

Evaluate

Education Alliance Finland



The Education Alliance Finland Evaluation Process



All EAF certified products can be found on www.educationalliancefinland.com

Revas Business Simulation Game



In Revas Business Simulation Game the students are making decisions on running a small business.

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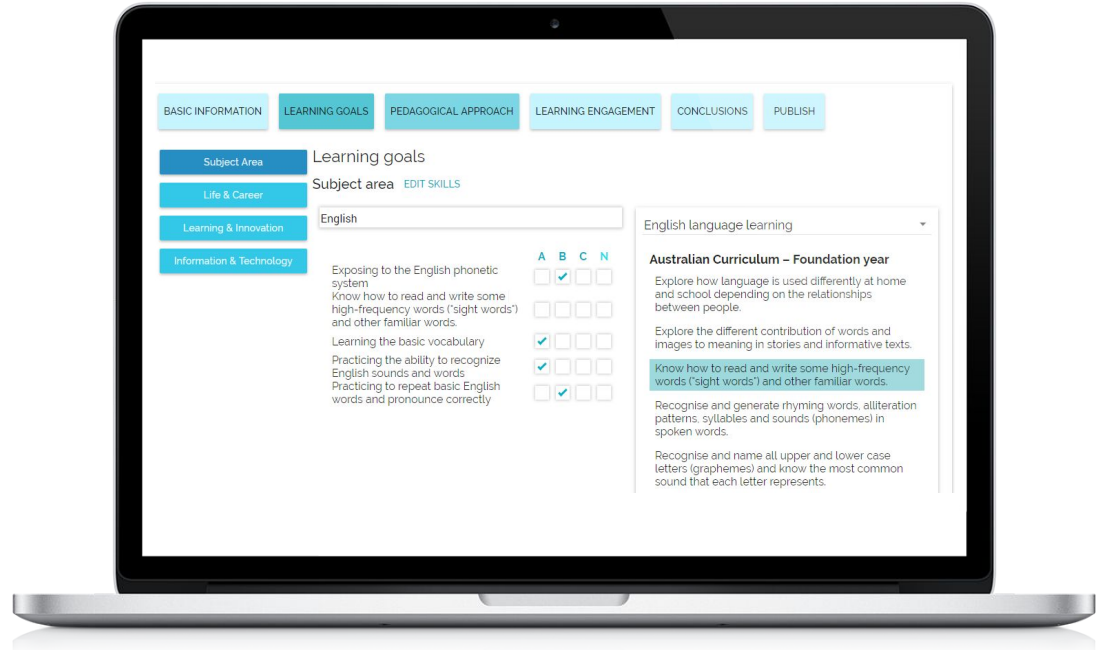
Learning Goals

Matching the learning goals

The evaluator maps the product's learning goals against a specific curriculum/curriculums.

All supported skills are listed and classified as *didactic (A-level)* or *facilitative (B-level)* goals.

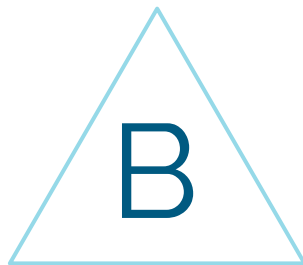
The Kokoa Tool has several hundred skills listed from various national curriculums on several subjects (Languages, STEM, Arts etc.)





Primary Goals

Content is instructional and didactic: Learning of these skills is constantly present in the core usage.



Secondary Goals

Content is partly instructional, partly facilitative: Learning of these skills is present in the core usage, but not essentially and constantly stressed.



Non-Existing

Content does not exist: Learning these skills would be a meaningful part of the use of the solution, but they are missing.












Subject Area

Business & entrepreneurship




Subject area - Primary skills

Business management - IB Curriculum - Finance and accounts

1. Role of finance for businesses: capital expenditure and revenue expenditure. 
2. Short, medium and long-term finance. 
3. The following types of cost, using examples: fixed, variable, semi-variable, direct, indirect/overhead. 
4. Total revenue and revenue streams, using examples. 
5. The purpose of accounts to different stakeholders. 
6. The difference between profit and cash flow. 
7. The following strategies for dealing with cash flow problems: reducing cash outflow, improving cash inflows, looking for additional finance. 

 = Primary goal: content is didactic


 = Secondary goal: content is facilitative



Subject area - Primary skills

Business management - IB Curriculum - Finance and accounts

- 9. Cash flow forecasts  A
- 10. Variances,  A
- 11. The following external sources of finance: share capital, loan capital, overdrafts, trade credit, grants, subsidies, debt factoring, leasing, venture capital, business angels  B
- 12. The appropriateness, advantages and disadvantages of sources of finance for a given situation  B

 A = Primary goal: content is [didactic](#)

 B = Secondary goal: content is [facilitative](#)



Subject area - Primary skills

Business management - IB Curriculum - Business organization and environment

1. The student understands the role of businesses in combining human, physical and financial resources to create goods and services 
2. The student understands the role of entrepreneurship (and entrepreneur) and intrapreneurship (and intrapreneur) in overall business activity 
3. The student understands the main business functions and their roles: human resources, finance and accounts, marketing and operations 
4. The student understands the reasons for starting up a business or an enterprise 
5. The student understands the common steps in the process of starting up a business or an enterprise 
6. The student understands the problems that a new business or enterprise may face 
7. The need for organizations to change objectives and innovate in response to changes in internal and external environments 







 = Primary goal: content is didactic

 = Secondary goal: content is facilitative




Subject area - Primary skills

Business management - IB Curriculum - Business organization and environment

- 8. The student understands the elements of a business plan  B
- 9. Vision statement and mission statement  B
- 10. Aims, objectives, strategies and tactics, and their relationships.  B
- 11. The reasons why organizations set ethical objectives and the impact of implementing them  B
- 12. The merits of small versus large organizations.  B
- 13. The student understands the nature of business activity in each sector and the impact of sectoral change on business activity  B

 A = Primary goal: content is didactic


 B = Secondary goal: content is facilitative



Subject area - Primary skills

Business management - IB Curriculum - Marketing

1. Market share  A
2. How marketing strategies evolve as a response to changes in customer preferences.  A
3. The role of marketing planning  B
4. An appropriate marketing mix for a particular product or business.  B
5. How organizations can differentiate themselves and their products from competitors  B
6. Marketing and its relationship with other business functions  A
7. The difference between commercial marketing and social marketing  B
8. The differences between marketing of goods and marketing of services  B






 A = Primary goal: content is [didactic](#)


 B = Secondary goal: content is [facilitative](#)




Subject area - Primary skills

Business management - IB Curriculum - Human resource management

1. The key functions of management  A
2. Human resource planning (workforce planning)  A
3. Management versus leadership  B
4. Common steps in the process of recruitment  B
5. How financial and non-financial rewards may affect job satisfaction, motivation and productivity in different cultures  B



 A = Primary goal: content is [didactic](#)


 B = Secondary goal: content is [facilitative](#)



Subject area - Primary skills

Business management - IB Curriculum - Operations management

1. Operations management in organizations producing goods and/or services 
2. Operations management strategies and practices for ecological, social (human resource) and economic sustainability 





 = Primary goal: content is [didactic](#)


 = Secondary goal: content is [facilitative](#)




Subject area - Primary skills

Economics - Cambridge IGCSE - The allocation of resources: how the market works; market failure

1. define price elasticity of demand and supply and perform simple calculations.  A
2. demonstrate the principle of equilibrium price and analyse simple market situations with changes in demand and supply  A
3. describe the causes of changes in demand and supply conditions and analyse such changes to show effects in the market  B
4. describe the concept of market failure and explain the reasons for its occurrence.  A






 A = Primary goal: content is [didactic](#)

 B = Secondary goal: content is [facilitative](#)




Subject area - Primary skills

Economics - Cambridge IGCSE - The individual as producer, consumer and borrower

1. describe the functions of central banks, stock exchanges, commercial banks  B
2. describe the functions of money and the need for exchange  B
3. describe the differences in earnings between different groups of workers (male/female; skilled/unskilled; private/public; agricultural/manufacturing/services)  B
4. identify the factors affecting an individual's choice of occupation (wage factors and non-wage factors)  B
5. analyse the different motives for spending, saving and borrowing  B





 A = Primary goal: content is didactic

 B = Secondary goal: content is facilitative




Subject area - Primary skills

Economics - Cambridge IGCSE - The private firm as producer and employer

1. describe the type of business organisation in the public and private sectors: sole trader (proprietor), public limited companies, multinationals, cooperatives, state-owned enterprises (public) 
2. define total and average cost, fixed and variable cost and perform simple calculations, 
3. describe the characteristics of perfect competition and monopoly 
4. describe what determines the demand for factors of production 
5. distinguish between labour-intensive and capital-intensive production, 
6. describe the main reasons for the different sizes of firms (size of market, capital, organisation) 



 = Primary goal: content is didactic


 = Secondary goal: content is facilitative




Subject area - Primary skills

Economics - Cambridge IGCSE - Basic economic problem: choice and the allocation of resources

1. evaluate the implications of particular courses of action in terms of opportunity cost. 
2. Define opportunity cost and analyse particular circumstances to illustrate the concept 

 = Primary goal: content is [didactic](#)

 = Secondary goal: content is [facilitative](#)




Life & Career

Cross Cultural Skills and Global Awareness / Cross-Disciplinary Thinking / Wellbeing and Sustainable Development / Work life skills and Entrepreneurship / Social Skills /




Life & Career skills

Work life skills and Entrepreneurship

1. Learning to plan and organize work processes  A
2. Practicing decision making  A
3. Practicing versatile ways of working  B
4. Connecting subjects learned at school to skills needed at worklife  A
5. Practicing time management  B
6. Learning consumer knowledge and smart economics  A
7. Encouraging positive attitude towards work life  A
8. Realizing the connection between subjects learned in free time and their impact to skills needed at worklife  A

 A = Primary goal: content is [didactic](#)


 B = Secondary goal: content is [facilitative](#)




Life & Career skills

Social Skills

1. Practicing to work with others  A
2. Learning to listen other people's opinions.  A
3. Learning decision-making, influencing and accountability  A
4. Practicing to express own thoughts and feelings  B
5. Practicing to give, get and reflect feedback  B
6. Enabling the growth of positive self-image  B
7. Practicing to argument clearly own opinions and reasonings.  A
8. Practicing communication through different channels  B
9. Learning to understand the meaning of rules, contracts and trust  B

 A = Primary goal: content is [didactic](#)


 B = Secondary goal: content is [facilitative](#)




Wellbeing and Sustainable Development

1. Learning to face failures and disappointments.




B


 = Primary goal: content is [didactic](#)


 = Secondary goal: content is [facilitative](#)



Cross-Disciplinary Thinking




1. Practicing to notice causal connections 
2. Learning to build information on top of previously learned 
3. Practicing to notice links between subjects learned 

 = Primary goal: content is [didactic](#)

 = Secondary goal: content is [facilitative](#)



Cross Cultural Skills and Global Awareness

1. Encouraging to build new information and visions. 
2. Learning to face respectfully people and follow the good manners. 
3. Learning to understand people, surroundings and phenomenons around us. 



= Primary goal: content is [didactic](#)



= Secondary goal: content is [facilitative](#)








Learning & Innovation

Creativity and Innovation / Learning to Learn / Critical Thinking & Problem Solving /



Critical Thinking & Problem Solving





1. Developing problem solving skills 
2. Practicing to notice causal connections 
3. Practicing to look things from different perspectives 
4. Practicing strategic thinking 
5. Learning to find solutions in social conflicts 
6. Learning to recognise and evaluate arguments and their reasonings 
7. Practicing to create questions and make justifiable arguments based on observations 
8. Practicing to plan and execute studies, make observations and measurements 


 = Primary goal: content is [didactic](#)

 = Secondary goal: content is [facilitative](#)



Learning to Learn

1. Practicing persistent working  A
2. Learning to find the joy of learning and new challenges  A
3. Practicing to evaluate one's own learning  B
4. Practicing to take responsibility of one's own learning  A

 A = Primary goal: content is [didactic](#)


 B = Secondary goal: content is [facilitative](#)



Cognitive and thinking skills

1. Learning to notice causal connections.

A


 = Primary goal: content is [didactic](#)

 = Secondary goal: content is [facilitative](#)



Creativity and Innovation

1. Practicing to improvise  B
2. Encouraging students to be innovative and express new ideas  B
3. Practicing to use imagination and to be innovative  B
4. Practicing to use imagination and to be innovative  B

 A = Primary goal: content is [didactic](#)

 B = Secondary goal: content is [facilitative](#)







Information & Technology


ICT Literacy /




ICT Literacy - Primary skills

ICT Literacy




1. Using technology resources for problem solving  A
2. Using technology as a part of explorative and creative process  A
3. Using technology for interaction and collaboration  A
4. Using technological resources for finding and applying information  B


 A = Primary goal: content is [didactic](#)

 B = Secondary goal: content is [facilitative](#)



Multimodal Literacy






1. Practicing logical reasoning to understand and interpret information in different forms 
2. Using technology as a part of explorative and creative process 
3. Understanding and interpreting of matrices and diagrams 


 = Primary goal: content is [didactic](#)


 = Secondary goal: content is [facilitative](#)



Media and Information Literacy

1. Practicing to use information independently and interactively  A
2. Practicing to find, evaluate and share information  B
3. Learning to view and consider media and advertising critically  B
4. Familiarizing with the influences of media and understanding its affordances  B
5. Learning to plan and design own written content and textual representations  B

 A = Primary goal: content is [didactic](#)

 B = Secondary goal: content is [facilitative](#)

Pedagogical Approach

Assessing the pedagogy

Pedagogical Approach » Subject Area
Passive - Active Hide this parameter ⊖

Fully A lot o A little Not at all Ignore

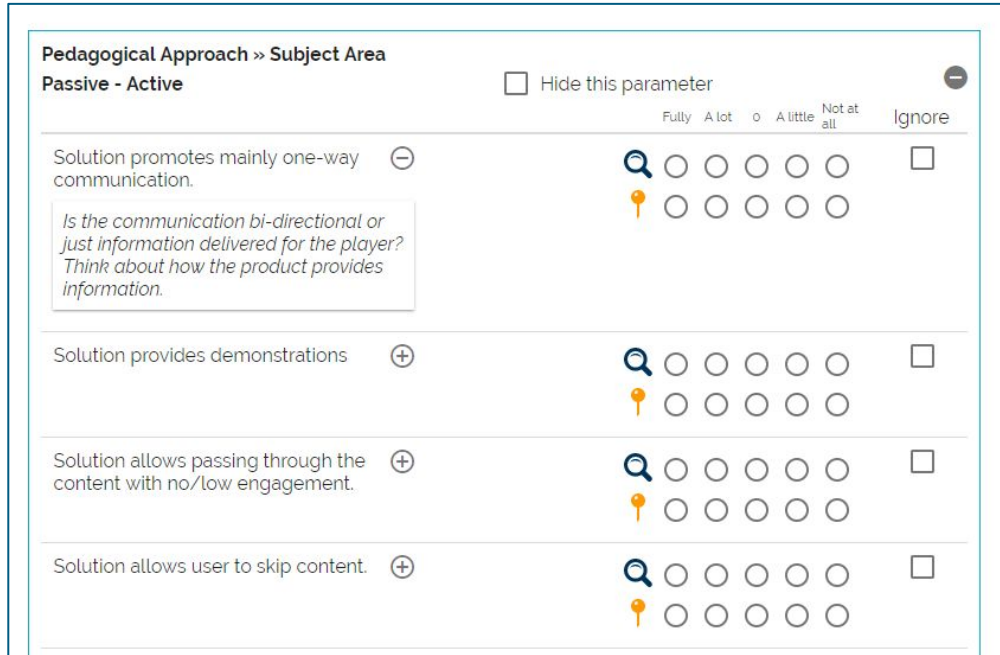
Solution promotes mainly one-way communication. ⊖

*Is the communication bi-directional or just information delivered for the player?
Think about how the product provides information.*

Solution provides demonstrations ⊕

Solution allows passing through the content with no/low engagement. ⊕

Solution allows user to skip content. ⊕



The screenshot shows a web-based assessment interface. At the top, it is titled 'Pedagogical Approach » Subject Area' with a sub-section 'Passive - Active'. There is a checkbox 'Hide this parameter' and a minus sign icon. Below this, there are four rows of assessment items. Each row has a statement on the left, a search icon (magnifying glass) and a pin icon (orange), and a Likert scale of five radio buttons. The scale is labeled 'Fully', 'A lot', 'o', 'A little', and 'Not at all'. To the right of each scale is an 'Ignore' checkbox. The first item is 'Solution promotes mainly one-way communication.' with a minus sign icon and a text box containing a question about bi-directional communication. The other three items are 'Solution provides demonstrations', 'Solution allows passing through the content with no/low engagement.', and 'Solution allows user to skip content.', each with a plus sign icon.

The evaluator answers a set of statements to assess the product's pedagogical approach.

The answers to the questions result to a numeric score on each parameter. The parameters are shown as contrary pair sliders.

The assessment is divided into four parameters:

- 1. Passive – Active**
- 2. Rehearse – Construct**
- 3. Linear – Non-linear**
- 4. Individual – Collaborative**

The set of questions and definitions, have been developed by researchers from the Helsinki University.

Criterion definition

Q **Passive / Active**

Passive: Learner in an observant role

Active: Learning by doing

Q **Individual / Collaborative**

Individual: Learner is learning by her- or himself

Collaborative: Requires collaboration with other learners

Q **Linear / Non-linear**

Linear: Proceeding linearly through repetitive tasks

Non-linear: Supports free exploration and finding solutions in variable ways.

Q **Rehearse / Construct**

Rehearse: Practicing earlier learned

Construct: Learning and constructing new concepts

How to read the contrary pair analysis?

Individual



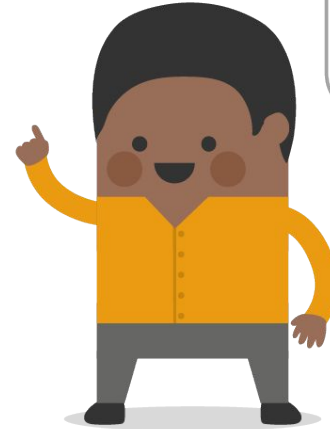
The magnifier tells where the product currently positions the learner, in the pedagogical dimension.



Collaborative



The pin shows where the product should position the learner according to the pedagogical principles.



The Rating Scale



-80

Fair

There are crucial issues with the pedagogical approach. Improvements are necessary in order to achieve high educational quality.



80+

Good

The pedagogical approach is valid. However, many improvements could be made in order to improve this aspect of learning experience.



90+

Excellent

The pedagogical approach is innovative and meaningful. Some improvements could be made in order to improve this aspect of learning experience.



95+

Outstanding

Product is exceptionally innovative and provides high educational value. The content is delivered in an extremely meaningful and engaging way.



Passive - Active: 88/100 = Good

Passive



Active

Strengths: In Revas Simulation the students are making decisions on running their own company. Each round requires completing several steps before finishing, which makes it impossible to pass through the content with no engagement. In order to progress and make smart decisions the learners are required to acquire and use new information, which allows the learner to be in a very active role. The new information is delivered on the simulation, but also by the teacher - the simulation is meant to be controlled by the teacher and the teacher will explain the concepts related.

Supplier "Big"

Show 10 entries

Search:

Resource name	Quality	Resource requirement	Price	Order	Unit of measure	Value
Accommodation - Bulgaria	☆☆☆	6 nights per person	60	<input type="text" value="0"/>	night	0
Accommodation - Bulgaria	☆☆☆	6 nights per person	66	<input type="text" value="0"/>	night	0
Accommodation - Bulgaria	☆☆☆	6 nights per person	73	<input type="text" value="0"/>	night	0
Accommodation - Croatia	☆☆☆	6 nights per person	100	<input type="text" value="0"/>	night	0
Accommodation - Croatia	☆☆☆	6 nights per person	106	<input type="text" value="0"/>	night	0
Accommodation - Croatia	☆☆☆	6 nights per person	110	<input type="text" value="0"/>	night	0
Accommodation - Egypt	☆☆☆	6 nights per person	90	<input type="text" value="0"/>	night	0
Accommodation - Egypt	☆☆☆	6 nights per person	94	<input type="text" value="0"/>	night	0
Accommodation - Egypt	☆☆☆	6 nights per person	99	<input type="text" value="0"/>	night	0
Accommodation - Greece	☆☆☆	6 nights per person	100	<input type="text" value="0"/>	night	0
TOTAL						0

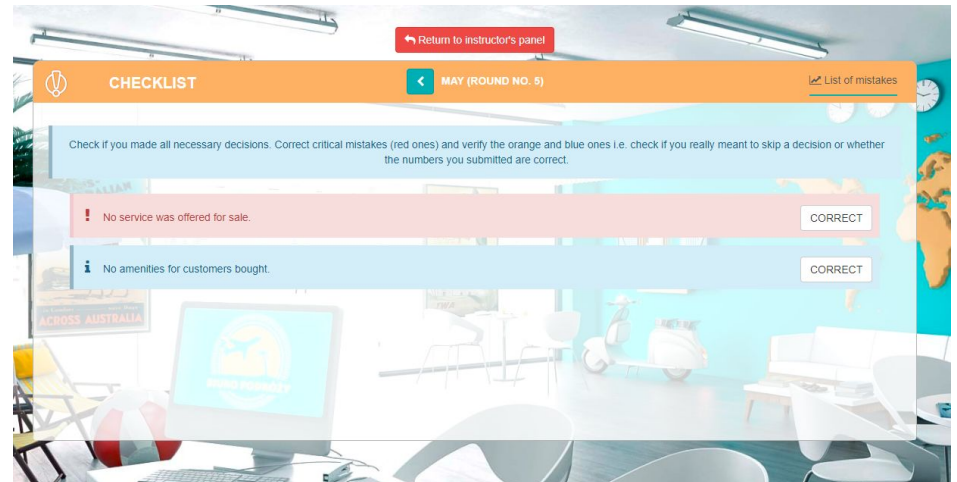
Previous 1 2 3 4 5 ... 20 Next



Passive - Active: 88/100 = Good



Development areas: As the progress is very teacher-led, the students' choices are slightly limited. Currently the simulation doesn't offer additional learning materials targeted to the students. It would be nice to have for example worksheets or terminology summaries which would help getting started. The simulation itself doesn't provide instructions to get started - it is expected that the tutoring is done by the teacher. The approach is justified, since many of the concepts (such as Ledger) will be taught by the teacher, but for the future development it could be considered that the simulation could be made easier for the students to play more independently.





Rehearse - Construct: 94/100 = Excellent



Development areas: Although the simulation includes plenty of parameters and allows lot of choices, many of the choices are based on calculations and you can succeed by optimizing numbers. It is also possible to play more intuitively by trial and error approach, but this rarely leads to good results - although it's still possible to learn lot of things. However, the way the simulation is played leaves out the creative and innovative side of business management. For example, how to create unique offering or brand your business. There are some aspects which take this into account, for example the specialized vacations and amenities you can offer, and writing a mission statement. These could be emphasis even more and they could have even more effect on the game play.



Linear - Non-linear: 93/100 = Excellent



Development areas: Each team can decide, how much effort they want to put on making the decision. This makes the progress and results between the players quite different. The game also includes mechanisms for the teacher to prevent progress, which can be good to keep the situation more balanced between players, and because the delivery of information greatly depends on the teacher. However, it would be nice if the game would actively reward spending time on it especially if the teams could progress more independently and more supported by the game. This could be taken into consideration as a future development direction.

Info: Not all teams have completed the round. [▶ Advance to next round](#) [🔒 Lock](#) [🔒 Set readonly mode](#)

📄 Company name ▲	☆ Current round ▾	📊 Current result ▾	🚫 Status ▾	☑ Teams with a completed round ▾	👤 Players ▾	
BestTravel	Round: 5 <div style="width: 42%;"><div style="width: 42%;"></div></div> 42%	0.000	inactive	🔒	👁	📄 Team preview
Nenna Travel	Round: 5 <div style="width: 42%;"><div style="width: 42%;"></div></div> 42%	0.000	inactive	🔒	👁	📄 Team preview
Team 3	Round: 5 <div style="width: 42%;"><div style="width: 42%;"></div></div> 42%	0.000	inactive	🔒	👁	📄 Team preview
Team 4	Round: 5 <div style="width: 42%;"><div style="width: 42%;"></div></div> 42%	0.000	inactive	🔒	👁	📄 Team preview
Team 5	Round: 5 <div style="width: 42%;"><div style="width: 42%;"></div></div> 42%	0.000	inactive	🔒	👁	📄 Team preview



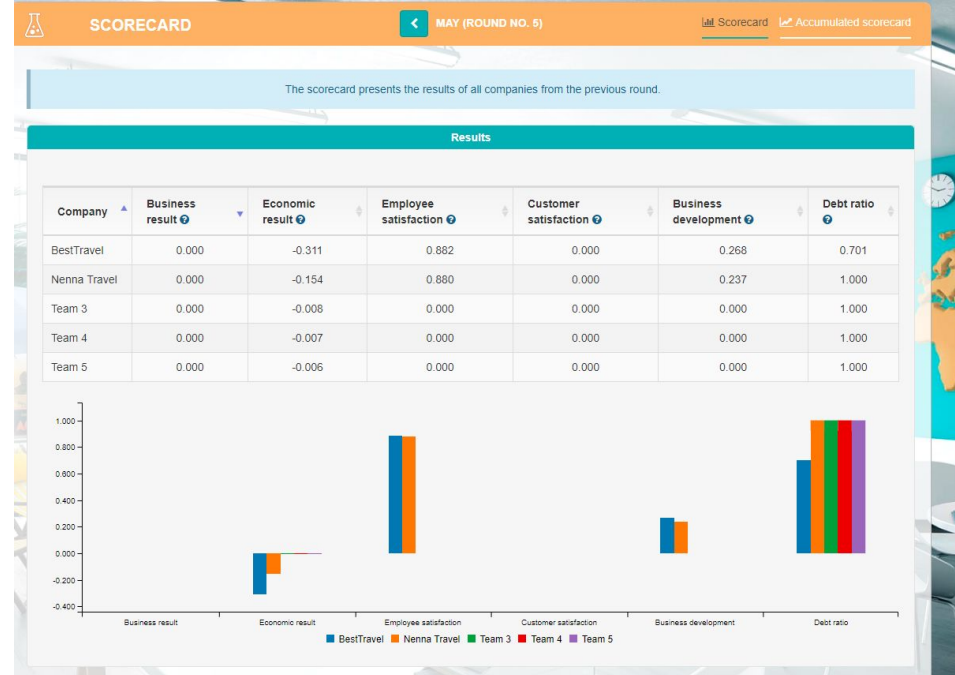
Individual - Collaborative: 91/100 = Excellent

Individual



Collaborative

Strengths: The game is instructed to be played in small teams with teams competing against other teams. Each team can act and progress autonomously, and the results are compared after each round. The solution encourages teamwork and collaborative analytical thinking and problem-solving, and in many cases working in teams makes the usage much easier, since each team member can take care of one area to manage (eg. HR, supplies and so on). The teamwork and competition against other teams makes the learning experience very motivating and is one of the great strengths of the product.





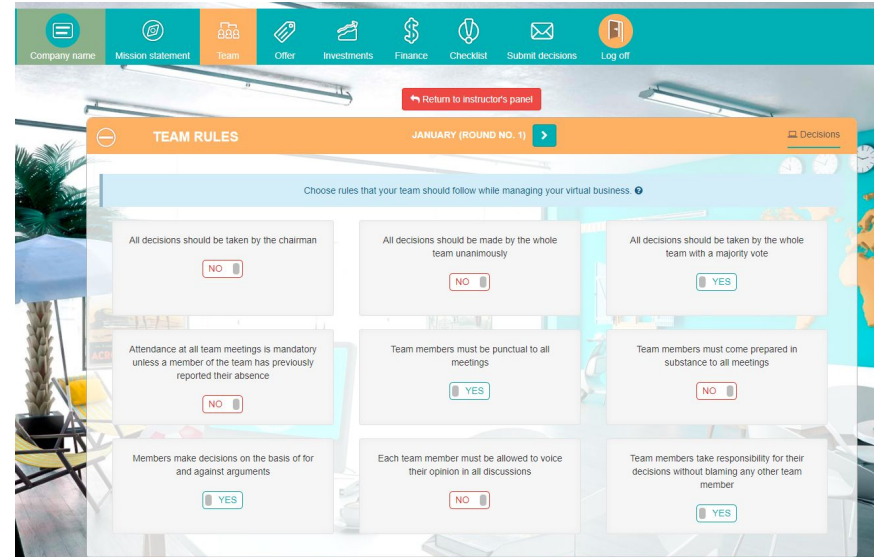
Individual - Collaborative: 91/100 = Excellent

Individual



Collaborative

Development areas: Currently all team work is done face-to-face - there's no digital channels for collaboration. Some simple mechanisms could be added, for example, a way to assign a responsibility area to a certain team member. Currently it's possible to set a company role, but this doesn't have an effect to the game play. The simulation is rather difficult to play individually. Often it would be important to see several views of the game at once to make decisions. In teams this works, but not when played by yourself. However, since teamwork is in the core of learning on the product, individual play is a secondary situation.



Learning Engagement

The Six Aspects of Learning Engagement

Q **Autonomy**

Feeling that the user's actions in the product are based on their own decisions rather than feeling there is external pressure to choose a certain action.

Q **Competence**

The user can feel capable and effective in their actions rather than feeling incompetent or ineffective.

Q **Relatedness**

Feeling that in the product there is meaningful contact with people who care about you rather than feeling lonely and uncared for. You can also feel connection with fictional characters and events in the product.

Q **Respect**

Feeling that the product takes the user into account as a capable and desired actor rather than feeling that the user's opinions and experiences are neglected.

Q **Stimulation**

Feeling that the product offers plenty of enjoyment and pleasure rather than feeling bored and understimulated by the product.

Q **Safety**

Feeling that the product is a safe environment for having fun and trying out things rather than feeling uncertain of the consequences or threatened by other users.

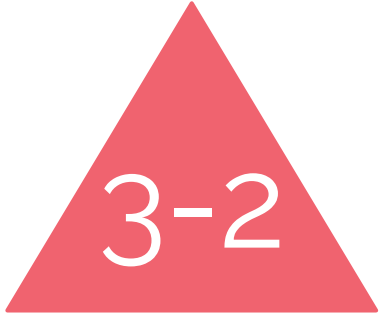
The Rating Scale



5-4

Well supported

There are several well executed features which support this aspect of learning engagement



3-2

Supported

The product takes into account this aspect of learning engagement. Some improvements could be made in order to make the support better.



1

Not Supported

There are issues with the learning engagement in this area.



Autonomy

Score: 4.22/5 = Well supported

The players actions in the product are based on their own decisions rather than feeling external pressure to choose a certain action.

Main strengths

Score

- | | | |
|----|---|-----|
| 1. | It is possible to make choices, and the different choices have clearly different and meaningful outcomes. | 4.7 |
| 2. | The product motivates the use well. | 4.7 |

The product motivates the use well. It's easy to see, which factors affect the success of your business and the steps to take are clearly visible. The new features increase motivation to go forward.



Autonomy

Score: 4.22/5 = Well supported

The players actions in the product are based on their own decisions rather than feeling external pressure to choose a certain action.

Main development areas

Score

- 1. It is possible to use creativity and express yourself when using the product,

3

The creative side of business development and more innovative strategies are left bit short. It would be nice if different teams could succeed with clearly different strategies. For example the choice of hotels seemed bit artificial - the difference between 1 and 3 stars wasn't really significant. There's no customization for foreexample different target groups (pensioners, families etc.). The process is rather teacher-led at the moment. It could be made more autonomous for the learner by adding more guidance (instructions, short videos etc) in the solution itself, to allow better for a more independent use, too.



Competence Score: 3.92/5 = Supported

Feeling that you are very capable and effective in your actions rather than feeling incompetent or ineffective

Main strengths

Score

- | | | |
|----|---|-----|
| 1. | Experienced and advanced users can find more challenge in the product. | 4.3 |
| 2. | It is possible to feel successful and proud of myself when I am using the product. | 4.3 |
| 3. | The challenges and tasks in the product feel optimal for the targeted users, | 4.3 |

The simulation feels very realistic and suitable for the targeted users. The UI is quite polished and once all activities are explained, its easy to remember how the round proceeds and what to do.



Competence Score: 3.92/5 = Supported

Feeling that you are very capable and effective in your actions rather than feeling incompetent or ineffective

Main development areas

Score

- | | | |
|----|---|-----|
| 1. | The first time experience is encouraging and it is easy to learn to use the product. | 3.3 |
| 2. | The product gives you enough information to use it efficiently. | 2.7 |

The first time experience depends a lot on the teacher's ability to explain the functions. The navigation is easy as such, and the UI is quite clear. However, there are lot of screens which the teams need to view at the same time to make decisions (eg. view their Offer to select right Suppliers), and this might be cumbersome. The first rounds are a bit wearing and you can make lasting mistakes at the start if you are not paying enough attention. Is it possible to undo a round from individual groups?



Relatedness Score: 4.56/5 = Well supported

The product supports meaningful contact with people who about your actions rather than feeling that the contact is one-sided or meaningless. The user can feel connection with fictional characters and events in the product.

Main strengths	Score
1. The product provides examples or motivation to learn the skill it tries to teach.	5
2. The product supports social interaction, such as multiplayer or sharing of content with other people. . .	4.7
3. The story or fictional world present in the product motivates learning.	4

Collaboration and communication in group is supported naturally. The visual looks are clear and fresh, although some of the screens include quite a lot of text.



Relatedness Score: 4.56/5 = Well supported

The product supports meaningful contact with people who about your actions rather than feeling that the contact is one-sided or meaningless. The user can feel connection with fictional characters and events in the product.

Main development areas

Score

1. The product uses language which makes you feel welcome and cared for. 4

The fictional world (for example the fictional workers) could be more entertaining and fun, "game-like" even though it is a simulation. There could be for example messages or reviews from clients ("Our family had a great holiday, thank you"), which could add to immersion and give also verbal feedback which could be learned from ("The vacation was nice, but next time I'd like a better hotel").



Respect

Score: 4.2/5 = Well supported

Feeling that the product takes the user into account as a capable and desired actor rather than feeling that the user's opinions and experiences are neglected.

Main strengths

Score

- | | | |
|----|--|-----|
| 1. | The product doesn't have bugs which cause errors or crashing. | 4.7 |
| 2. | The product doesn't make assumptions on player's age, gender, race or origin. | 5 |

The content on the game is very suitable for different kinds of learners and the choice of business (car repair, hair saloon etc.) allows variation based on the learner group. The travel agency offers a neutral yet familiar background for those learners, who are more interested in learning about business without any specific area in mind. The game works perfectly without any bugs.



Respect

Score: 4.2/5 = Well supported

Feeling that the product takes the user into account as a capable and desired actor rather than feeling that the user's opinions and experiences are neglected.

Main development areas

Score

1. The product gives clear feedback on all your actions.

3

Sometimes it's hard to know, what is missing. Especially moving between Offer and Supply becomes really cumbersome, and the game doesn't tell, if you have selected everything needed for each of your holidays. A minor mistake may have really big consequences. The game requires lot of calculating of things. Interpreting the results is solely the player's responsibility - there could be more support and information available.



Stimulation

Score: 3.92/5 = Supported

Feeling that you get plenty of enjoyment and pleasure rather than feeling bored and understimulated by the product.

Main strengths

Score

- | | | |
|----|---|-----|
| 1. | The product's graphics, sounds and other elements support the narrative and user experience in a meaningful way and are pleasant. | 4.3 |
| 2. | The product encourages exploring it further..... | 4.3 |

The simulation looks very good and the overall game is great for high school students and those who practice business and entrepreneurship in their studies.



Stimulation

Score: 3.92/5 = Supported

Feeling that you get plenty of enjoyment and pleasure rather than feeling bored and understimulated by the product.

Main development areas

Score

1. The user doesn't unnecessarily need to repeat things which they have already learned 3

Some of the tasks repeat themselves a bit too much. For example, choosing the supplies became tedious and laborious rather soon. The game is meant to be played teacher led, so most likely its not possible to play it more than once. It would be nice to be able to play it again to improve your score - however, there's lot of rounds, so there are lot of changes to practice.



Safety

Score: 4/5 = Supported

Feeling that the product is a safe environment for having fun and trying out things rather than feeling uncertain of the consequences or threatened by other users

Main strengths

Score

- 2. The user does not lose any hard-won rewards or results if they do something wrong. 4.3

The users actions are saved and when played face to face in teacher led teams, the communication works well.



Safety

Score: 4/5 = Supported

Feeling that the product is a safe environment for having fun and trying out things rather than feeling uncertain of the consequences or threatened by other users

Main development areas

Score

- 2. Making errors is beneficial. Everytime you make an error, you learn something from it, **3.7**

Errors feel bad as they make your company's results sink. The game could be more supportive in pointing out, where the errors are and also helping to avoid small mistakes. However, since there are plenty of rounds and lot of choice to make, it's possible to correct your actions.

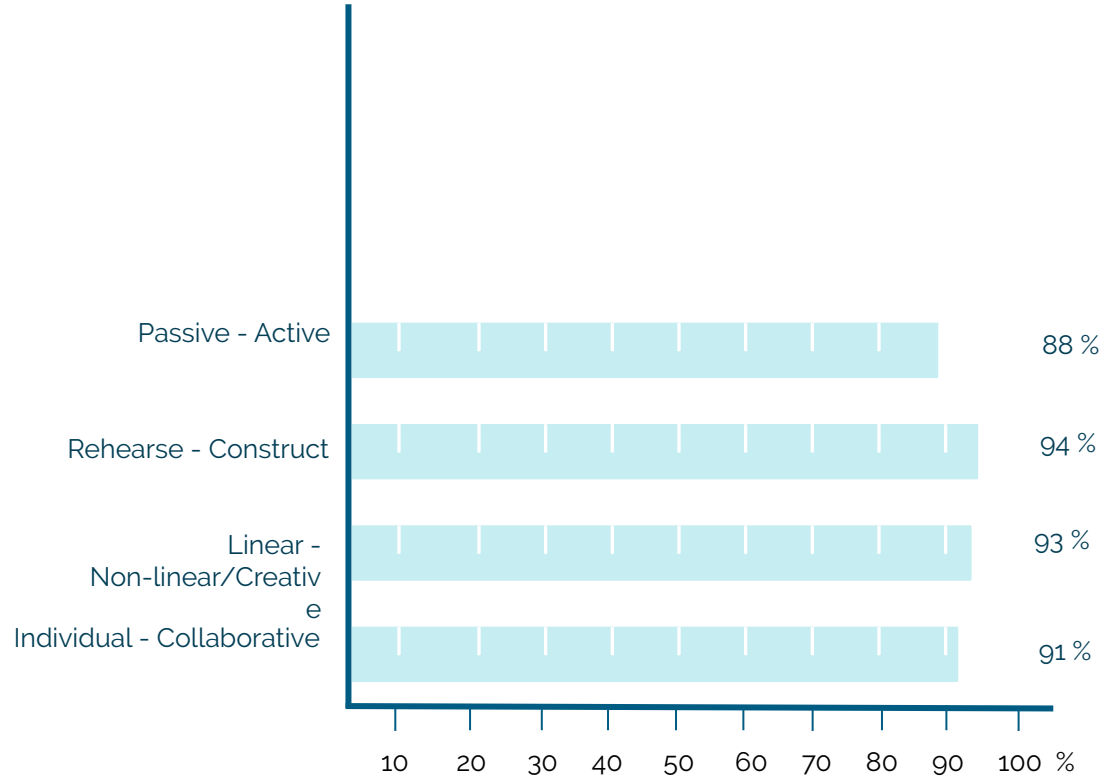


Results

Combined scores of pedagogical dimensions:

- Business & entrepreneurship: 12 skills
- Life & Career: 9 skills
- Learning & Innovation: 4 skills
- Information & Technology: 1 skills

The score explains how product performs when considering different pedagogical dimensions. According to the analysis, the main development needs are to **make students role more active**



Revas Business Simulation Game

High Educational Quality Aspects



1. The solution is a motivating hands-on introduction to entrepreneurship and running a business. It teaches a wide variety of core business functions in a very activating way.
2. Success in the simulation requires hard work, collaboration and decision making, which makes learning very effective.
3. The teacher can flexibly explain several key concepts about business using the simulation and also broaden the topics to cover more where they see fit.

Pedagogical Approach

91 %

Learning Engagement

4.12



According to Education Alliance Finland evaluation, Revas Business Simulation Game represents high educational quality and is proven to promote learning efficiently.

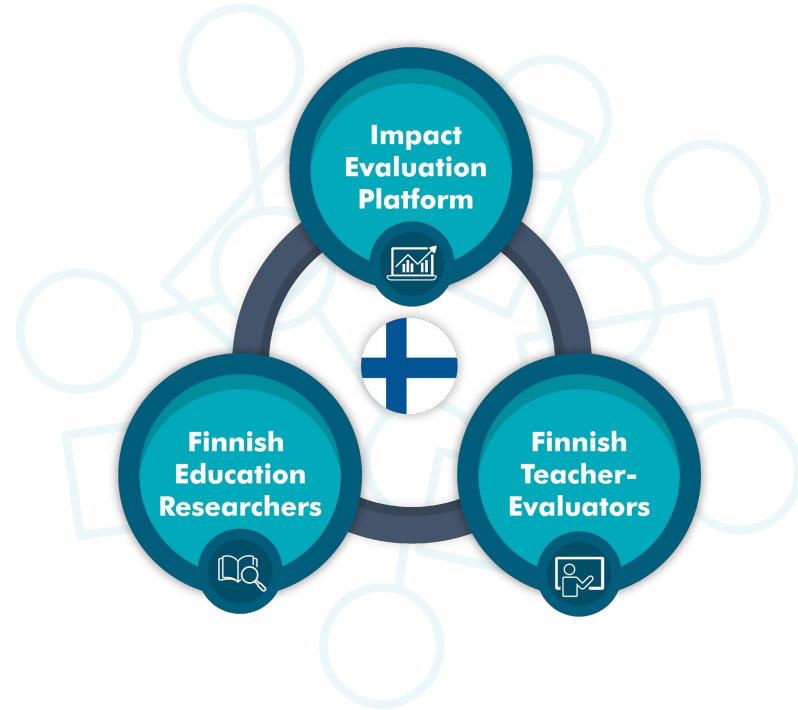


Background

*Expert Evaluation of **what** the solution teaches and **how** it teaches?*

Education Alliance Finland
conducts impact
evaluations based on
global quality standard for
learning solutions

Education Alliance Finland



Expert Evaluation and Rating

The analysis of how the product supports learning of different skills is done by using a contrary pair criterion. The evaluator uses contrary pairs to diagnose skill-specifically the pedagogical approach which the product represents. The diagnose is done by using slider between contrary pairs, setting the slider in a position that describes the product's approach. Evaluator uses the same slider to describe the best possible approach and gives a rate (0-100) on how adequate approach the product has.

All diagnoses and ratings are done by two expert-evaluators separately. After all skills are diagnosed through the criterion, evaluators discuss and form a concluding diagnose of two separate evaluations.

The rating points out the strengths and development areas, mirroring them with the needs of education field and product development possibilities. After pointing out the development areas, the analysis gathers suggestions on how to improve the product.

Outcomes

- Q Defining **what** and **how** the product teaches
- Q Analysis of features which **engage** the learners
- Q Pointing out the strengths and development areas
- Q Giving validation for building the marketing message

Pedagogical Model and Learner Perception

In the first phase of the analysis evaluators are forming product related statements to define a variation of skill sets that the use of the product supports. The base of the statements is formed upon definitions of 21st century skills, Finnish pedagogics and existing research evidence related to the product. The reason for using the mentioned influencers is that they represent the needs of the education field globally.

In the second phase the same influencers are used to develop the criterion for evaluation how the product supports learning of different detected skills. Finnish new curriculum represents a learner perception based on most advanced understanding of efficient pedagogical approach and therefore it can set the highest quality standards for education tools.

Pedagogical approach - Passive / Active

Regarding the role of the student, we characterize the learning solution as promoting learning that is situated somewhere on the scale between *passive* and *active*. As key components determining the characteristics of the solution on this scale we use *accountability*, *behavioural engagement* and *emotional engagement*.

Agency	Behavioural engagement	Emotional engagement
<i>Autonomy</i>	<i>Interactivity</i>	<i>Activating motivation</i>
<i>Self-regulation</i>	<i>Engagement</i>	<i>Sustaining motivation</i>
<i>Intentionality</i>	<i>Scaffolding</i>	<i>Feed forward</i>

Passive



Active

Pedagogical approach - Rehearse / Construct

Regarding the learning activities, we characterize the learning solution as promoting learning that is situated somewhere on the scale between rehearse and construct. As key components determining the characteristics of the solution on this scale we use sparking of interest, building of knowledge and reflection of learned.

Interest	Knowledge building	Reflection
<i>Activating interest</i>	<i>Defining goals</i>	<i>Reflection</i>
<i>Mapping prior knowledge</i>	<i>Applying existing knowledge (adaptation/assimilation)</i>	<i>Decision-making</i>
<i>Customisation</i>	<i>Knowledge creation</i>	<i>Difficulty optimisation</i>

Rehearse



Construct

Pedagogical approach - Individual / Collaborative

Regarding the learning activities, we characterize the learning solution as promoting learning that is situated somewhere on the scale between individual and collaborative. As key components determining the characteristics of the solution on this scale we use interaction, responsibility and regulation.

Interaction	Responsibility	Regulation
<i>Interaction</i>	<i>Accountability</i>	<i>Self / co-regulation</i>
<i>Fostering collaboration</i>	<i>Peer support</i>	<i>Personal / shared learning goals</i>
<i>Content sharing</i>	<i>Information sharing</i>	<i>Independency / co-dependency</i>

Individual



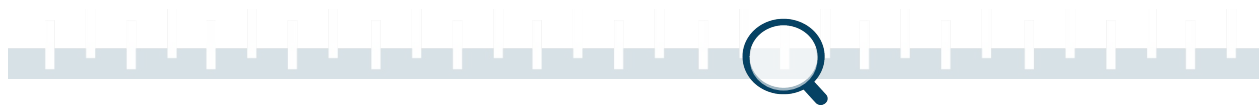
Collaborative

Pedagogical approach - Linear / Non-linear

Regarding the learning process, we characterize the learning solution as promoting learning that is situated somewhere on the scale between linear and non-linear. As key components determining the characteristics of the solution on this scale we use procession and predictability.

Process	Predictability
<i>User progression</i>	<i>Predictability of outcomes</i>
<i>UX optimisation</i>	<i>UX limitations</i>

Linear



Non-linear

Assessing User Happiness

The user experience evaluation is done from the perspective of the user happiness. The evaluation assesses, how fun and engaging an product is to use, and it is suitable for entertainment games, learning games and utility apps,.

The evaluation focuses on things the users are able to do in the product, and how these features make the users feel. It takes into account the general usability of the products, but looks behind issues which are not essential for the experience. Therefore this type of evaluation is also suitable for proof of concept -state prototypes and ideas.

The evaluation report serves as a tool for the design and development team. It shows what are the features that support the user happiness the best, and how they do it. It will also point out things that hinder the happiness, and ways the experience could be improved.

Sources: The aspects of player happiness are from Hassenzalh, Marc et all: Designing Moments of Meaning and Pleasure. Experience Design and Happiness. International Journal of Design Vol. 7 No. 3 2013

Autonomy	<i>The user's actions in the product are based on their own decisions rather than feeling there is external pressure to choose a certain action.</i>	
1. The user can create their own goals for the use.		4. The product sets limitations for using it when and where I want to, and the limitations feel unnecessary or annoying.
2. The product motivates the use well		5. It is possible to make choices, and the different choices have clearly different and meaningful outcomes.
3. It is easy to understand, what is the goal in using the product.		6. It is possible to use creativity and express yourself when using the product.

Sources: The heuristics are adapted from the following sources:

Korhonen, Hannu & M. I. Koivisto, Elina. (2006). [Playability heuristics for mobile games.](#)

Inostroza, Rodolfo et al (2012). [Usability Heuristics for Touchscreen-based Mobile Devices.](#)

Nielsen, Jacob. (1994a). [Enhancing the explanatory power of usability heuristics.](#)

Competence *Feeling that you are very capable and effective in your actions rather than feeling incompetent or ineffective*

1. The product rewards the user in a meaningful way and according to the challenge	5. Progression on the product depends on succeeding on things relevant for learning.
2. The product gives you enough information to use it efficiently.	6. The first time experience is encouraging and it is easy to learn to use the product
3. Navigation in the product is easy and intuitive.	7. It is possible to feel successful and proud of myself when I am using the product.
4. The challenges and tasks in the product feel optimal for the targeted users	Experienced and advanced users can find more challenge in the product.

Sources: The heuristics are adapted from the following sources:

Korhonen, Hannu & M. I. Koivisto, Elina. (2006). [Playability heuristics for mobile games.](#)

Inostroza, Rodolfo et al (2012). [Usability Heuristics for Touchscreen-based Mobile Devices.](#)

Nielsen, Jacob. (1994a). [Enhancing the explanatory power of usability heuristics.](#)

Relatedness *In the product there is meaningful contact with people who care about your actions rather than feeling that the contact is one-sided or meaningless. The user can feel connection with fictional characters and events in the product.*

1. The story or fictional world present in the product motivates learning

4. The product supports social interaction, such as multiplayer or sharing of content with other people

2. The product uses language which makes you feel welcome and cared for.

5. The product provides examples or motivation to learn the skill it tries to teach.

3. The visuals and characters in the product are suitable for targeted users.

6. The product supports communication with other people and there are good reasons to communicate

Sources: The heuristics are adapted from the following sources:

Korhonen, Hannu & M. I. Koivisto, Elina. (2006). [Playability heuristics for mobile games.](#)

Inostroza, Rodolfo et al (2012). [Usability Heuristics for Touchscreen-based Mobile Devices.](#)

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Respect

Feeling that you are very capable and effective in your actions rather than feeling incompetent or ineffective

1. The product gives clear feedback on all your actions

4. The product is suitable for both inexperienced and experienced users. Players can eg. skip tutorials or choose wanted difficulty levels

2. The product doesn't make assumptions on player's age, gender, race or origin.

5. The product doesn't have bugs which cause errors or crashing.

3. The product doesn't include discriminative narrative or enforce unnecessary stereotypes

Sources: The heuristics are adapted from the following sources:

Korhonen, Hannu & M. I. Koivisto, Elina. (2006). [Playability heuristics for mobile games.](#)

Inostroza, Rodolfo et al (2012). [Usability Heuristics for Touchscreen-based Mobile Devices.](#)

Nielsen, Jacob. (1994a). [Enhancing the explanatory power of usability heuristics.](#)

Stimulation

Feeling that you get plenty of enjoyment and pleasure rather than feeling bored and understimulated by the product.

1. The product encourages exploring it further

4. The user doesn't unnecessarily need to repeat things which they have already learned

2. The product's challenge level is optimal for the targeted users, or it can be chosen

5. The product's graphics, sounds and other elements support the narrative and user experience in a meaningful way and are pleasant.

Sources: The heuristics are adapted from the following sources:

Korhonen, Hannu & M. I. Koivisto, Elina. (2006). [Playability heuristics for mobile games.](#)

Inostroza, Rodolfo et al (2012). [Usability Heuristics for Touchscreen-based Mobile Devices.](#)

Nielsen, Jacob. (1994a). [Enhancing the explanatory power of usability heuristics.](#)

Safety

Feeling that the product is a safe environment for having fun and trying out things rather than feeling uncertain of the consequences or threatened by other users.

1. Making errors is beneficial. Everytime you make an error, you learn something from it

4. The user does not lose any hard-won rewards or results if they do something wrong.

2. There is a way to report and possibly block misbehaving users.

5. If the user shares content - their work, their comments or anything else - it is always clear, who has access to the shared content.

3. The product doesn't include content or advertising which would be harmful for the targeted users

6. The user cannot make irreversible errors. Points that lead to restarting the use or re-doing things without a considerable effort should not be possible

Sources: The heuristics are adapted from the following sources:

Korhonen, Hannu & M. I. Koivisto, Elina. (2006). [Playability heuristics for mobile games.](#)

Inostroza, Rodolfo et al (2012). [Usability Heuristics for Touchscreen-based Mobile Devices.](#)

Nielsen, Jacob. (1994a). [Enhancing the explanatory power of usability heuristics.](#)

The white paper article describes the theoretical background of the evaluation.



HOW TO DESIGN ENGAGING EDUCATIONAL SOLUTIONS?
December 7th 2017

How to Design Engaging Educational Solutions?

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HOW TO DESIGN ENGAGING EDUCATIONAL SOLUTIONS?

Abstract

The aim of this white paper is to examine the key components in designing good educational solutions. In this paper, we define a framework to guide educational solution design processes from the viewpoint of educational psychology. More precisely, we present the key components in designing a quality educational solution, as well as a pedagogical model, that can be used as the framework in design. Well-designed educational solutions have the power to foster or even transform goal-oriented learning pursuits, but not without good pedagogical design. Therefore, the design process should take into account the research on learning and pedagogy and pursue to implement good practices in order to promote and support learning. This can be achieved by designing solutions to implement a pedagogical model such as the engaging learning model. We conclude that instead of developing the most popular product, learning solution design should focus on trying to identify the goals and find the best way to help students of all ages and levels reach them.

Keywords: engaging learning, educational solution, educational solution design, pedagogical practices, educational psychology, engaging learning model

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