



LLP Leonardo da Vinci Project SCOGATT
Serious Computer Games as a Teaching Tool
TOI UK/11/LLP-LdV/TOI 497



TEACHER TRAINING PROGRAMME

IMPROVING EDUCATION WITH SERIOUS COMPUTER GAMES



Glossary

SCOGATT	Serious Computer Games as a Teaching Tool
SCG	Serious Computer Games
VET	Vocational Education and Training
LdV	Leonardo da Vinci
LLP	LifeLong Learning Programme
TOI	Transfer of Innovation
GBL	Game Based Learning

1 Introduction

The SCOGATT Teacher Training Programme is a document produced in the scope of SCOGATT TOI Project. It provides a training programme as a practical instrument for SCG using in VET as part of the Project delivered as part of the Leonardo TOI project as part of the LLP.

The Teacher Training Programme as an instrument aims to provide to the vocational teachers, other educators and other members of interdisciplinary teams a coherent planning approach in how to implement SCG in education - combining theory, practical examples and practice on using SCOGATT games.

The exemplar game for the SCOGATT TOI is EnerCities, a SCG originally funded by the IEE of the European Commission. This game can be found at www.enercities.eu.

2 Training goals and expected outcomes

Target group(s): VET teachers, educators

Goal: To aid educational planning and teaching using Serious Computer Games (SCG) in VET

Learning Outcome(s)

Trainees will be expected to :

- to comprehend requirements for SCG use in class,
- to overcome resistance in VET institutions ,
- to select games for teaching subject,
- to practice using a given SCG,
- to prepare own lessons using SCG;
- to asses and evaluate the use of a SCG.

3 Preparation for the teacher training

(linked to module 3: Task 2, 3, 4, 5)

- Arranging to work with SCG in VET, eg finding SCG, getting permission for dowloads or internet access, computer lab, etc
- Identifying specific conditions for delivering SCG in VET, eg space available, time, computer lab, time allocation, number of participants, context (i.e. part of educational programme)
- Identifying specific target group: male, juvenile, women, foreign nationals, students with special needs, etc.

- Coping with regulations, eg material & equipment needed, kind of activities allowed, eg. internet access
- Working with VET staff: administration, educational staff, support staff, etc.
- Preparing/ planning programmes/ individual sessions (linked to Guidelines module 2.3)
- Identifying trainees' capabilities & skills needs (linked to Guidelines module 2.3)
- Identifying delivery strategies (linked to Guidelines module 1)
- Identifying equipment & material requirements (linked to Guidelines module 1)
- Identifying staff support if need
- Benefits of achieving SCG related outcomes
- Organising facilities for practicing SCG related outcomes
- Organising internal/external events for recognition SCG outcomes, eg. competition between classmates/among schools/other organisations
- Recognising SCG related outcomes
- Evaluating process of SCG intervention
- Evaluating outputs of SCG intervention
- Processing feedback from participants
- Processing feedback from intervention organisers
- Processing impact from others/ outsiders, eg VET authorities, general public

SESSION ELEMENTS

Recommended modules/Topics for Teacher Training Programme

1. The role of SCG within VET education
2. The specific conditions/problems of working in VET, including different target groups (male/female, different ethnic groups, etc.)
3. The history of SCG in (VET) education
4. The impact of SCG in (VET) education
5. The skills capable to deliver SCG in VET, including for students with learning difficulties
6. SCG and critical thinking in VET
7. Where & how these aims are best placed
8. The level of critical thinking to be expected in a VET environment: from the learner, the VET teachers, the other participants, & what obstacles to critical thinking are to be faced
9. What adopting a critical, reflexive daily practice means to deliverers/ teachers/ trainers/ mentors, specifically within the context of a VET
10. How critical reflective thinking is instilled in the participants, including beyond the students interventions

4 Session Plans

Scenario 1 (Classical Scenario)

1. **Starting with a goal.** Introduction to the course's goals. Encouraging participants to discuss the topic, check pre-existing knowledge and what knowledge/skills are needed to achieve the goal. Ask 'what do the *teachers/trainers* want to do with SCG?'
2. **Providing information about the topic.** Providing authentic resources such as documents, academic articles, web links. Also get their opinion and questions.
3. **Presenting learning with SCG (EnerCities) example.** This covers:
 - demonstration of how the situation could unfold
 - description of the potential consequences (essentially the lo-fi version of the above)
 - coaching and feedback (you did X, here's why that's a mistake, think about a different approach) – we've talked about how to structure effective feedback in an earlier tip.
4. **Showing how EnerCities can be used in learning context.** Demonstrate the learning example to make it memorable. This could be:
 - demonstration of how the situation (in environment, natural resources) could unfold
 - description of the potential consequences
 - coaching and feedback (you did X, here's why that's a mistake, think about a different approach) – we've talked about how to structure effective feedback in an earlier tip.
5. **Taking it further:** Helping teachers to learn how to create own lesson plan. Provide useful for teaching with SCG links which could be advice from an expert.
6. **Course assessment and evaluation, teachers' feedback.**

Course/Unit:	SCOGATT/Enercities
Information on group specific to the session: (e.g. <i>learning support needs, learning levels,</i>	A varying range of background subject areas should be considered

access needs		<ul style="list-style-type: none"> - a diverse group of individuals - varying levels of computer competency ranging from novice to adept, be sure to cover the basics 			
Learning outcomes of the session:		Using serious games in the classroom Introduction and awareness of serious games			
Time (mins)		Teaching and learning activity	Differentiation method	Check learning by:	Resources / Equipment
15	1.	Serious Computer Games and Learning environments: Philosophy and definition of SCG			Projector Handouts Presentation
15	2.	Obstacles to Adoption of Games and how to overcome the barriers			Projector Handouts Presentation
15	3.	Challenges in SCG adaptation in Pedagogy			Projector Handouts Presentation
15	4.	How to overcoming resistance in school	Competant users will build at their own pace however others not so familiar may need coaxing or basic instructions to get the game underway	Observation	Projector Handouts Presentation
15	5.	Lessons to overcome pedagogy chalanges		Direct questioning	Projector Handouts Presentation
30	6.	Computer Games Across the Curriculum: basic games for teaching different content Where the game could be useful?			Projector Handouts Presentation
15	7.	SCOGAT Compendium How to select games for my subject? (criteria)	Emphasis on the individual teacher/tutor to adapt the tools to relate to their learning environment		Projector Handouts Presentation
30	8.	EnerCities game case: How to play the game and what the game do.	Demonstration Hand On workshop		Computers
15	9.	Pedagogy and Assessment: <i>how to look at games, and to prepare yourself as a teacher to use them in class</i> How to use Enercities in specific subject: chemistry, English, geography, history etc.: Preparation an own lesson example with the EnerCities game and TTP guidelines			Projector Handouts Presentation
15	10.	Recommendations and tips in using games: Five Elements that Make Games Engaging			Projector Handouts Presentation

Resources

01_Serious Computer Games.ppt

WP4 D4 Teacher Training Programme



- 02_Obstacles to Adoption.ppt
- 03_Challenges in SCG adaptation in Pedagogy.ppt
- 04_Rresistance.ppt
- 05_SCG_Lessons to overcome pedagogy chalanges.ppt
- 06_Basic games for teaching different content.ppt
- 07_SCOGATT Compendium
- 09_Pedagogy and Assessment.ppt
- 10_Five Elements that Make Games Engaging.PDF
- 11_Evaluation_Questionnaire.PDF

SESSION PLAN 2

Scenario 1 The Flipped Classroom - The 'Hit & Run' Lesson

The term 'Hit & Run' is not an accurate account but merely a means of description that gives an insight to the sessions ideas. It is in fact a form of blended learning which encompasses the use of technology to influence the learning in a classroom; this effectively 'frees' the teacher so they can spend more time interacting with students instead of a classical lecturing or didactical approach.

This type of lesson is most effective where there the teacher is willing to allow the students to discover their own outcomes. Obviously this will be facilitated by the teacher pre-emptively; there is in reality no right or wrong approach to the 'task' at hand. The lesson context is provided once the students have reached a point whereby the teacher is satisfied that the base objective has been met, ssince either:

A) The students have made effective progress with 'some' success

B) The students made limited progress with 'some' success

Then the context can be delivered which can vary on the teachers own outcome(s). Flip teaching allows more hands-on time with the teacher effectively 'guiding' the students towards pre-defined outcomes but in the guise of the students arriving by their own conveyance, allowing them to assist the students when they are assimilating information and creating new ideas. This methodology ties nicely with the theoretical framework of (the upper end) of Bloom's Taxonomy of teaching. This method has been proven to increase the amount of information that the students learn as they are effectively working under self-guided study and we learn more effectively by 'doing'.

NOTE: It is advised that this method is employed where the teacher is entirely comfortable in his/her teaching style and that they are au fait with both the technology at hand and the subject matter. This is not to say that only experienced teachers can only employ this method but they must be confident in their own ability to be able to deal with any situation that can arise from the students, environment and subject matter.

LESSON PLAN

Course/Unit:		SCOGATT/Enercities		Tutor:	
				Time of class:	Room:
<p>Information on group specific to the session: <i>Information on group specific to the session: (e.g. learning support needs, learning levels, access needs)</i></p> <p>A varying range of background subject areas should be considered – a diverse group of individuals Varying levels of computer competency ranging from novice to adept, be sure to cover the basics</p>					
<p>Learning outcomes of the session</p> <p>Introduction and awareness of serious games Using serious games in the classroom</p>					
Time (mins)		Teaching and learning activity	Differentiation method	Check learning by:	Resources / Equipment / ALS
5	1.	Introduction to serious games and their potential usage. Q&A/Feedback from participants – what do they 'want' from the session	Supporting materials	Direct questioning Group discussion	Projector
2	2.	EnerCities overview: Who (made to promote clean energy), what (serious game – European project), where/how	Supporting materials	Direct questioning Group discussion	Projector Paperbased resources
13	3.	Playing the game: Hands on play time. No emphasis on completing the game but draw attention to the state of the planet while building and the outcomes of 'progress'	Competant users will build at their own pace however others not so familiar may need coaxing or basic instructions to get the game underway	Observation	Computers Web access EnerCities
5	5.	Relating EnerCities to 'any' classroom. The serious learning aspects to be promoted. Audience participation is essential, essentially contextualising the subject matter for practical applications		Direct questioning Discussion	
5	6.	Evaluation/Plenary Roundup of the session Q&A	Emphasis on the individual teacher/tutor to adapt the tools to relate to their learning environment	Direct questioning Group discussion	



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Resources

Presentation Annex 2.1

01_EnerCities Game

07_SCOGATT Compendium

11_Evaluation_Questionnaire.PDF

Assessment

Questionnaire for Evaluation of the Workshop

Introduction

Dear colleagues,

This questionnaire is aimed at gathering your opinion about the Pilot workshop in order to adjust the National Cascade workshops and the Teacher training program to a larger extent to the training needs and expectations of VET teachers. It is also to gather information for the Guidelines for VET teachers / VET teacher training toolkit for use of serious computer games.

Please, express your opinion in the questionnaire.

1. Please grade the themes included in the Pilot Workshop on a scale from 1 (dissatisfactory) to 5 (very good)

Theme	Needs adjustment	Presentation	Innovation	Balance between theory and practice
..... <i>should be written theme 1</i>				
..... <i>should be written theme 2</i>				
..... <i>should be written theme 3</i>				
..... <i>should be written theme 4</i>				

2. Do you consider the workshop duration to be suitable?

- Fully (5)
 To a large extend(4)
 Partially (3)
 Too short (2)
 A handbook for the trainers is enough, attendance is not obligatory (1)

3. To what extent did it match your expectations?

- Fully (5)
 To a large extend(4)
 Partially (3)
 Very little (2)
 It did not (1)

4. Did you find the answers to the questions you had before the workshop?

- Fully (5)
- To a large extend(4)
- Partially (3)
- Very little (2)
- No

5. Was the setting (premises, equipment) suitable for a Pilot workshop?

- Fully (5)
- To a large extend(4)
- Partially (3)
- Very little (2)
- No

6. What skills did you gain during the workshop?

Multiple choice is possible

- I learned what a training computer game is
- I learned about the advantages of SCG in comparison to other training types.
- I learned the criterion with which to estimate whether a game is suitable for training
- I learned whether a game could be installed on a school computer

7. What would you include in the workshop, if you were organizing it?

Multiple choice is possible

- I would include different games (in multiple languages)
- I would present a possible scenario for a lesson in which SCG is included
- I would present different ways of using SCG – for individual work, with competitive purposes, with research purposes, other, please add
- I would explain how to adjust the computer so that a particular game can be played
- I would present different terms widely used in computer gaming (well familiar to students, but not to teachers)
- I would put the teachers in the position of students – I would organize a competition among them (during the workshop or afterwards) in one of the presented games to understand what skills they lack and what type of training they need
- I would explain the logic in different types of computer games (due to the lack of experience among the teachers)
- I would include examples from different schools/countries/classes already using SCG
- I would include information about how teachers can persuade their colleagues/superiors why SCG should be included during training.
- I would include instructions how teachers can define the competences acquired by students during the use of a particular game
- I would include instructions how teachers can validate the competences, acquired by the students during the use of a particular game
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-

(Please, add your own thoughts and ideas)



8. Do you need additional information/materials to organize the cascade workshops?

- No
- Yes.

If yes, please give examples

9. Other comments:

.....
.....
.....

Thank you for your time!
SCOGATT team

Sample Workshop Certificate (see section below)

SCOGATT Workshop

This is to certify that

Attended the SCOGATT training course

‘Serious Computer Games as a Teaching Tool’

As part of the Leonardo da Vinci Programme
for Lifelong Learning



Signature

Date

