without seeking information in order to find solutions and improve the current situation of the company	Consider several variables but not all. Understand the role of some variables and breaks down some of them into their component parts. Analyze the situation of the company but misses some points and as a result some of the decisions are wrong.	Analyze the situation; assess their capabilities, qualities and potential. Taking decisions to improve in line with the needs and perspectives of the market. Evaluate different alternatives, trends and patterns.
<b>Business Acumen</b>	<p><b>The ability to discover opportunities and transform resources into performance</b></p> <p>Take matters into their own hands. Search, find and exploit new profitable opportunities for business development.</p>	Not fully committed and misses opportunities. Shows indecision and lack of ambition. Afraid of change and taking responsibility. Limited autonomy, relying on the help and the activity of others.	Use resources to achieve moderate results. Relying on traditional methods and approach. Skeptical of novelty and innovation. Not willing to risk in situations of uncertainty.	Not satisfied with the achievements. Drafts projects, assesses risks, plans and effective using of resources, predicts results. Shows resourcefulness, courage, innovation, proactivity and entrepreneurship.
<b>Commitment to Learning</b>	<p><b>The ability to actively pursue learning and develop competitiveness</b></p> <p>Proactive search and utilizing opportunities for further training, retraining and development of new skills that are needed to improve the organization and its workforce.</p>	Relies on the current qualification, showing no willingness for personal development. Does not believe that competitiveness is a crucial factor in order to be successful.	Participates in different forms of training with the aim to refresh their own knowledge. Seeks in a regular basis new ways to deal with problematic situations.	Identify and exploit opportunities to learn, receive feedback and develop by knowing well their own strengths and areas for improvement.
<b>Order and Quality</b>	<p><b>The ability to reduce uncertainty and to control quality.</b></p>	Making errors, omissions and inaccuracies in the preparation of application	Good organization and precision in the drafting of documents when applying	Proactively contributing to quality in everyday situations. Demonstrating







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	Demonstrating good organization and knowledge of business etiquette. Demonstration of readiness to reduce uncertainty, knowing and observing specific standards, rules and requirements to ensure quality.	documents. Low culture in the implementation of business etiquette. Inability to demonstrate organization and knowledge about specific rules, standards and requirements. Inability to prepare for challenging situations in the future.	for a new job. Knowledge of standards and requirements for the job. Inability to justify the role of the position in the quality management system.	good organization, precision and personal effectiveness. Readiness to provide quality, for conscious and responsible fulfillment of the commitments taken by respecting the contractual agreements, standards, rules, terms and conditions.
<b>Expertise</b>	<b>The ability to perform professional jobs.</b> Expertise describes Professional competency in terms of domain knowledge and skills.	Low competence, inability to learn from the experience of others, low motivation to improve own knowledge and skills. Basic knowledge in the domain.	Rely on routine knowledge and skills acquired in the past. Shows some adaptability in new challenges based in his professional skill. Does not demonstrate readiness for professional development.	High professional competency, strive for permanent improvement. High knowledge to solve complex situations in the domain.
<b>Flexibility</b>	<b>The ability to effectively adapt to a variety of situations.</b> Ability to effectively adapt to new situations, environments and requirements. Striving to learn new skills and requalification. Tolerance to change and vagueness.	Rigidity and resistance to change. Inability to adapt to new conditions. Losing self-control in unforeseen states. No workplace environment ever stays the same. Not able to multi-task and perform several tasks at once.	Reacting quickly and changing attitudes and behaviors under external pressure. Dealing with changing circumstances. Feeling more comfortable in familiar situations.	Seeking change productively and adapting to novelties. Challenges are motivating
<b>Information Seeking</b>	<b>The ability to find and capture information to increase knowledge or find solutions.</b> Ability to use information and communication technologies. Finding and selecting the information necessary to solve problems. Ability to select appropriate sources to collate and assess the information, and to apply it in practical terms.	No orientation in the search and selection of information. Does not know or use appropriate and reliable sources. There is no assessment of quality, variety, and reliability of information sought. Does not examine or use new information in solving practical problems.	Actively seek and select information. The link between information, knowledge, and action is problematic and not well understood. Not able to select and retrieve basic information or exploit it to appropriately solve a problem.	Ability to use ICT in the daily work. Correct selection of sources of information. Ability to get oriented, to select information and retrieve data that are important for solving practical problems.
<b>Innovation</b>	<b>The ability to make something new and to improve performance.</b>	Lack of creative ideas and entrepreneurial spirit. Inability to shake off routine and to	Generate innovative ideas but lacks determination and autonomy and is	Actively generate new ideas and commitment to their





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	Ability to create something new on the basis of which to launch a proper business project towards market maturity. Ability to show ingenuity, creativity, to generate and implement new ideas.	think unconventionally and in an innovative way. Creative ideas and innovative approaches can come from almost anywhere- from partners, customers, target groups, employees. It is important an open exchange of ideas to be supported and encouraged by the company.	afraid of risk with their integration. Stimulating creativity and exploring completely new and unknown subjects leads to an increase to the business's productivity.	implementation. Showing flair for new, original, unconventional realisation.
<b>Results Orientation</b>	<b>The ability to set performance objectives, resulting targets and measures.</b> Setting realistic goals and taking adequate measures in the process of business and personal development.	Inability to set clear and realistic goals for personal and business development. Do not know how to focus or what to focus on.	Setting clear and realistic goals for personal and market objectives. Analyzes productivity based on the number of tasks that are completed in a specified period and the quality of products. Being inactive to retrain in accordance with the new opportunities and demands of the market.	Setting clear and realistic goals considering the personal professional qualities and the situation on the market. Actively seek and exploit opportunities with realistic goals. Willing to develop skills that are demanded by the labor market.
<b>Decision making</b>	<b>Ability to make decisions.</b> Ability to apply decision making models in different situations. Ability to find decision alternatives and information to support the decision process.	Basic application of decision making process in small teams for simple problems. In a management setting, decision cannot be taken abruptly. Defining the problem, gathering information and weighing the options are some of the steps that should be followed.	Solves problems independently also in new / uncertain situations in medium sized teams. Decision making process can be regarded as check and balance system that keeps the business growing. Spending time in such a process is a wise decision.	Creates new problem solutions also in highly complex situations and in large teams / organizations



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### 3.2 The P4G External Self-evaluation tool

The P4G External Self-evaluation tool appears in the form of worksheets and it guides the self-evaluation process around 3 thematic areas: (1) the Pedagogical approach of strategic planning, (2) the Self-evaluation of learning goals and skills, (3) Summative assessment and (4) the Course Evaluation Questionnaire. The thematic areas and items of the self-evaluation tool are designed in a flexible way to facilitate their use in different contexts and by addressing all target groups. The External Self-evaluation tool will be uploaded in the P4G platform in a printable version to enable its accessibility and practical use by both trainers and learners

#### 3.2.1 Pedagogical approach of strategic planning

**A) In the given round, state which of the 3 business activities you have mainly focused on. Provide explanations for your decisions.**

Identify the business activity that was mainly addressed: \_\_\_\_\_

Reasons: 1.

2.

3.

**B) Rank all the business activities (BA) in order from the most important to the least important given the company needs and business plan for the given round. Identify factors that led to your decision, considering competitiveness and financial constraints as well.**





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BA1.:

BA2.:

BA3.:

C) In the following table you are requested to identify and evaluate the strategies that you followed in the round in terms of set objectives and objectives accomplished.

No of Rounds	Strategy 1:		Strategy 2:		Strategy 3:		Strategy 4:	
	Set objectives	Accomplished objectives	Set objectives	Accomplished objectives	Set objectives	Accomplished objectives	Set objectives	Accomplished objectives
1								
2								
3								





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D) (From Round 2 and on). Were you influenced in this round by the other team's strategic planning? If so, indicate the specific data that have affected your own decisions.

- 1.
- 2.
- 3.
- 4.
- 5.

#### 3.2.2 Self-evaluation of learning goals and skills

After each session you are requested to evaluate your performance in terms of the given learning goals and skills.

Please indicate your performance on the following tasks/skills by writing the appropriate number.

**1: I need to work on this** **2: I did this OK.** **3: I did well.** **4: I did this very well!**





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Learning goals Learn how to...	Ways / Methods	Skills / Knowledge	Evaluation of learning goals			
			Session 1	Session 2	Session 3	Session 4
<b>1: I need to work on this 2: I did this OK. 3: I did well. 4: I did this very well!</b>						
0. example			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>users' skill development</b>						
<b>Seek out information /evidence</b>	Research information	Critical thinking				
<b>Organize information</b>	Use Spreadsheet	Spreadsheet skills Problem solving				
<b>Examine data</b>	Research information	Spreadsheet skills				
<b>Sort out relevant and irrelevant factors</b>	Use Spreadsheet	Problem solving				
<b>Prioritize evidence for a given goal</b>	Seeing interrelationships Reading in context strategising	Analytical Thinking, Problem solving				
<b>Develop a strategy for monitoring evidence</b>	Apply innovative thinking	Analytical Thinking, Creative Thinking				
<b>Plan a business strategy</b>	Discovering meaning Understanding how knowledge is stored Applying learning	Analytical Thinking, Creative Thinking Resourcefulness, making links, reasoning				



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	from problems to later ones					
<b>Adapt effectively to a variety of situations</b>	planning, revising, reflectiveness	Analytical Thinking, Creative Thinking, Problem solving				
<b>users' affective skill development</b>						
<b>High risk factor decisions based on a long run strategy plan</b>	Apply innovative thinking (possessing relevant attitude)	Optimistic attitude, creative, out-of the box thinking, insight				
<b>Demonstration of readiness for understanding and commitment to the care of others</b>	(Empathy-possessing relevant attitude)	Interpersonal skills				
<b>Tackling and mastering states of stress and anxiety</b>	(Self-control-possessing relevant attitude)	Ability to positively react to different situations				
<b>Ability to successfully present and express skills in a business environment</b>	(Self-Confidence -possessing relevant attitude)	Communicative, Interpersonal skills				
<b>users' cognitive development</b>						
<b>Relevance of resources to business domains</b>	Research information Seeing interrelationships Reading in context strategising	Analytical Thinking, Problem solving				
<b>Set priorities for each strategy</b>	Research information, planning	Analytical Thinking, Problem solving				





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<b>Prioritize business financial expenses</b>	Research information, planning	Analytical Thinking, Problem solving				
<b>Consider relevance between financial expenses and long-term profit</b>	Research information Seeing interrelationships Reading in context strategising	Analytical Thinking, Resourcefulness, making links, reasoning, Problem solving				
<b>Interpret the conditions relating to production management</b>	Research information	Analytical Thinking				
<b>Meet the needs of customers (in quality &amp; quantity)</b>	Research information Seeing interrelationships, strategising	Analytical Thinking, Problem solving				
<b>Control product quality</b>	Reflect on conditions	Problem solving				
<b>Recognize the power relationships in organizations</b>	Seeing interrelationships Reading in context strategising	Analytical Thinking, Creative Thinking, Problem solving				
<b>Set performance objectives and measures</b>	Reflecting and strategizing	Analytical Thinking, Creative Thinking, Problem solving				







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### 3.2.3 The P4G Self-evaluation tool: Summative assessment

Target Group:

Date:

#### Personal Information

Gender:

Male

Female

Age:

How well did I do?

Traits	I need to work on this!	I did this OK.	I did well.	I did this very well!
	1	2	3	4
<b>A. Human-Computer Interaction: Ergonomics/Interface</b>				
1. I used the functions/data provided by the system in order to take strategic decisions (eg. "Last turn results", "Result overview", "Decisions per area", "show current ranking position" etc.)				
2. I consulted the relevant information (in text form) for each of the variable characteristics				
3. I checked the histogram of the variable values and the text explanation of the variables by selecting the icons and question marks				





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provided for each variable.				
<b>B. Technological Aspects</b>				
4. I used the operational structure of the game (eg. charts) to comprehend the interdependency among variables.				
5. I was engaged in realistic scenarios through the modeling processes supported by the platform.				
<b>C. Construction of Concepts &amp; Skills</b>				
6. I developed mathematical skills by figuring out the interdependence of variables and estimating the impact of their values.				
7. I developed entrepreneurial skills by exploring variables (decision-making; the results obtained; market data; the operating parameters) addressing the management of supply, the management of the production, the management of marketing and sales, overall management and market research.				
8. By playing the game I understood and acquired basic business terms (eg. interest rate, weighted average cost, etc.)				
<b>D. Scaffolding</b>				
9. I processed the information provided in the P4G business game to identify key marketing issues related to supply, production, promotion, marketing and sales.				
10. I selected options that were consistent with the evaluation of the variables (values by default, ranging values, projection in charts, etc.)				
11. I considered the feedback provided by the system to make effective quantitative evaluations and identify criteria for evaluating alternatives				
12. I used the serially provided information (in text form) to develop professionally responsible analysis and solutions.				
<b>E. Game Experience</b>				





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13. I applied decision-making and problem-solving skills to design strategic plans				
14. I tracked and evaluated my performance throughout the 12 successive game rounds.				
15. I followed the guidelines of the game				
16. I set long term and short term goals during my interaction with the game				
17. I considered the market parameters and tried to make predictions on market change alternatives				
<b>F. Psychological perspectives</b>				
18. I demonstrated personal responsibility while engaged in the game.				
19. I demonstrated leadership and group dynamic skills				
20. I found the game challenging.				
21. I enjoyed developing skills while engaged in a game				
<b>G. Collaboration</b>				
22. I managed to contribute my opinion.				
23. I acted as part of a team sharing the same goal				
24. I supported my team by providing arguments				
25. I supported my team by applying personal skills (mathematical, strategic planning, applying ICT tools, etc)				

#### Comments:

**I did well on:**

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**My favourite part of this game was:**





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**One thing I didn't like was:**

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**I need to improve in:**

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**I need to learn more about:**

**I acquired the following skills:**

- goal setting
- organisational
- leadership
- management
- analytical
- logical thinking
- problem-solving





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- decision taking
- human relations

**I learnt the following business concepts:**

- management of supply
- production management
- management of marketing and sales
- overall results of management
- market research
- business plan





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### 3.2.4 COURSE EVALUATION QUESTIONNAIRE

Please fill in the following questionnaire.

Your views will help towards making the overall course more efficient.

5: I fully agree    4: I agree    3: I don't know    2: I disagree    1: I completely disagree					
<i>0. Please mark your selection as in the example below.</i>					
	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<i>Example</i>					✓
<b>A. Evaluation of the Course</b>					
1. The aims of the course were made sufficiently clear					
2. The course resources were appropriate to its aims					
3. The course material and activities were well organized					
4. The additional resources in the P4G platform (Glossary, video tutorials, skills matrix etc.) helped towards a better understanding of the subject matter					
5. The aims of the course were attained					
6. The course was interesting					
7. The course was useful					
<b>B. Evaluation of Instruction</b>					
8. The instructor encouraged us to join in discussions in a way that helped us to develop knowledge/competences.					
9. The instructor helped and guided us whenever requested					
10. The instructor was receptive to our questions					
11. The instructor gave us further explanations and examples when needed.					
12. The instructor was consistent in keeping course hours					
<b>C. Evaluation of the P4G Business game</b>					
13. The set tasks in the business game were irrelevant to real market conditions.					
14. The business game was easy to use and operate					
15. The business game interface enabled a satisfying and friendly interaction for the user (e.g. use of colour,					





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graphical design, etc).					
16. There was consistency between the learning goals of the course and the business game					
17. The business game operability (easy to operate and control) was satisfying					
18. Navigation supported by the platform was easy.					
19. Information and analysis of data provided by the game were useful.					
20. I found the overall use of the business game satisfying, in terms of my expectations and related needs.					

21. To what extent do you think that the course has contributed to the improvement of your knowledge and skills?

Rate on a scale from "0 = not at all" up to "10 = extremely" (mark your score in the box below choosing the degree that best expresses your opinion)

<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
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22. Which additional activities, functions or information would you recommend for the improvement of the P4G Business game platform?

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23. Do you have any additional comments about the course? If so, please tell us about them here:

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***Thank you for your help. Your participation is greatly appreciated***





### **03. Tool for Self-evaluation and Evaluation for Guidance**

## **4. References**

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