TOTCOOP +i Tech

Gamification of Learning Assessment

Foreword:

The ToTCOOP+i_Tech Project 2018-2020 is a continuation of the ToTCOOP+i Project (A Strategic Partnership for Innovating the Training of Trainers of European Agri-Food Co-operatives).

It is a collaboration of seven partners from six European countries which aim to strengthen and adapt to the digital era, the pedagogical, methodological and procedural capabilities of the trainers of associations or organisations that offer training and consulting services to agri-food co-operatives.

The partnership is made up of associations and organisations representing the agri-food co-operative sector. Partner organisations include:

1. **AGACA** – the Galician Association of Rural Cooperatives in Spain.
2. **Changemaker AB** – a consultancy organisation in Sweden.
3. **Grifo-multimedia**, S.r.l. – a technology organisation in Italy.
4. **ICOS** – the Irish Co-operative Organisation Society in Ireland.
5. **LLKC** – the Latvian Rural Advisory and Training Centre in Latvia.
6. **MedAtlantia** – a consultancy organisation in Spain.
7. **SNRSS** – the Association of Social Cooperatives in Poland.

The ToTCOOP+i_Tech Project aims to continue fulfilling the needs of the sector by improving the current training offer delivered by partners to the directors of the Agri-Food Co-operatives.

General Objectives of the Project:

1. To transform the current offer of Continuing Vocational Training in the co-operative sector at EU level into exceptional training based on the use of technology and in the new models of the digital era.

2. To strengthen the capabilities of Business Administration of the Board of Directors, Members from agri-food co-operatives, through their direct involvement in the training process.

The Project Beneficiaries

The project is aimed at mangers and trainers of the participating organisations, associations of rural co-operatives, public entities at local/regional/national level, young people working in the co-operative sector, members of small and medium of agri-food cooperatives, managers of social co-operatives and their associated directors.

The ToTCOOP+i_Tech Project 2018-2020 is funded by Erasmus +, the main EU programme in the field of Education and Vocational Training.

The Expected Results

The project aims to deliver several resources to support the transfer of knowledge amongst the beneficiaries of the project. These include:

- 1 x Infographic Handbook of innovative technological resources for training (with, at least, 10 digital learning tools included)

- 1 x Handbook of Best Practices in Learning Innovation

- 10 x Video materials, as interactive training materials in digital environment to be used to support the trainer in their face-to-face classes

- 1 x digital serious game, with 50 boxes of knowledge activities (5 boxes for each one of the 10 Didactic Unit developed by ToTCOOP+i Project)

- 1 x Didactic App for smartphone, based on gamification

- *10 x Gamification tools for training assessment (1 for each Didactic Unit)*

- Technological tools contents translated to Spanish, Polish and Latvian

Table of Contents:

Director Development Training

The ToTCOOP+i Project saw the development of an EU benchmarked programme aimed specifically at directors of co-operatives. The programme was targeted mainly at agricultural co-operatives, but also included a variety of other co-operatives, such as housing co-operatives, social co-operatives, education and training co-operatives and rural development areas.

The training units include:

Unit 1 – Legal Provisions

Unit 2 – Performance of the Role of Directors

Unit 3 – Financial Risk Management

Unit 4 – Financial Reporting

Unit 5 – Strategic Planning

Unit 6 – Marketing Management

Unit 7 – Management of Agricultural Policy

Unit 8 – Management of Financing and Investments

Unit 9 – Strategic Risk Management

Unit 10 – Communications

It is the basis of these training units that we are considering tools for the gamification of learning assessment.

Theory behind Learning Assessment

When considering the various formats of learning assessment, a critical aspect of this, is to identify what it is we are trying to measure.

Fundamentally learning assessment is about measuring the transfer of learning, which should be based on the objectives of the learning materials being presented. The purpose of learning assessment is ensure that the learner has gained clear understanding of the learning materials presented.

Learning assessment can be done through a variety of ways, to include but not limited to group discussions, learner feedback, skills demonstrations, examinations, learning journals and games.

It should be noted that learning assessment is different to learning evaluation and it is vital that the two concepts are not confused.

Gamified Learning Assessment by Unit

The ToTCOOP+i_Tech Project is tasked with developing 10 x gamification tools for learning assessment. Below you will find a description of the 10 x learning units and the gamifications tools identified to assess the relevnt learning outcomes for each of the 10 x units.

Learning Units & Gamification tools

Unit	Gamified Assessment Tool
Unit 1 – Legal Provisions	Kahoot Game – Legal Provisions
Unit 2 – Performance of the Role of Directors	Co-operative Challenge Game
Unit 3 – Financial Risk Management	Giant Match Up's
Unit 4 – Financial Reporting	Creative Explanations
Unit 5 – Strategic Planning	Dice Game
Unit 6 – Marketing Management	Marketnetics Game
Unit 7 – Management of Agricultural Policy	Kahoot Game – Agricultural Policy
Unit 8 – Management of Financing and Investments	Skittles - Investment Risk Game
Unit 9 – Strategic Risk Management	Guess the Risk Game
Unit 10 – Communications	Mega Brawl Game

Gamification of Learning Assessment

1. Dice Game – Strategic Planning

How to Play:

Each Team is given two dice.

The dice are thrown in turns and whichever total number it lands on, 1 person from the team must speak about the corresponding topic for at least 45 seconds, based on the training which has been delivered.

All persons should have at least 2-turns to speak about different topics.

Throwing the Dice:

Team A start by throwing 1 dice only

Team B starts by throwing two dice.

On the next respective round each team swaps the number of die thrown.

Team A = 2

Team B = 1

This continues until each participant has had at least two turns. Participants may not repeat what has already been said about each topic.

Assessing the learning objective:

The aim of this game is to assess, that learners have clearly understood the learning materials covered within the classroom and other learning platforms. It also allows for the tutor to repeat critical information about topics.

2. Kahoot – Legal Provisions

How to Play:

The trainer logs into www.kahoot.com and logs into their account. Trainer then goes to "my kahoots" and selects the relevant game and click's "Play".

Trainer then selects Classic or Team Mode.

Note: If game will be player vs player (all players against each other and have their own device), Select Classic or if Team vs Team (this is when players are sharing devices amongst a number of players), Select Team Mode.

All players then go to www.kahoot.it and enter the relevant game pin.

The trainer can now go through the assessment questions and players answer the questions.

This game is based on multiple choice questions, of which the answers are colour and symbol coded, both on screen (trainer) and learner devices.

Learners are awarded points based on correctness of answers and speed in which they answered the questions. It should be noted that as learners answer the questions, they are automatically told if their answers were correct of incorrect. The trainer is also able to see how many correct or incorrect answers were given. This allows the trainer the opportunity to have a group discussion about the various answers given and reiterate the correct answer. Once the trainer clicks "next", a leader board is displayed, before going to the next question.

The game ends when all the questions have been answered and a winner is declared.

If the game end in a tie, the trainer can ask single questions until an ultimate winner is found.

Assessing the learning objective:

The aim of this game is to assess, that learners have clearly understood the learning materials covered within the classroom and other learning platforms. It also allows for the tutor to repeat critical information about topics.

3. Co-operative Challenge – Performance of the Role of Directors

How to Play:

Two teams of equal numbers (one die)

First Team to go – based on who's birthday is up next. (This will become Team A and the other Team will be Team B)

One player from Team A then selects a playing card and reads the phrase on the card. Keep this safe and do not share with your team.

Team B then rolls the dice. Based on the number, this then selects the category for Team A to use. The players from Team A must then guess the phrase, as described by their player. You have 2-minutes to do this.

Scoring:

3 points for every phrase correctly guessed by the team enacting.

If not guessed, the Opposition Team may take a guess.

To Win:

The first Team to 30 Points wins the game

The key Aspects involved in playing the game:

1. Act out the Phrase (based on Charades)
2. Draw the Phrase (based on Pictureka)
3. Factology – List two facts about the Phrase
4. Gnilleps – Spell out the phrase backwards
5. Players Choice of 1-4
6. Opposition Teams Choice of 1-4

Assessing the learning objective:

The aim of this game is to bring some fun into the assessment process and to assess, that learners have clearly understood the learning materials covered within the classroom and other learning platforms. It also allows for the tutor to repeat critical information about topics.

4. The Mega Brawl Game – Communications

How to play:

Each player takes three Character Cards and Three Super Power Cards and then chooses their best character and superpower. Thereafter each player takes an additional general attribute card. This completes their selection.

Let the battle's begin:

The players then debate/ argue to outline why they believe their respective character should be crowned the winner of the "Mega Brawl".

Both players argue and plead their cases about why their character would win the battle.

Once the arguing is done, the other learners vote on who the winner is.

This can be played as a single group game or in smaller groups.

For each "Brawl" won, the player gets 1 point. The Mega Brawl continues with the next opponent until a Player reaches 5 points.

To make it more interesting you can play a round-robin knock-out version of the game, until an Ultimate Winner is established. This is best played between various groups.

Assessing the learning objective:

The aim of this game is to assess, that learners have clearly understood the learning materials covered within the classroom and other learning platforms. It also allows for the tutor to repeat critical information about the learning topic.

5. Guess the Risk Game – Strategic Risk Management

How to play:

Risk Cards are placed on a Central table. Each player is given a Assessment Answer Sheet.

The tutor draws a risk card and then reads out the description on the card. Based on the information provided learners are required to identify the related risk and to write down their individual answers on the assessment answer sheets.

To vary the intensity of the game, the tutor can give additional clues or information or even reduce the amount of clues or information given. Similarly, the tutor can also give a different example of the risk factors describing this risk.

Once all cards or risk factors are complete, learners can swap assessment sheets and the tutor can go through each answer individually. This will allow for discussion and exploration on the types of answers given by learners.

Risk Categories

Risk Categories to be Included are:

- Operational Risk
- Reputational Risk
- Fraud & Improper Conduct
- Environmental Risk
- Compliance Risk
- Market Risk
- Competition Risk
- Technology Risk
- Health & Safety Risk
- Fire
- Slips, Trips & Fall
- Workplace Accident
- Co-operative Risk
- Financial / Economic Risk
- People Risk
- Business Continuity Planning
- Management Succession Planning

Assessing the learning objective:

The aim of this game is to assess, that learners have clearly understood the learning materials covered within the classroom and other learning platforms. It also allows for the tutor to repeat critical information about topics.

6. Kahoot – Management of Agricultural Policy

How to Play:

The trainer logs into www.kahoot.com and logs into their account. Trainer then goes to "my kahoots" and selects the relevant game and click's "Play".

Trainer then selects Classic or Team Mode.

Note: If game will be player vs player (all players against each other and have their own device), Select Classic or if Team vs Team (this is when players are sharing devices amongst a number of players), Select Team Mode.

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7. Skittles Investment Risk Game – Management of Financing & Investments

In finance, risk versus return is the idea that the amount of potential return is proportional to the amount of risk taken in a financial investment.

Conventional wisdom says that the riskier the investment, the higher the payout. But the opposite is also true. The riskier the investment, the bigger you can lose. The odds are good that if an investment carries a lot of risk, that it could go very well, or very, very badly for you.

Is it better to invest in low-risk investments with low returns to assure that you preserve your capital (the money you invested in the first place), or are high-risk investments better performing choices over the long run?

Playing the Risk Versus Return Game

Object of the Game

Learners are trying to get the most candy by the end of play.

Learners earn a predetermined number of candies each time they correctly predict which number will be rolled on a dice. More candies are rewarded if they guess correctly with fewer tries.

Each Learner is given 20 candies to begin the game.

The skittles at the beginning of the game represent investment capital.

The game will be played in 10 short rounds. (Adjust to suit your schedule)

Players must "pay to play". 1 candy is subtracted from the tally sheet during each round of play.

The object is to see who has the most candies at the end of the game, and to keep track of the way they earned their candies. The Learners get to keep and eat their candies at the end of play. If you are playing with a large class, you may need to adjust the numbers, or buy a very large bag of candy.

Note: this game could also be played with paper money from a novelty store.

Number of Players

You may play with as many Learners as you like.

Supplies for Learners

- Tally chart for each Learner
- Pen or Pencil
- 20 candies per Learner

Supplies for trainers

- A large bag of candy
- A standard, six-sided die, preferably a large one.

How to Play

A. Explain to Learners that they are going to play a risk versus return game.
B. They will each start the game with 20 candies. They can choose to play as many rounds as they wish, or not. Playing costs 1 piece of candy.
C. During each round, they will have a chance to predict the number you will roll on the die. Before the round begins, each Learner must decide how many guesses they will use, then mark their numbers on the tally sheet. The numbers on the sheet represent the numbers on the die.
D. The more guesses a Learner selects, the less candy they will get for their correct prediction. If they don't guess the correct number, they will lose candies during that round.

   In summary: Fewer guesses means higher risk, but greater reward. More guesses mean lower risk, but also lower reward.

E. The worksheet is a tally sheet for each Learner and provides a place for them to total their game score. The ROI Chart shows the number of candies (the return) that Learners can get for their risk-taking. Each Learner will tally their progress during each round of the game using simple addition and subtraction. (See Tally Sheet)
F. Have each Learner keep track of the numbers they want to guess before you roll the die.

Rules

Learners guess as many numbers as they want. Learners Mark an "x" in the box showing their number guess(es). The more numbers they guess, the more chances they have to win, but the fewer possible candies they can win. See the ROI Chart.

Playing the Game

- Roll the die and announce the number you rolled to the Learners playing the game. Enlist the aid of a helper if this makes the game more exciting.
- Put an "O" next to the number rolled.
- Each round, keep track of how many candies you win in the Candies Won box.
- Have the Learners track the number of candies they won during each round, then add up their totals at the end of the game.
- Each Learner should receive the number of candies they won during the game. You may want to have sandwich bags or disposable cups on hand to hold their winnings.

Note:

For safety Reasons when playing with Candy, make the investment capital "Virtual", until the end of the game. This will reduce the passing of candy from hand to hand.

After Game Play - Debriefing

If you have a large class, ask the Learner with the highest and lowest returns about their game strategy.

Did they have a strategy?

What was their strategy and why?

Did their strategy work? Why or why not?

How does risk impact financial objectives?

What conditions can cause company success or failure?

What are the different roles and responsibilities involved in risk decisions?

Related Activities

- Create a chart showing each Learner's total number of guesses compared to their total return. Try to determine if there is a correlation.
- Ask Learners to explain in their own words how this game relates to investing money.
- How did their respective strategy pay off? Did they have more skittles at the beginning or the end of the game?
- Which Learner won. What strategy did they use?
- What if someone decided not to play at all. What are the pros and cons of this approach?

Assessing the learning objective:

The aim of this game is to assess, that learners have clearly understood the learning materials covered within the classroom and other learning platforms. It also allows for the tutor to repeat critical information about topics.

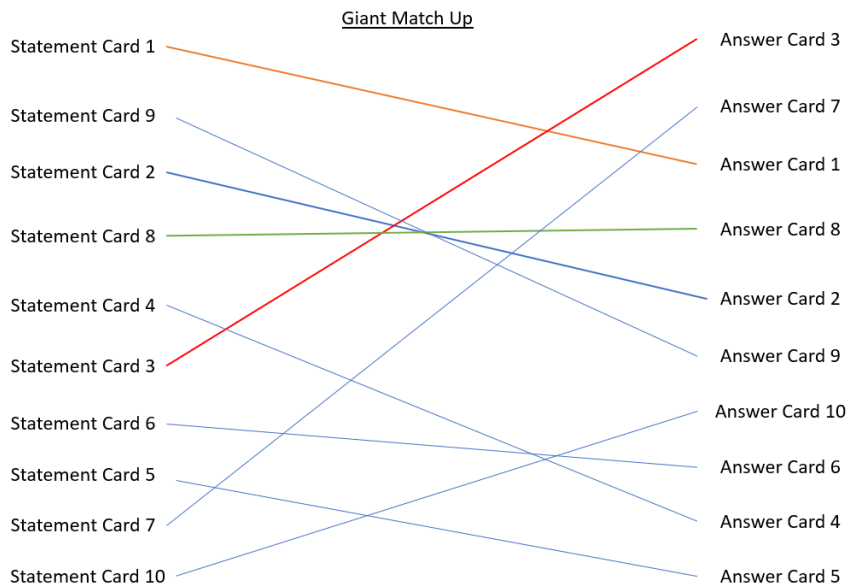# 8. Giant Match Up's – Financial Risk Management

How to Play

Divide the group into smaller teams of 3-4 people. Each team is tasked to match the statement / definition cards with the correct answer cards. Both sets of cards must be shuffled to ensure they are properly mixed.

Game Set up:

The trainer places the cards on the floor.
Place the statement / definition cards on the floor on one side of the room.
On the other side of the room place all the answer cards.

Playing the Game:

Learners are required to link the statement / definition cards to the correct answer card, by connecting a piece of rope between the two sets of cards.

Giant Match Up

Statement Card 1	Answer Card 3
Statement Card 9	Answer Card 7
Statement Card 2	Answer Card 1
Statement Card 8	Answer Card 8
Statement Card 4	Answer Card 2
Statement Card 3	Answer Card 9
Statement Card 6	Answer Card 10
Statement Card 5	Answer Card 6
Statement Card 7	Answer Card 4
Statement Card 10	Answer Card 5

After Game Play - Debriefing

Once all groups have completed their tasks, do a check in with the group as a whole, as to the correct answers and also discuss why they may have thought of their respective answers. Explore other options from learners as to other possible answers or statements that may have been used instead for each of the options.

Assessing the learning objective:

The aim of this game is to assess, that learners have clearly understood the learning materials covered within the classroom and other learning platforms. It also allows for the tutor to repeat critical information about topics.

9. Marketnetics Game – Marketing Management

How to Play

Divide the group into smaller teams of 3-4 people. Each team is tasked to come up with a new product idea that's related to a production co-operative but not a reality yet. Each team is given two hours to create a marketing plan for the product that includes advertising slogans, publicity and sales strategies, including markets.

Picking a winner:

The winner (team) is the team that can get the most "comments / likes" to their presented product/plan through the ToTCOOP+i_Tech Social Media Page in the shortest time.

Assessing the learning objective:

The aim of this game is to assess, that learners have clearly understood the learning materials covered within the classroom and other learning platforms. It also allows for the tutor to repeat critical information about topics.

10.   Creative Explanations – Financial Reporting

How to Play

Divide the group into smaller teams of 3-4 people. Each team is given 5 minutes to come up with a creative way to explain the topic given. This is done either through song, drama or poetry, but is essential that teams cover the key components of their respective topic within their creative explanations.

Teams then present their topic to the rest of the class.

After Game Play - Debriefing

Once all teams have completed their creative explanations, the trainer should give feedback and raise a discussion with the larger group about the topics presented. Explore if anything was left out by each of the team's explanations' of their topic and seek alternatives from the larger group about how other might have approached the same topic.

Remind everyone that the game based assessment was two-fold, in assessing their learning but also "Just a little fun"

Assessing the learning objective:

The aim of this game is to assess, that learners have clearly understood the learning materials covered within the classroom and other learning platforms. It also allows for the tutor to repeat critical information about topics.

Variation of the Game: – Minimal Summaries

Divide the group into smaller teams of 3-4 people. Each team is given 5 minutes to come up with a creative way to explain the same topic given, in as few words as possible, but emphasise to each team, the importance of the topic being understood by others.

Teams then present their topic to the rest of the class. The teams with the shortest word count wins.

The trainer can create a score card, such as best out of five, to create a bit of competition among teams and to harness their creativity.

Conclusions:

Whilst learning assessment is about measuring the transfer of knowledge and it needs to be structured, learning can be fun and equally the assessment of learning can be fun.

The assessment of learning through the use of gamification creates another dimension to the paradigm of learning design. It engages learners in way that brings out creativity, competition and the yearning for success, whilst assessing the achievement of learning objectives in a fun and collaborative way.

In particular, when learning is very content heavy and tutor cantered, the use of a game to assess learning allows for a blended approach as considered through the design stages of the learning initiative, thus enabling learner interaction and engagement.

At its core, creating a learning environment conducive to learning through a blended approach is a key element of the transfer of knowledge. Learning assessment, be it through formal assessment or gamifications measures the achievement of those learning outcomes and the transfer of knowledge. The game-based learning assessments outlined above, will do exactly that.

Assessments don't have to be boring and formal, or pressurise learners into being able to pass the assessment. A holistic approach to learning is far better and a fun and exciting game will allow for learners to demonstrate the learning achieved.

Learning by doing (in a game-based assessment) addresses a variety of learning styles and reinforces the learning through the recall memory function. A win/win for all.

"Tell me and I forget. Teach me and I remember. *Involve me* and I learn."

- Benjamin Franklin